



International Conference on Financing for the Development of Offshore Wind - Risks and Prospects

Fact & trend of green bond development in China from the perspective of assurance?

Patrick Chu

Partner

14 November 2017





Facts about Green Bonds in China



Green Finance and Sustainability



Corporate's Risk Management and Disclosure of Information from the perspective of assurance



Future Outlook and Development



Conclusion

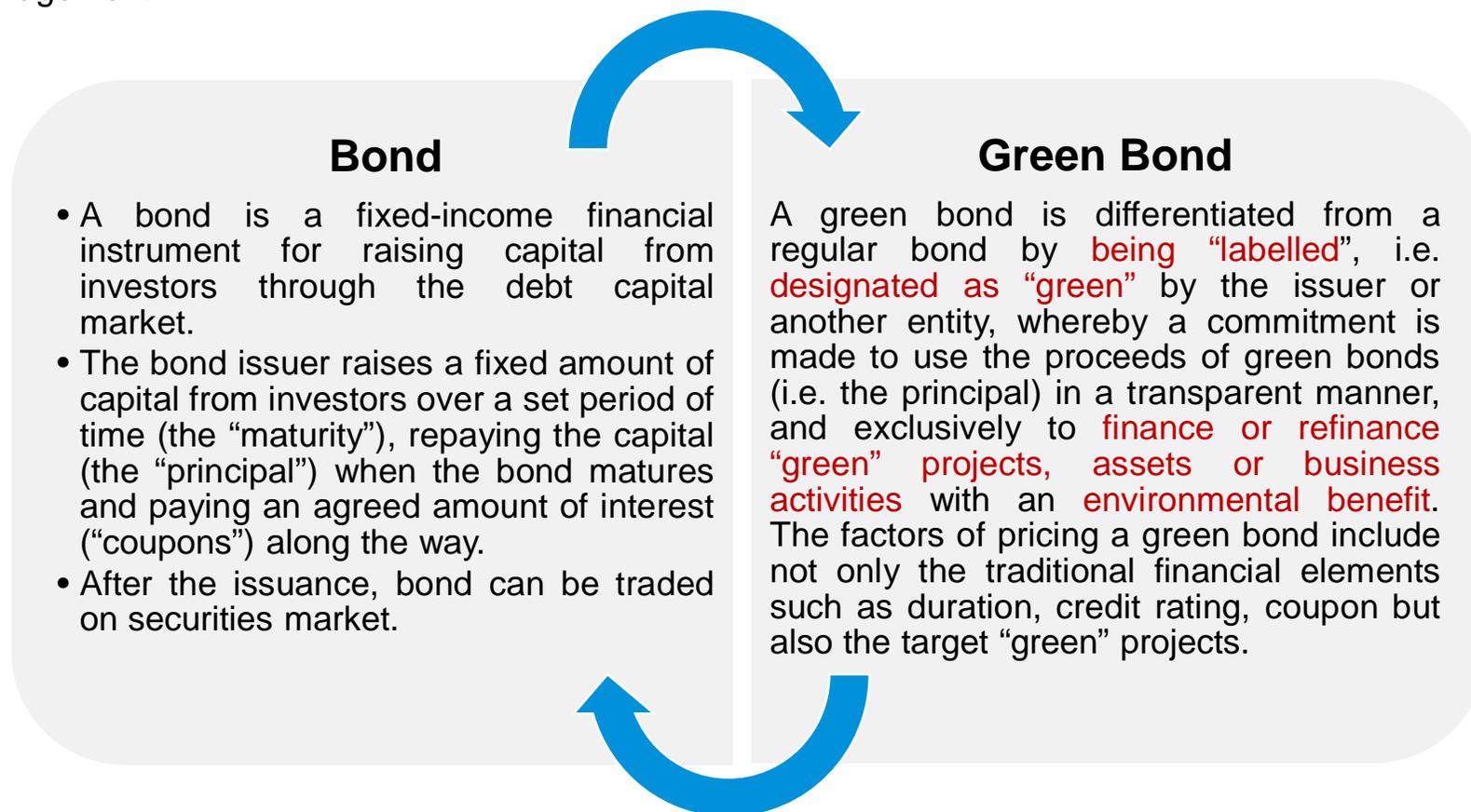


01

Facts about Green Bonds in China

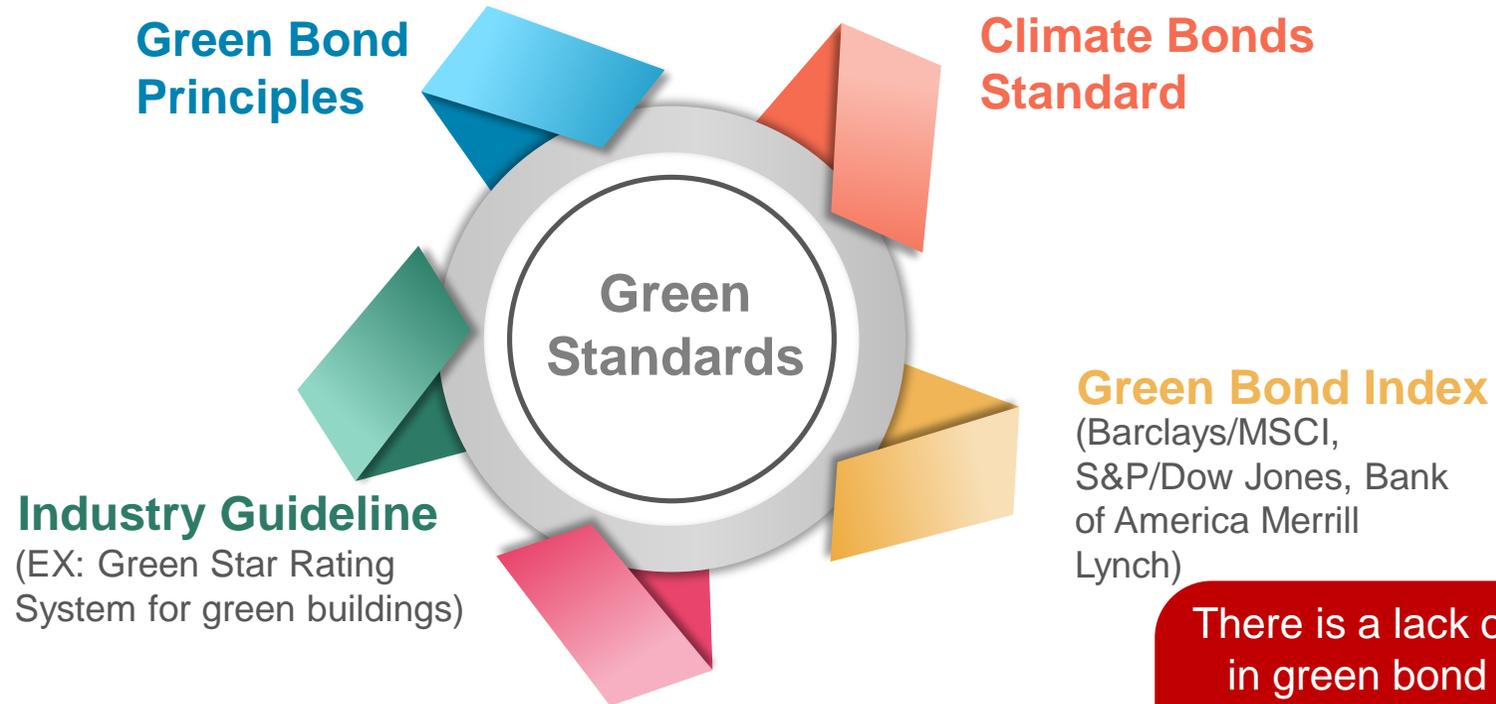
What is Green Bond?

A green bond is like any other regular bond but with one key difference: the money raised by the issuer are earmarked towards **financing green projects**, i.e. assets or business activities that are environment-friendly. Such projects could be in the areas of renewable energy , clean transportation and sustainable water management.



How to define "Green"?

Issuers can define green bonds based on the existing guidelines and investors' expectations.



Guidelines for issuing green bonds in China

(People's Bank of China published green bond guidelines. Shanghai Stock Exchange published its own set of green bond guidelines for corporate issuers.)

There is a lack of consensus in green bond standards. Different standards and guidelines have different goals and approaches. Most of the guidelines are voluntary.

Green Bond Standards

Characteristics of different Green Bond identification and certification schemes

Table 1

	Green Bond Principles	Climate Bond Initiative	Green Bond Indices ¹	CICERO 2 nd Opinions	Moody's Green Bond Assessments
Use of funds must be tied to "green" investment	Yes	Yes	Yes	Yes	Yes
Sector-specific eligibility criteria		Yes	Yes		
Ex post monitoring/assessment					Yes
Granular assessments of greenness				Yes	Yes
Quantitative weights for different factors					Yes

¹ Barclays MSCI, Bank of America Merrill Lynch, S&P and Solactive.

Source: http://unepinquiry.org/wp-content/uploads/2016/09/12_Green_Bonds_Certification_Shades_of_Green_and_Environmental_Risks.pdf

Guidelines for issuing Green Bonds in China



The People's Bank of China (PBOC) publishes <Green Bond-Endorsed Project Catalogue>(《绿色债券支持项目目录》) in 2015

The Catalogue takes on projects with marked environmental benefits, and are categorized into 6 categories (Level-1 Category as indicated below) and 31 sub-categories (Level-2 Category), with detailed explanations and defining criteria)

1. Energy Saving
2. Pollution Prevention and Control
3. Resource Conservation and Recycling
4. Clean Transportation
5. Clean Energy
6. Ecological Protection and Climate Change Adaption

Guidelines for issuing green bonds in China



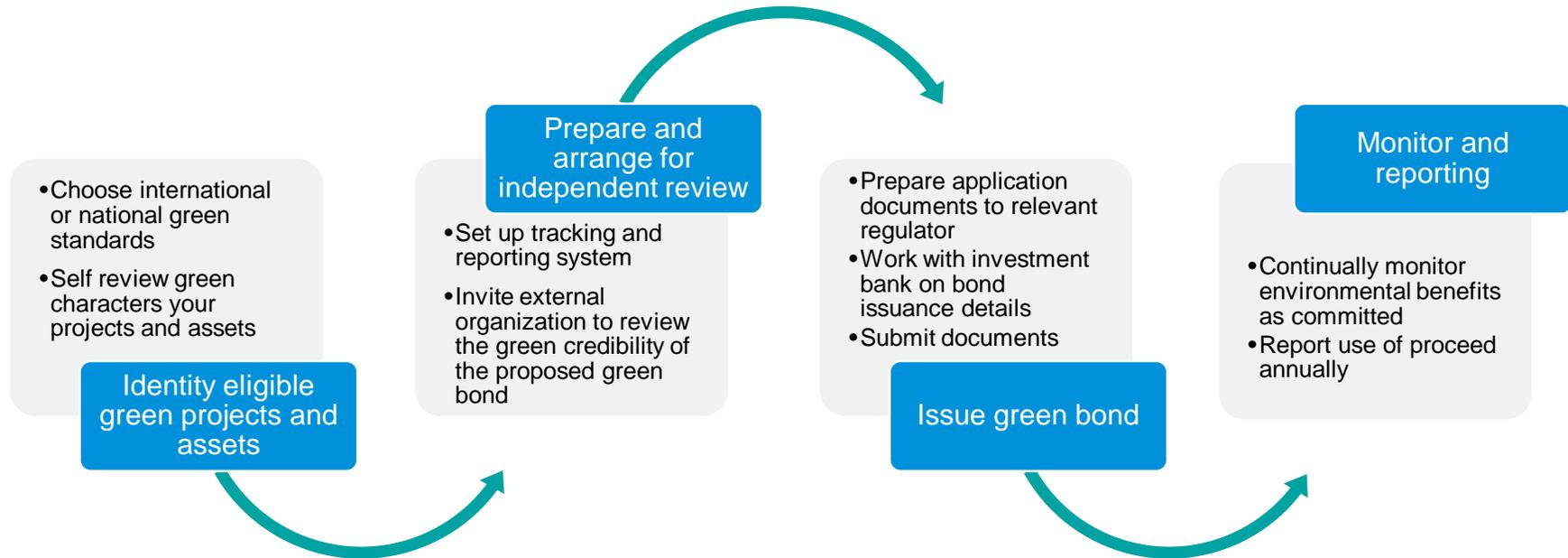
China's National Development and Reform Commission(NDRC) issued <Guidelines on the issuance of Green Bond> (《绿色债券发行指引》) in 2015

Green projects are classified to 12 varieties which are projects on:

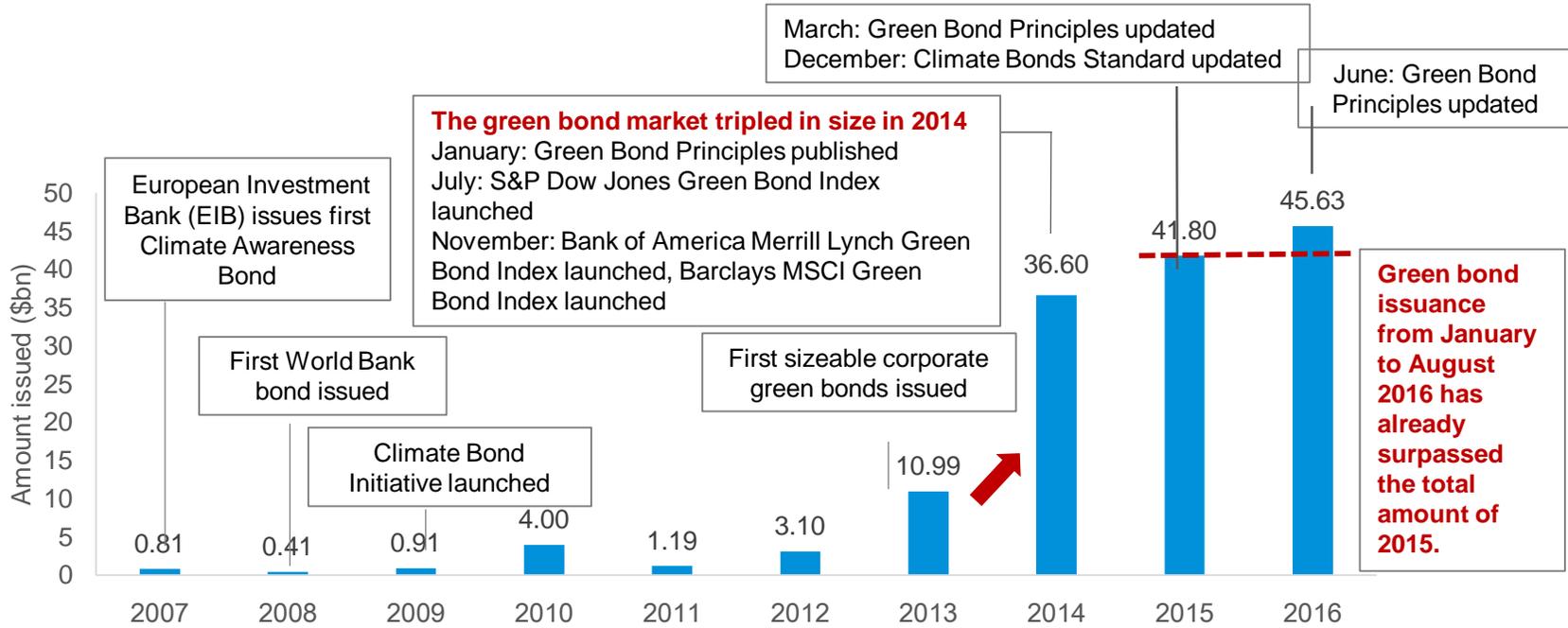
1. technological renovation on energy saving and emission reduction
2. green urbanization
3. clean and efficient use of energy
4. energy exploration and utilization
5. cyclical economy
6. water saving
7. pollution prevention
8. eco-agro-forestry
9. energy saving and environmental protection
10. low-carbon industry
11. ecological demonstration
12. low-carbon development pilot

The nature of green projects defined by these two regulators are **consistent** although some difference existing on specific endorsed project level.

China Green Bond mechanism



Growth of Green Bond market



Timeline of Green Bond Issuance (Jan-Aug 2016):

Source : Climate Bond Initiative, Barclays and Morgan Stanley Capital International

Green Bond - the rising star in global capital market

HSBC confirms first green bond allocated



Nearly €500m of investment assigned to wind farms, solar projects, smart grid deployments, and sustainable waste initiatives across Europe and Africa

UK and China join forces to grow international green bond market

By: Emma Rumney | 14 Sep 16

The UK and China are to work together to grow the global green bond market after a commitment to scaling up green finance was included in the G20 communiqué for the first time this year.

Luxembourg launches world's first 'green bond' platform

Country's world first aims to foster confidence in securities sold for environmentally friendly purposes



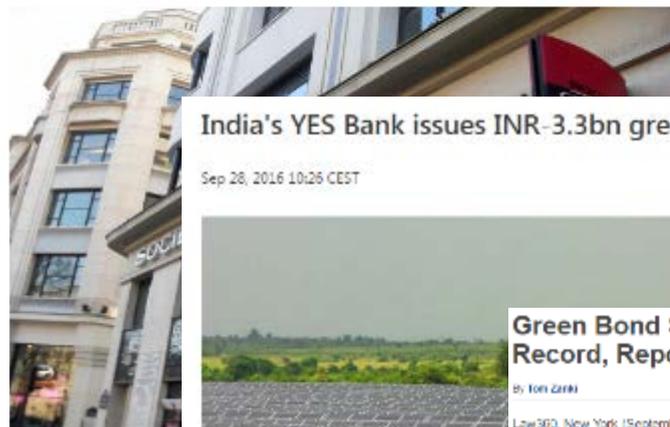
櫃買多元發展 債券創櫃板齊發 2016-09-26

即使在這波人民幣貶值潮中，台灣的寶島債仍深具吸引力，市況不會比香港的點心債差，顯示台灣的金融實力。未來，將有債券ETF、訴求幫助環保綠能發展的綠色債券，甚至考慮推廣強調社會責任（CSR）的商品。

Societe Generale issues EUR-500m green bond

Oct 4, 2016 08:45 CEST

by Tsvetomira Tsanova



India's YES Bank issues INR-3.3bn green bond to FMO

Sep 28, 2016 10:26 CEST

by Ivan Shumkov

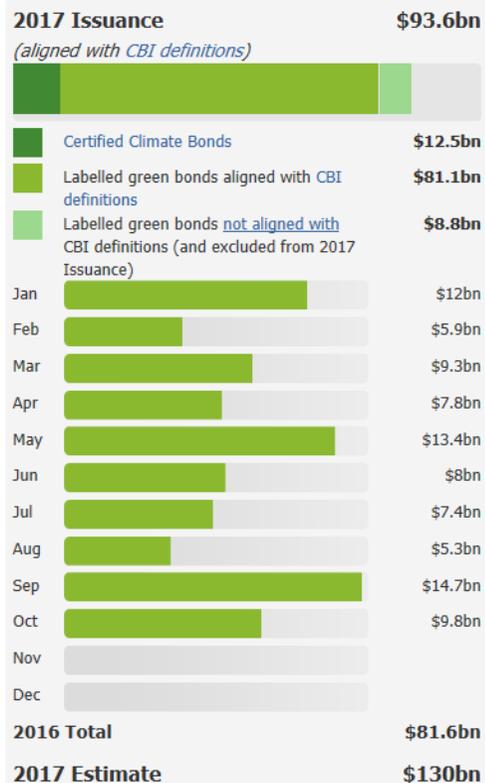
Green Bond Sales Break Prior Annual Record, Report Says

By Tom Zerk

Law360, New York (September 20, 2016, 6:21 PM EDT) -- Global green bond volume has reached \$47 billion year to date, the highest annual total ever for the environmentally friendly debt securities, aided by surging interest in the Asia-Pacific region, a researcher reported Tuesday.

Green Bond market 2017 to date

Green Bonds Market 2017



Blog

- Invitation: At COP next Tuesday? Sovereign Green Bonds: Hear from the Experts
On 7th November with WWF we're holding a side event on sovereign green bonds Come and hear about...
- ICBC Lists \$2.1bn Climate Bonds Certified Green Bond on LGX: World's Biggest Bank...
Pictured from left: Robert Scharfe, CEO Luxembourg Stock Exchange; Nicolas Mackel, CEO Luxembourg...
- November Events: Japan to Germany, Bonn & Brussels, Seoul & Sydney, COP23...
A definite Pacific flavour this month with CEO Sean Kidney starting off in Japan, busy in Bonn and...
- Water Criteria Phase 2 open for International Public Consultation: Introductory we...
International Public Consultation is now open for the Water Criteria Phase 2 Draft investor...
- Fiji Becomes 3rd Nation to Issue a Sovereign Green Bond: FJD100m (USD50m) to Finan...
Fiji's Prime Minister & President of COP23 Frank Bainimarama announces green bond issuance...

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- The significance of ICBC, the world's biggest bank issuing their first #greenbonds? Our latest analysis: #climate... t.co/kCbXeM6eKA
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Source: www.climatebond.net

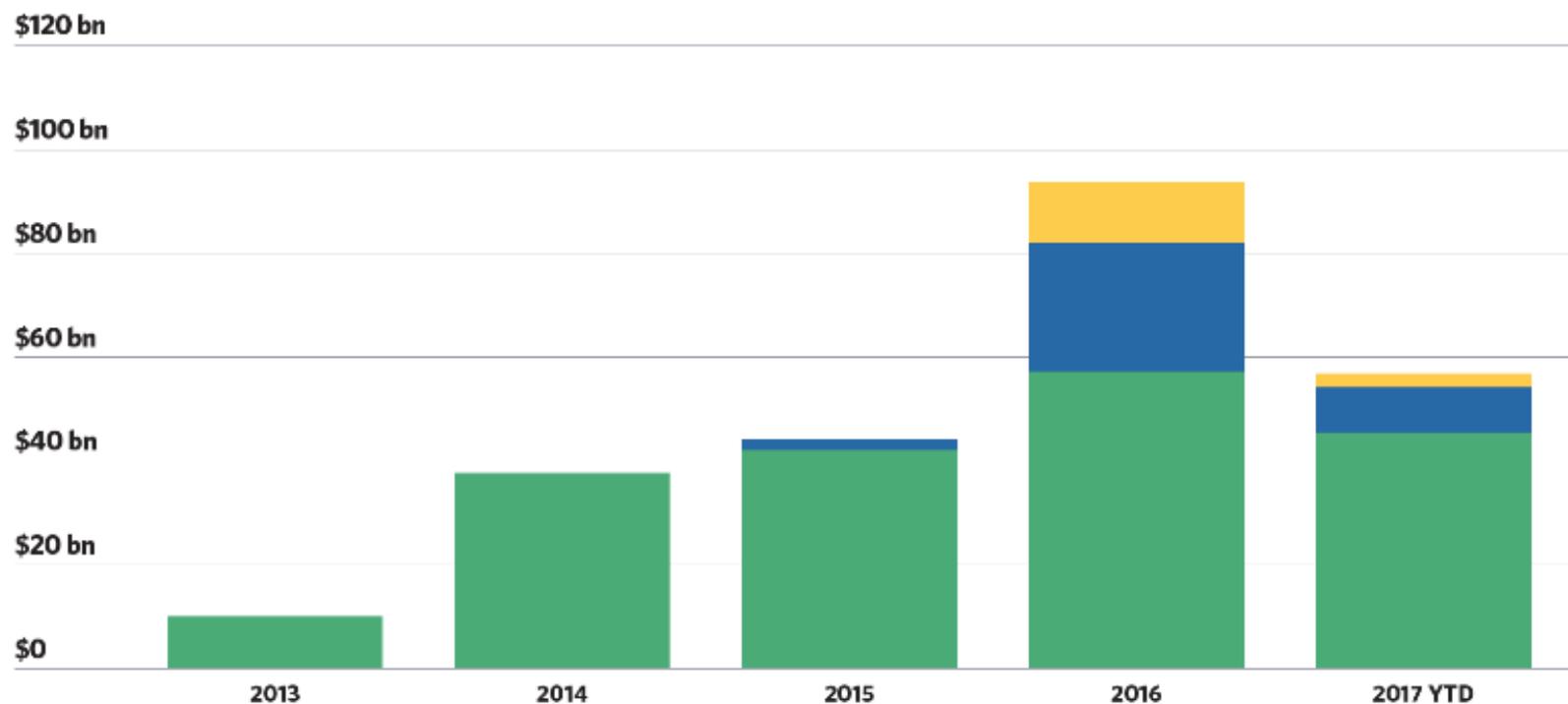
Green Bond booms rapidly, especially in China

At the end of June, issuance in China for 2017 totalled USD 11.52bn dollars: It represents a 33.6% year on year growth from the first half 2016 and more than 20% of global green bonds

Growth of Chinese and global green bonds

■ China Issuance (aligned with international and China definitions)
■ Other countries Issuance

■ China Issuance (only aligned with China definitions)



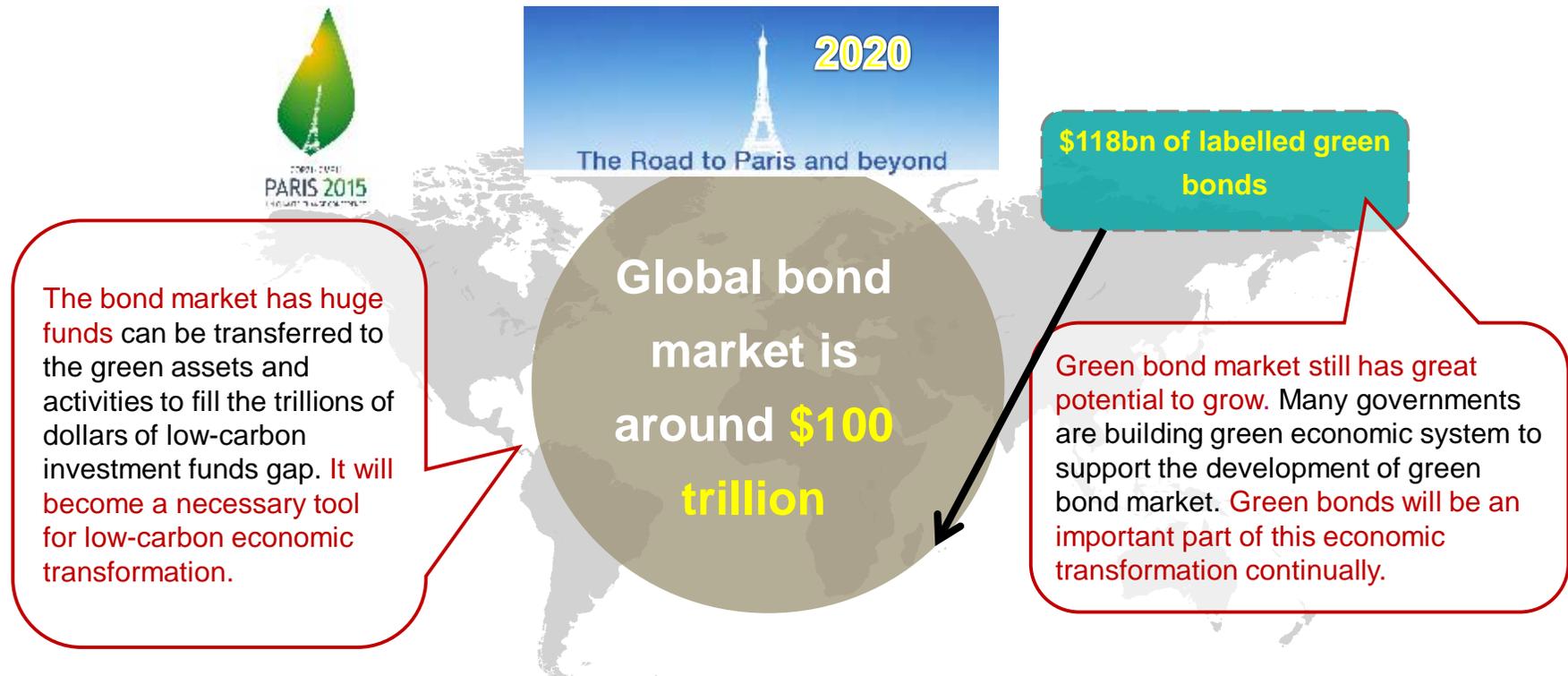
Source : China Green Bond Market Mid Year Report 2017

02

Green Finance and Sustainability

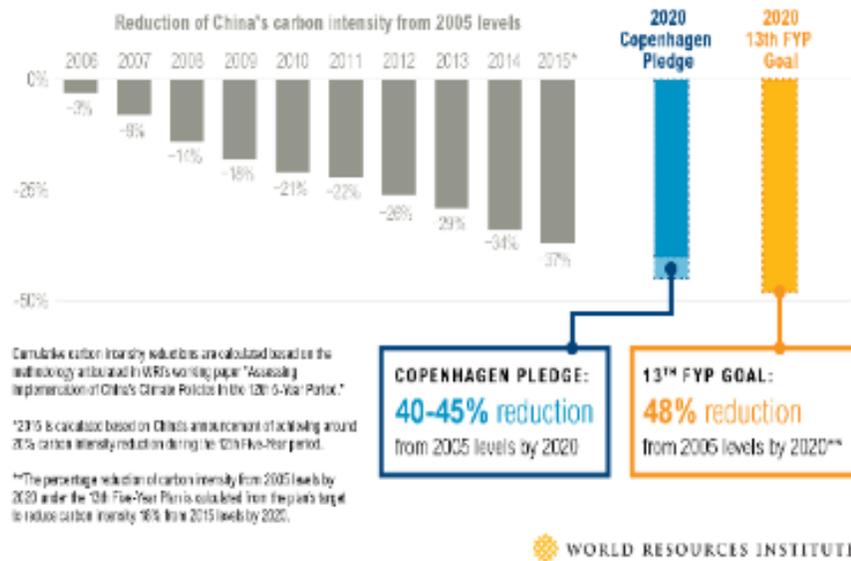
Role of Green Bond for global transformation

- At the 2015 COP21 in Paris, 188 Parties presented their national plans to try to keep global temperature rise this century below 2 degrees Celsius.
- Some \$2.5-3tn of capital is needed each year in climate change related investments, with 60-70% of that going to emerging markets. An indicator of adequate bond market engagement would be climate related issuance of at least \$1tn a year. That's the objective for 2020.

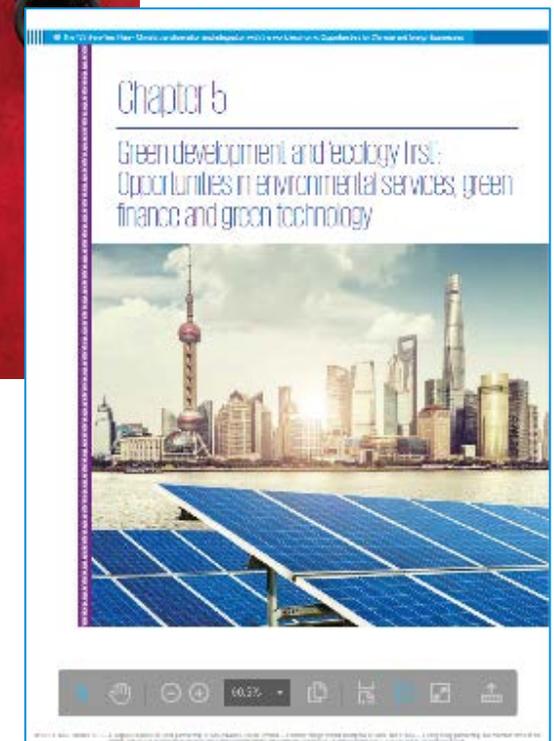
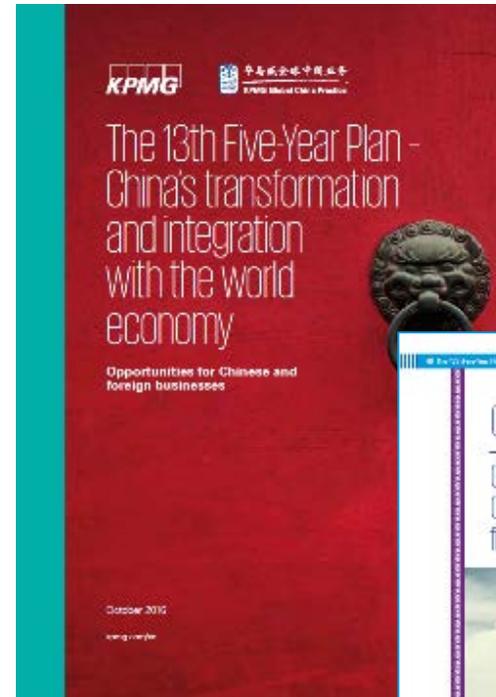


China: 13th 5-Year Plan

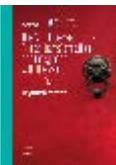
With 13th Five-Year Plan, China Sets Stronger 2020 Carbon Intensity Target



Source: World Resources Institute



China: 13th 5-Year Plan



The overarching goal of the 13th 5-year Plan is to create a “**moderately prosperous society**” by the 100th year from the founding of Chinese Communist Party.

The **five major goals** of the “moderately prosperous society” are outlined as:

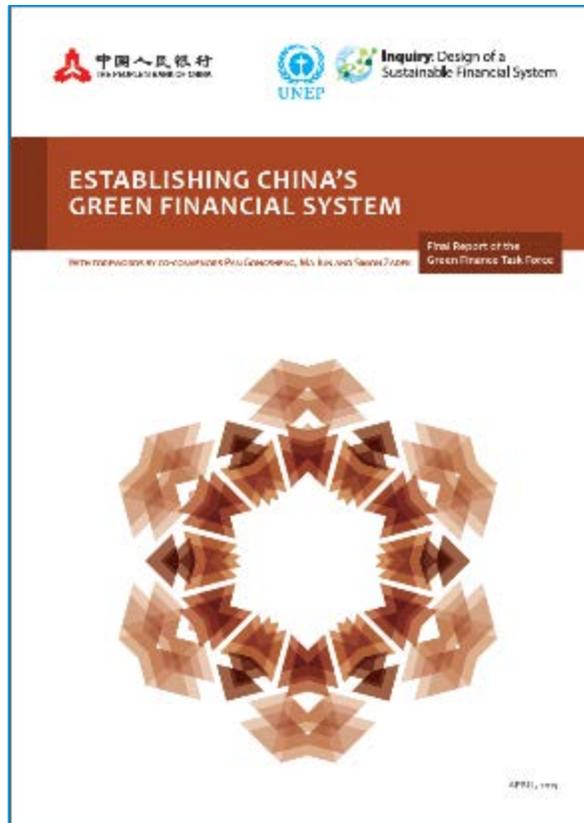
1. Maintaining moderate to high speed economic growth, with priority in balance, **inclusion** and **sustainability**;
2. Improving the people’s overall welfare, with a key focus on public services, employment rates, income disparities and the literacy rate;
3. Improving people’s mannerisms and cultural understanding;
4. Increasing efforts in **environmental preservation** and **sustainability**; and
5. Reforming the policies to be more stable and mature.

Beyond the goal of creating a “moderately prosperous society”, the plan emphasized that development in China needs to reflect **five major concepts**:

1. **Innovation**,
2. **Regional development**,
3. **Green development**,
4. Open development and **international cooperation**, and
5. Shared development and the people’s welfare.

Policies outlined in the plan were framed in terms of the aforementioned five concepts, along with a concluding statement regarding the need to strengthen the leadership of the Party.

China's Green Financial System



Source: Green Finance Committee



Three pillars:

1. Increase the ROI of “Green” projects
2. Reduce the ROI of polluting projects
3. Enhance awareness and responsiveness among investor, business and consumer



Continuous growth of green financial system needs:

1. Community: introduce a comparatively greater number of institutional mechanisms encouraging green investments
2. Channels: establish specialised green lending and investment institutions
3. Catalysts: add favourable fiscal and financial measures to steer private capital
4. Products: develop a multitude of new green financing channels and a diverse range of products
5. Leverage: invite private capital equalling multiple times the amount of seed funding provided by the government to flow in
6. Measurement: develop methodologies and creating the databases, green credit ratings and disclosure rules and etc.

China's Green Financial System

14 specific recommendations in 4 areas for establishing China's green finance system:



Specialized Investment Institutions

1. Green Banks
2. Green Funds
3. Green the Development Banks



Financial Infrastructure

7. Carbon Markets
8. Green Ratings
9. Green Stock Indices
10. Environmental Cost Analysis
11. Green Investor Network



Fiscal and Financial Policy Support

4. Discounted Green Loans
5. Green Bonds
6. Green IPO



Legal Infrastructure

12. Green Insurance
13. Lender Liability
14. Compulsory Disclosure

Source: Final Report of the Green Finance Task Force, April 2015

Green Finance Development

Green bond is one of green finance products.

Green Loan

Green Bond

Green Funds

Mutual Funds

Green ABS

Green Private Equity

Venture Capital Fund

Green Insurance

etc.

Sustainability needs Green Finance

Environmental issues in China become one of major obstacles to sustainable development

“Environmental bearing capacity is nearing the upper limit”

- Only 8 of 74 major cities air quality met the standard
- The average annual concentration of PM2.5 was far beyond the second stage standard of WHO
- 75% of drinking water sources exceeded the standard of water pollution
- More than 19% of the cultivated land area exceeded the standard of pollution

Huge investment of capital needed to solve environmental issues

- During “13th 5-year plan, there will be two trillion Renminbi yuan invested in green industry
- Among which, Government can only invest 10% to 15% of total capital
- The remaining 85% to 90% capital need to come from private investment



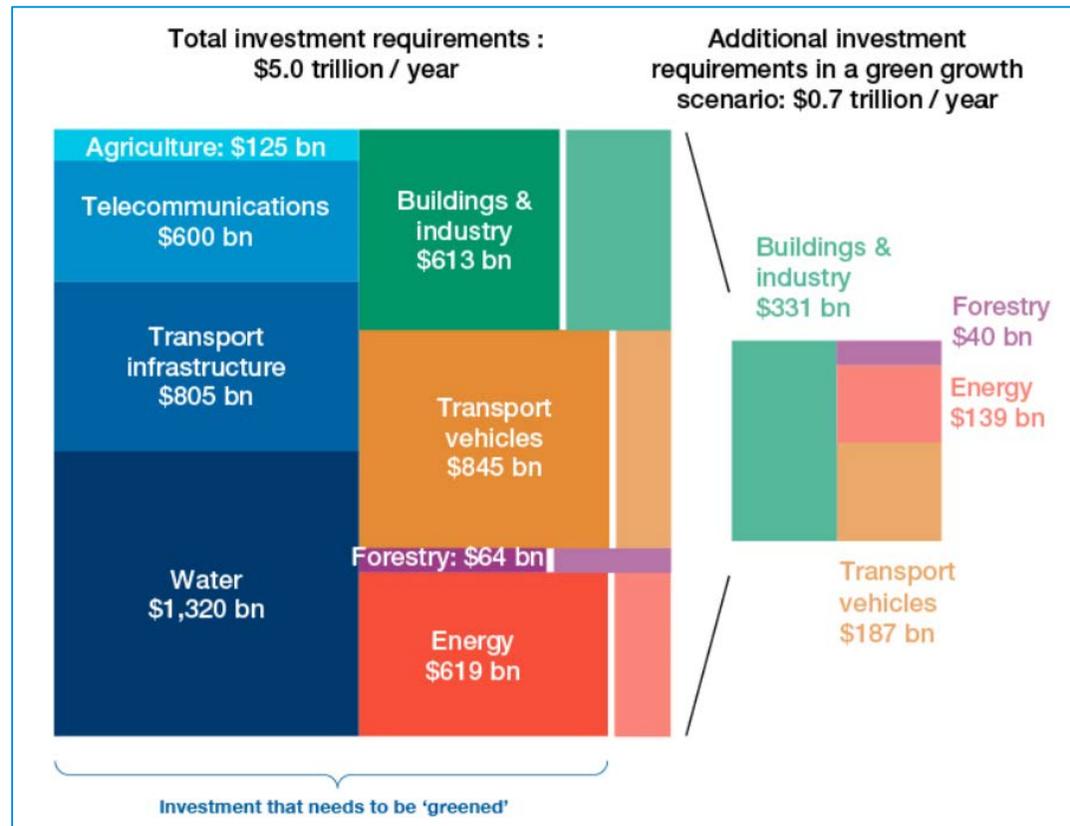
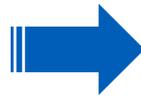
Establish Green Financial System by using limited government funds to leverage several times or even more than ten times private green investment

Source : Thoughts on establishment of Chinese Green Finance System , Jun Ma, 2015

Huge capital needs in supporting green economy

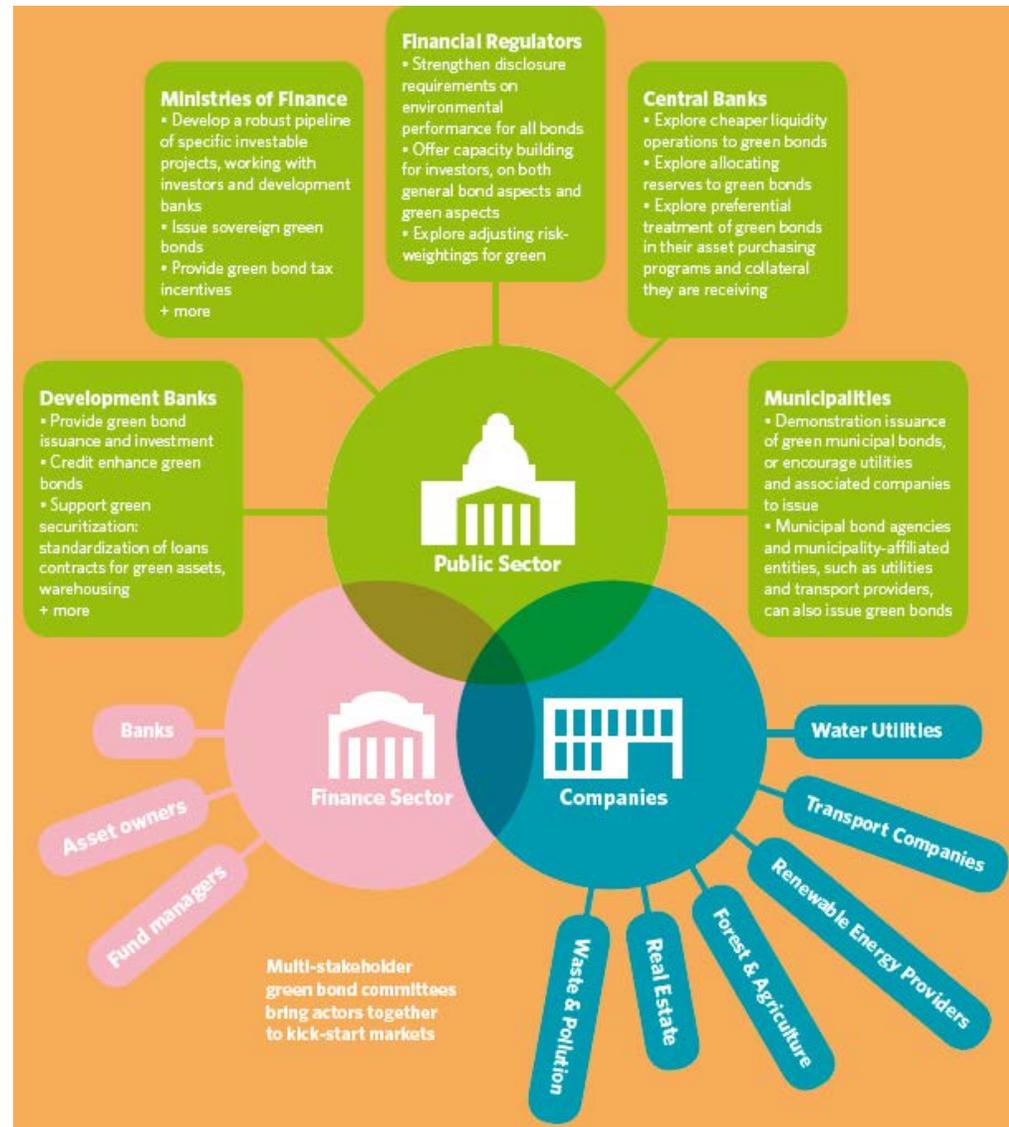
To support a future global population of 9 billion people an estimated US\$ 5 trillion per year to 2030 needs to be invested in global infrastructure.

This investment must be greened to secure future growth. Under a 2°C scenario, additional investment of 0.7 trillion per year is needed.



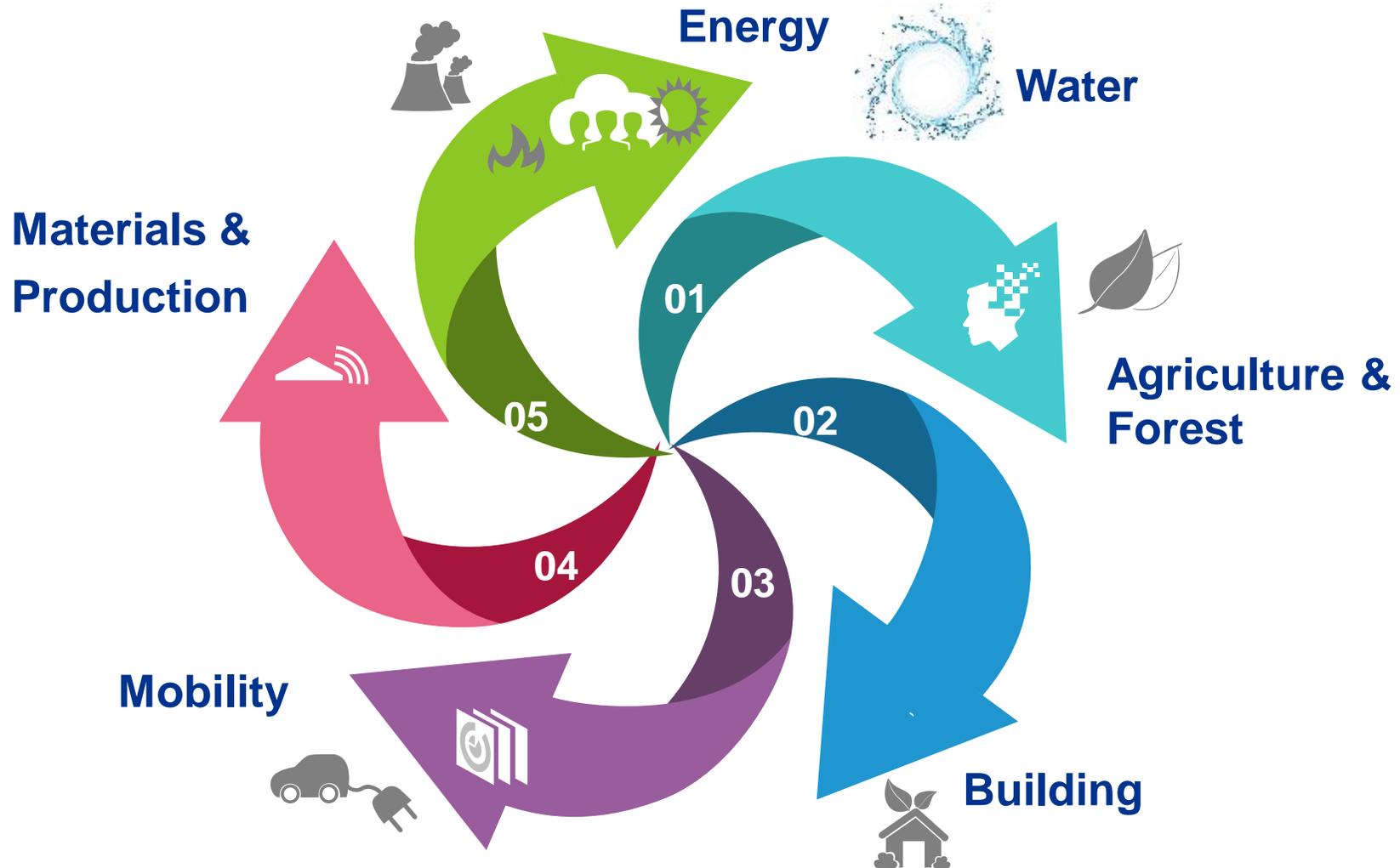
Source: <http://reports.weforum.org/green-investing-2013/required-infrastructure-needs/>

Public sector is critical to make the green finance ecosystem work



Source: Scaling up green bond markets for sustainable development, CBI, 2015

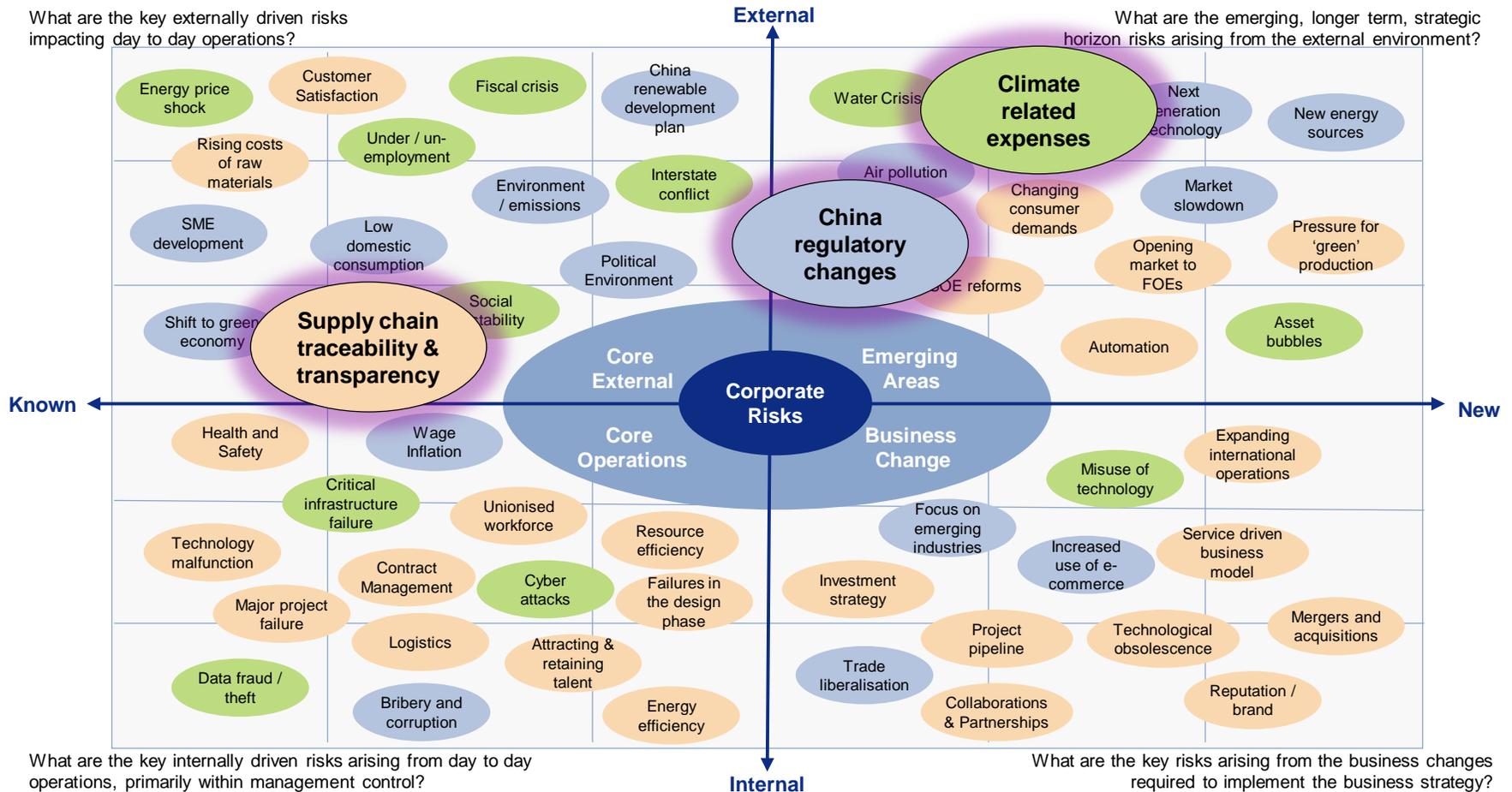
Leveraging Green Bonds as financing vehicle



03

Corporates' Risk Management and
Disclosure of Information from the
perspective of assurance

Risk universe - Integrated risk management approach



Risks in Green Bonds? Yes, quite some...

Greenwashing

the superficial or insincere display of concern for the environment

Non-disclosure Risks

'pure play' green bonds should be exempt from certain aspects of the Green Bond Principles, such as detailed reporting

Regulatory Risks

a lack of evidence supporting green claims (i.e. greenwashing) has led to regulatory actions

Green Fraud Risks

green fraud entails deliberate misrepresentation for unfair financial advantage

“Second Opinion” Risks

an "independent second-party opinion" published by the same organisation that helped develop the green bond framework, including the project selection criteria..

Currency risk

foreign currency exposure if the green bonds are denominated in currency other than the entity's functional currency

Environmental non-performance risks

misleading or insufficient information could open the door to potential litigation raised by investors

Source: Advanced topics in green bonds: Risks (<https://www.environmental-finance.com/content/analysis/advanced-topics-in-green-bonds-risks.html>)

Greenwashing has become the most recognised risk

Accuse would damage company's reputation.

BHP Billiton backs “world first” forests bond 3

By Sophie Vorrath on 1 November 2016 Print

Mining giant BHP Billiton has put its weight, and \$US12 million in funding, behind the development of a world-first “forests bond” – an investment vehicle that aims to achieve emission reductions through a combination of forest protection and community development activities.

The \$US152 million bond, which is listed on the London Stock Exchange, was developed by BHP in conjunction with the International Finance Corporation, a member of the World Bank Group and issuer of the bond.

The bond, which allows investors to receive either a cash coupon or carbon credits, has reportedly already attracted the likes of Australia insurance giant, QBE, JP Morgan and US pension giant CalSTRS and TIAA-CREF. It has a yield of 1.546 per cent.

Its primary focus will be on developing projects that support alternative livelihoods associated with the Wildlife Work's Kasigau Corridor REDD Project in East Kenya.




Chris Lang
Published 1 November 2016

in Australia, China, Colombia, Indonesia, UK

IFC launches US\$152 million REDD greenwashing bond for mining corporation BHP Billiton. With help from Conservation International

REDD in the news
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Yesterday, the World Bank's private sector arm, the International Financial Corporation launched a US\$152 million bond aimed at supporting REDD and carbon trading. The deal demonstrates just about everything that's wrong with REDD.

Source: <http://www.redd-monitor.org/2016/11/01/ifc-launches-us152-million-redd-greenwashing-bond-for-mining-corporation-bhp-billiton-with-help-from-conservation-international/>



Greenwashing has become the most recognised risk

Accuse would damage company's reputation.

Controversially, China's Three Gorges Corporation issued its first offshore green bond in 2016. The state-owned firm builds large hydropower projects and has received much criticism for its ESG profile. The Three Gorges dam is the largest hydropower project in the world, flooding 13 cities and 140 towns and relocating more than 1.2m people.

This is the first time Three Gorges has issued an offshore green bond, and it roadshowed in Asia and Europe as part of the process. The seven-year deal came in at €650m with a coupon of 1.3%.

However, some European green bond investors did not buy the notes for ESG reasons. "China should be applauded for its commitment to 'clean' its energy sector," said Affirmative's Kinnersley, who added that Three Gorges is a key part of the national climate strategy. "But a Three Gorges 'green bond' should be strongly questioned," he told RI, pointing to a series of environmental and social risks associated with the dam. These include its apparent contribution to earthquakes, methane emissions and changes to water regimes that harm the fishing industry and biodiversity; as well as the displacement of people. "Unless the green bond compellingly and specifically addresses [these] environmental and social problems... it is likely it is being issued to 'up the green creds' of the Three Gorges Corporation.

Call it greenwashing. This is why AIM will not buy the bond at this stage."

https://www.responsible-investor.com/home/article/green_bond_round_up_june_20_three_gorges_apple_and_green_bond_principles_to/.



Risk of exchange loss in foreign-currency debt

海外发债遭遇汇兑损失 多手段应对风险

2015年11月06日 14:36 来源：中国资金管理网 收藏：

汇率风险爆发 中资企业再掀美元债提前偿还潮

2016-01-06 21:37:27 来源：华尔街见闻(上海)

分享到：

(原标题：汇率风险爆发 中资企业再掀美元债提前偿还潮)

房地产开发公司**中骏置业**今天公告称，将赎回2017年到期5.5亿美元优先票据。这是继周一东航之后，又一家宣布提前偿还以美元计债务的公司。而春秋航空亦称，近期人民币贬值压力加大，已关注到同行提前偿还美债的个案，并可能效仿。

因中国经济增速放缓的担忧，及美联储进入加息周期，新年伊始，在岸与离岸两人民币汇率双双“雪崩”，从1月4日新年第一个交易日起的短短三天里，离岸人民币兑美元（CNH）累计暴跌2.28%，跌破6.72关口，创2009年离岸市场建立以来最低水平。同期在岸人民币（CNY）暴跌0.94%。在岸、离岸汇差扩大至1600多点，创历史新高。

“中资企业降低美元债务的序幕已经拉开。”渣打银行驻香港的高级利率策略师刘表示，“人民币兑美元贬值态势持续，中资企业已经开始减少美元负债，转而增加人民币负债。”

波动性加大，大量海外债务却给一些房企带来不小的汇兑损失。招商地产、龙湖地产等A股房企显示，由于人民币汇率阶段性波动幅度较大，致使外币借款产生的汇兑损失增加。其

国家发改委发布提示：企业境外发债注意风险

2016年05月27日14:50 中国经济网 作者：佚名

中国经济网北京5月27日讯（记者顾阳）国家发展改革委日前发布风险提示：企业境外发债应密切关注国际资本市场动态和我国经济金融形势、国际收支状况等，强化外债风险意识，确保外债风险可控。

国家发改委有关负责人表示，近期有关机构反映，个别企业在境外发行债券未按有关规定事前办理外债备案登记手续。为此，我们对相关承销机构和律师事务所进行了专门约谈，并提示尽快补办手续。

下一步，对于未按规定事前申请备案登记、事后未能及时报送信息的境外发债企业以及相关承销机构、律师事务所等中介机构，将被列入诚信“黑名单”和全国统一信用信息共享交换平台，发改委将会同有关部门实行联合惩戒。

Source: money.163.com/16/0106/21/BCM6SGF600252G50.html, finance.china.com.cn/roll/20160527/3742753.shtml, www.treasurer.org.cn/node/123027



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Task Force on Climate-Related Financial Disclosures (TCFD)



**Chaired by Michael Bloomberg, a Financial Stability Board task force
To develop framework on risk disclosures to be reported to investors, lenders, insurers etc.
Final TCFD recommendations report issued in June 2017**

Task Force on Climate-Related Financial Disclosures (TCFD)

Core Elements of Recommended Climate-Related Financial Disclosures



Governance

The organization's governance around climate-related risks and opportunities

Strategy

The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning

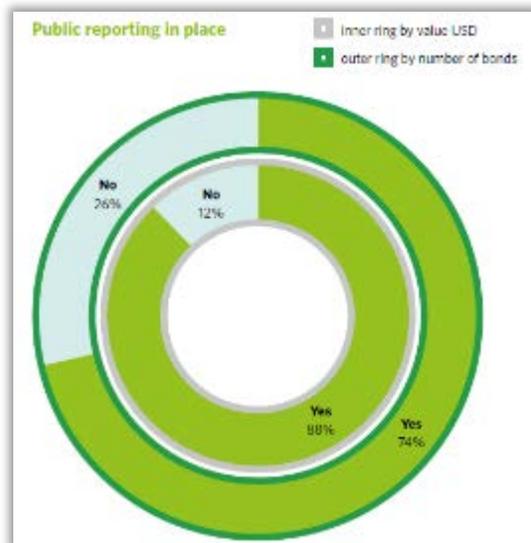
Risk Management

The processes used by the organization to identify, assess, and manage climate-related risks

Metrics and Targets

The metrics and targets used to assess and manage relevant climate-related risks and opportunities

Post-issuance reporting



Summary of key reporting frameworks			
	Green Bond Principles	Climate Bonds Standard	Country guidance
1. Reporting frequency	Annual	Annual	PBoC: quarterly SEBI: annual Japan: annual
2. Availability of reporting	'Readily available'	Mandatory to bondholders and Climate Bonds Standard Secretariat Public reporting encouraged	PBoC: disclose 'to the market' quarterly, report to the PBoC annually SEBI: public with annual and quarterly financial results Japan: public
3. Location of reporting	<ul style="list-style-type: none"> Annual report and accounts Annual sustainability reporting Separate section of website Investor letter Separate green bond report 	<ul style="list-style-type: none"> Annual report and accounts Annual sustainability reporting Separate section of website Investor letter Separate green bond report 	PBoC: not specified SEBI: 'along with annual report and financial results'
4. Period of reporting	Until allocation is complete	For the life of the bond	PBoC: duration of the bond Japan: until full allocation SEBI: not stated
5. Use of proceeds information to include	<p>Mandatory: Broad categories and % allocated to each</p> <p>Recommended:</p> <ul style="list-style-type: none"> List of projects and assets if not commercially sensitive Description of projects Expected impact of projects 	<ul style="list-style-type: none"> Nominated assets and projects detailed in full 'In line with confidentiality agreements' Percentage of refinancing Description of projects Expected impact of projects 	<p>SEBI and Japan</p> <p>Broad categories and % allocated</p> <p>Recommended: List of projects and assets if not commercially sensitive; description of the projects; expected impact of projects</p> <p>PBoC: Proceeds allocation; assessment to green projects (recommended); associated environmental benefits(recommended)</p>
6. Allocation information	<ul style="list-style-type: none"> Amount allocated to projects Percentage of bond to refinancing 	<ul style="list-style-type: none"> % of bond allocated to date Percentage of bond to refinancing Details of unutilized proceeds 	<p>SEBI: details of unallocated proceeds</p> <p>Japan: details of unallocated proceeds</p> <p>PBoC: amounts allocated</p>
7. External verification	Recommended	Recommended	SEBI: mandatory PBoC: recommended

Why more disclosure?

Disclosure is not only for compliance, but a critical tool to for issuers to minimize relevant risks.



Assurance service helps to manage Green bond risks



Scope of assurance work

Assurance is mainly focus on the following management processes :

- Project evaluation and screening
- Use of proceed
- Disclosure and reporting



Key points of each process review

For each management process, to understand :

- How company identifies relevant material risks
- internal control measures established
- Monitor mechanism

to help meet regulators requirements and avoid “greenwashing”

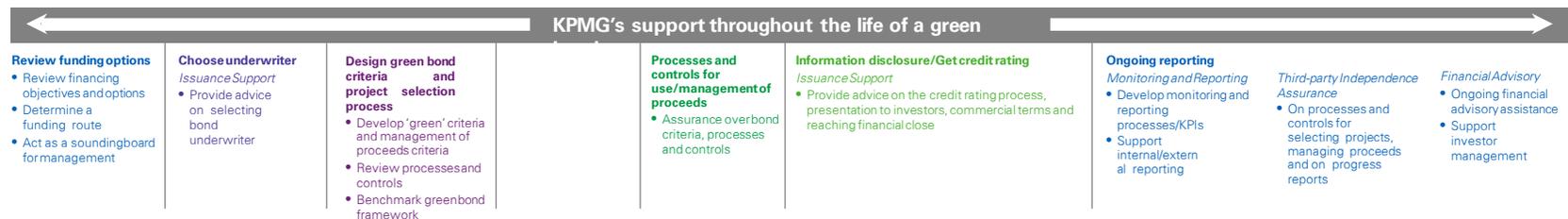
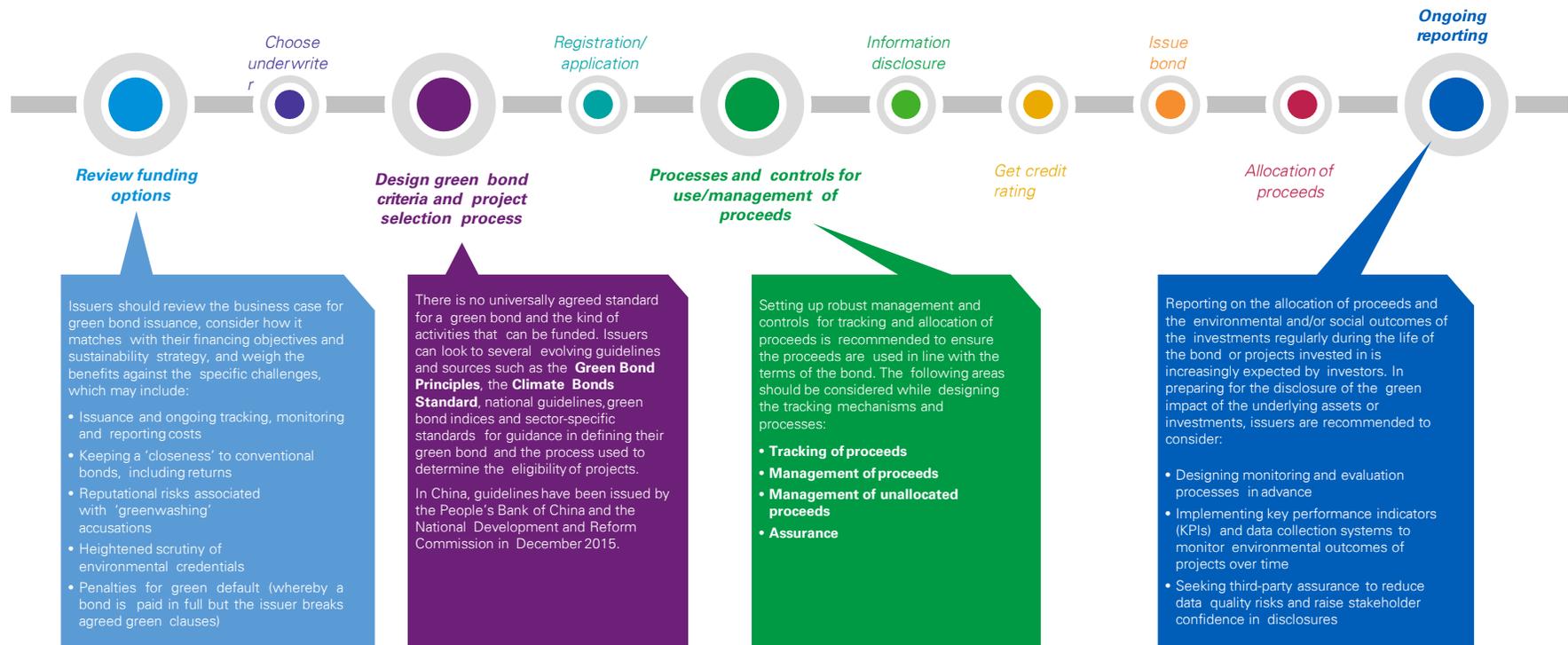


Assurance challenge

- The definition of “green ”project, applying international or national standards
- Track of use of proceed
- Assessment of environmental benefits achieved

Managing risks over the Life Cycle of Green Bonds

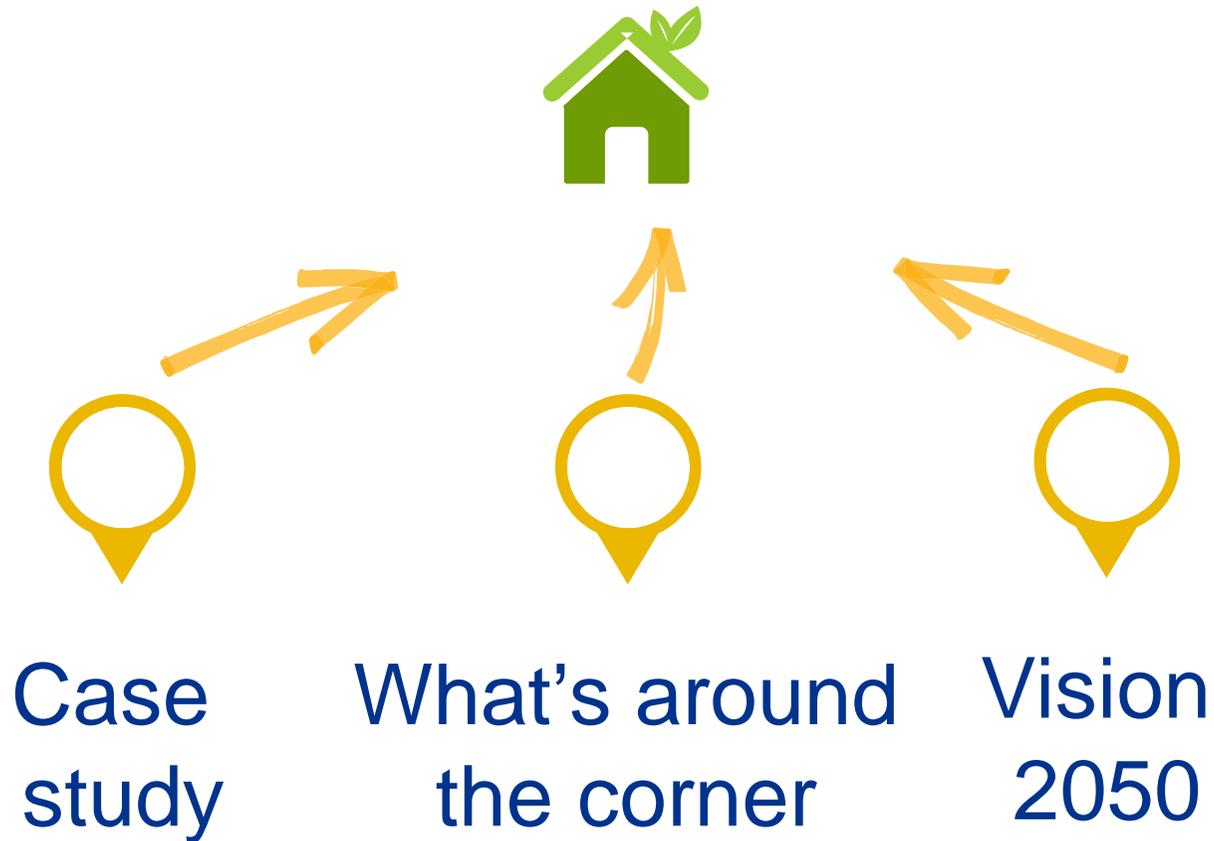
Above all, it is **Governance**, **Traceability** and **Transparency** matter



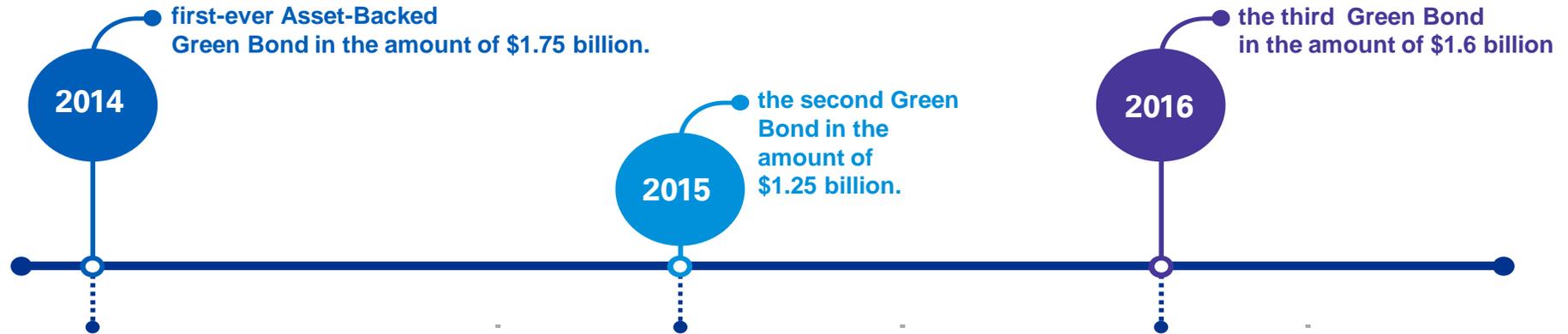
04

Future Outlook and Development

Future Outlook and Development



Case Study - Toyota



It will use the proceeds of the Green Bond toward the purchase of retail finance contracts and lease contracts for Toyota and Lexus vehicles that meet high green standards.



Three criteria:

- Gas-electric hybrid or alternative fuel powertrain
- Minimum EPA estimated miles per gallon (MPG)
- EPA Smog Rating of 8 or better (10 being the cleanest)

Case Study - Unilever



- ✓ In March 2014 Unilever issued a £250 million Green Bond.
- ✓ The four-and-a-half year bond, due 19 December 2018, was the first to be issued by an FMCG firm.

Projects benefiting from proceeds of the Bond

01

Spread Factory in the US

The design for this site introduces many eco-efficiency features such as **energy efficient drives and lighting**, heat recovery from steam and refrigeration systems and **LEED building certification**. In the early operational phase.

02

Home Care Factory in South Africa

The site design employs eco-efficiency improvements including **rainwater harvesting, water recycling, daylight harvesting** and LEED building certification. In the early operational phase.

03

Home Care Factory in China

The site, which produces laundry powders, brings eco-efficiency improvements including water recycling, a **biomass furnace, LED lighting** and LEED building certification. In the early operational phase.

04

Home and Personal Care Factory in Turkey

It will produce brands employing eco-efficiency measures such as rainwater harvesting, water recycling, **solar water heating** and LEED building certification. In the construction phase during 2016.

05

Refreshment Factory

This project further strengthens the environmental credentials of our ice cream cabinets at the point of sale through the purchase of **HFC-free freezer cabinets** using natural hydrocarbon refrigerants (HC). Freezers have been purchased for distribution and operation and this project is completed.

Case Study - ASE issued Asia's first corporate green bond

ASE Group has issued Asia's first corporate Green Bond through its subsidiary Anstock II Limited. ASE's \$300 million 2,125% three-year guaranteed notes were listed on the Singapore Exchange on July, 2014. As of 2015/12/31 the proceeds from the Green Bond were used to finance the environmental projects which are qualified.

As of 2015/12/31 the proceeds from the Green Bond were used to finance the following projects

Projects	Type	Location	Property	Investment Amt (USD M)
Green Building	Refinance	Kaohsiung	K12	51
Green Building	New	Kaohsiung	K21	52
Green Building	New	Kaohsiung	K22	54
Water Management	New	Kaohsiung	K12	3
Water Management	New	Kaohsiung	K14B	19
Water/Air Management & Energy Efficiency System Upgrade	Upgrade	Kaohsiung	Multiple	8.6
Green Building	New	Chung Li	K&L	112
Water Management	New	Chung Li	Multiple	3.4
Energy Efficiency	New	Chung Li	K&L	0.6
Green Product Development	New	Chung Li	Multiple	0.1

*The cash flow of the Eligible Projects has been reviewed by an independent CPA.

Investment Amount	Used Percentage
USD 300M	100%

The proceeds raised via Green Bond have been **invested in projects meeting high environmental standards**. ASE has selected the Eligible Projects using a framework, **reviewed by SEB, HSBC, and Cicero, the Center for International Climate and Environmental Research - Oslo**. The cash flow of the Eligible Projects has been reviewed by an independent CPA

- ✓ In 2015, ASE's Green Bond was awarded Country Deals of the Year 2014 by Asiamoney.
- ✓ In 2016, ASE was further certified as First Emerging Market Corporate Green Bond and First Green Bond in Taiwan by Climate Bonds Initiative ("CBI").

Case Study - Apple

TECHNOLOGY NEWS | March 9, 2016 | 5:42n EDT

Apple issues \$1.5 billion in green bonds in first sale



Apple sets sights on solar and storage with US\$1.5 billion green bond issue

By Andrew Ross - Feb 10, 2016 12:11 PM GMT+0



Apple issued Green Bond

In February 2016, Apple issued their first Green Bond—the **first Green Bond issued by any U.S. tech company** and, at \$1.5 billion, the largest Green Bond issued by any U.S. corporation.

Projects

16

Allocation

\$441.6 million

By Category²



\$129,050,362

Renewable energy



\$232,606,832

Green buildings



\$74,606,485

Energy efficiency



\$461,050

Water efficiency



\$2,864,029

Recycling/Material recovery



\$2,054,305

Safer materials

Selected projects

Apple selected **16 projects** that reflect **their three environmental Priorities**.

- Reduce our impact on climate change by **using renewable energy sources** and driving energy efficiency in our facilities, products, and supply chain
- **Green building**
- Pioneer the use of **safer materials** in our products and processes
- **Conserve precious resources**
- **Water efficiency**

Case Study - Customer Speaking Up: Apple's Supply Chain Clean Energy Program

SEPTEMBER 19, 2016

Apple joins RE100, announces supplier clean energy pledges

Our 2015 carbon footprint

38,400,000

metric tons of greenhouse gas emissions



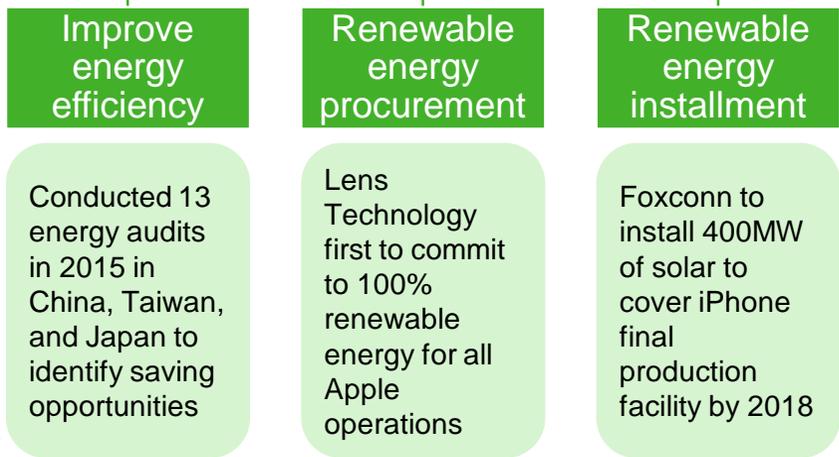
Manufacturing

Manufacturing a smaller footprint.

How we make our products is the largest piece of our carbon footprint. We've identified two areas where we can dramatically reduce our impact—raw materials production and electricity used in manufacturing.

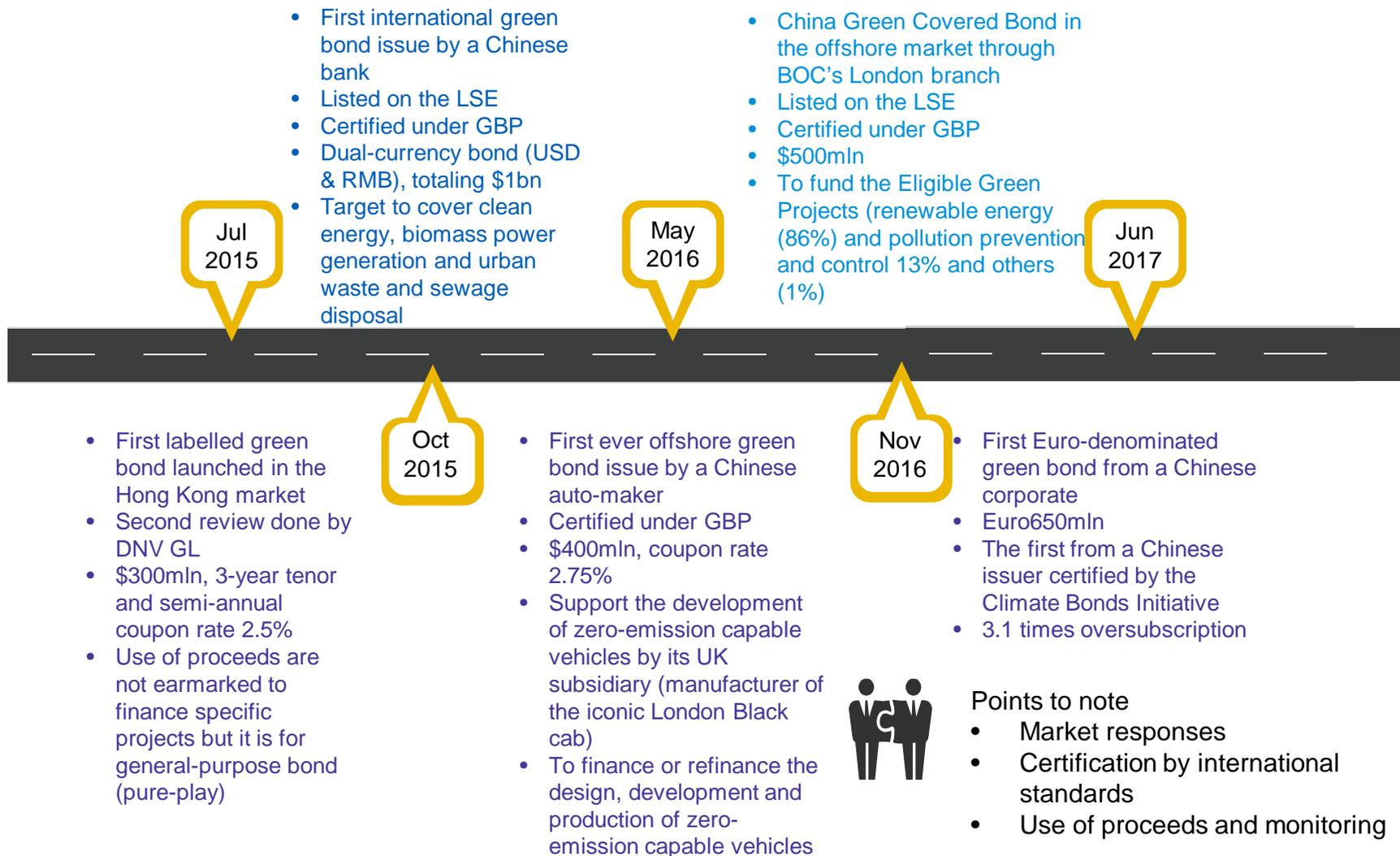
Avoided
13,800
tCO₂e in
2015

Partnering with suppliers for clean energy



Source: Apple Environmental Responsibility Report 2016

Case Study - China's Offshore Green Bond Issuance



Belt & Road and Green Finance in China

ON 1 November 2017, a roundtable discussion on Belt & Road and Green Finance co-hosted by Development of Tsinghua University National Institute of Financial Research and Paulson Institute and the Center for Finance, which is one of a series of roundtable discussions on green finance. Keynotes:

.....how we can design a more effective global green market infrastructure.....

A big part of the answer is that governments need to create conditions that encourage private green investments.

.....China has an opportunity to "export green finance" through its Belt & Road initiative....



Source: Green Finance Committee

.....we must mobilize global financial resources and, in particular, the international financial centers such as Hong Kong, New York and London.....

.....a range of financial products and risk management tools should be developed.....

.....to transform the Belt & Road infrastructure assets into financial products acceptable to global institutional investors.....

Others are acting fast - Hong Kong

Hong Kong: Where Global and China Advantages Converge



Hong Kong as a Regional Green Finance Hub

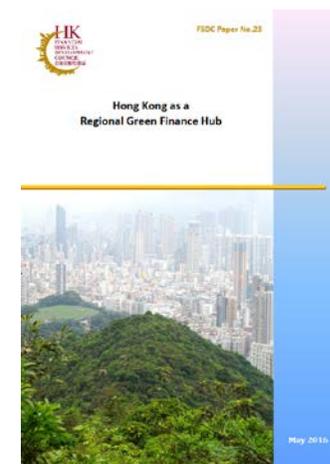
Recommendations for Action

NEAR FUTURE:

1. Strategic green bond issuance
2. Continuing coordination on green finance activities
3. Supporting growth of a green investor base
4. Developing and implementing green labelling and green project accreditation schemes

MEDIUM FUTURE:

1. Public listings for green sector companies
2. Support for private equity
3. Climate and environmental risks to investment portfolios
4. Providing supporting services for emissions trading



Source: Hong Kong Financial Services Development Council – Hong Kong as a Regional Green Finance Hub (May 2016) FSD Paper No. 23

Others are acting fast - Singapore

Singapore to roll out green bond grants



Solar panels on the roof of Greenpac's premises in Boon Lay. Under a green bond grant scheme which will be introduced from June, issuers can offset up to \$100,000 of costs incurred from obtaining an independent review based on international green bond standards. PHOTO: ST FILE

PUBLISHED MAR 24, 2017, 5:00 AM SGT



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Top 10 talked about stocks:

STI	HSI	Nikkei	DJIA	FTSE 100
1. United Overseas Ba...				132%
2. CapitaLand Comm...				55%
3. ST Engineering				29%
4. Sembcorp Industrie...				11%
5. Jardine C...				8%
6. Genting Singapore Plc				0%
7. ComfortDelGro Co...				0%
8. Hongkong Land				0%
9. Golden Agri-Resou...				0%
10. Ascendas Services...				-1%

Updated: 23 04 2017, 12:08

BRANDINSIDER

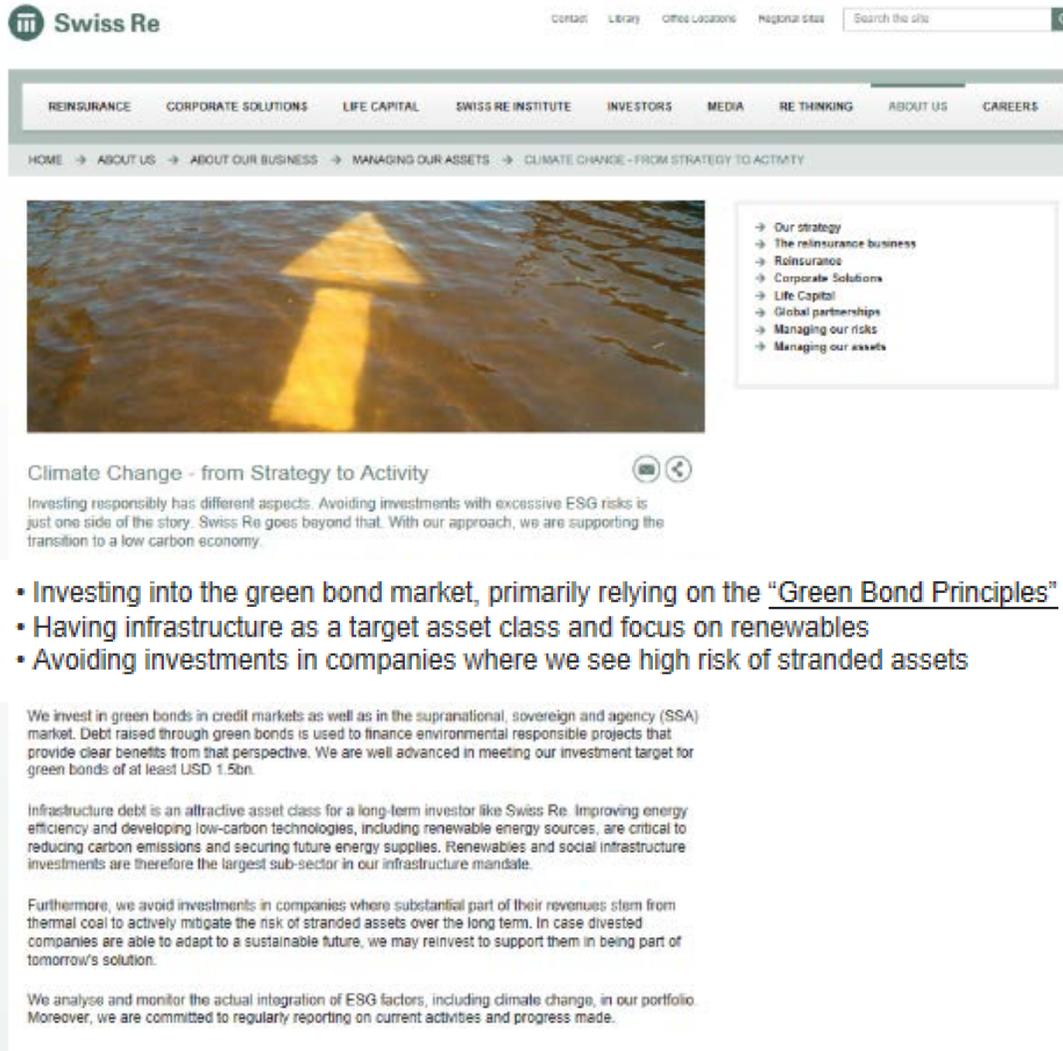
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Other developments - financial institutions



The screenshot shows the Swiss Re website interface. At the top, there is a navigation bar with the Swiss Re logo, contact information, and a search bar. Below this is a secondary navigation menu with categories like REINSURANCE, CORPORATE SOLUTIONS, LIFE CAPITAL, SWISS RE INSTITUTE, INVESTORS, MEDIA, RE THINKING, ABOUT US, and CAREERS. A breadcrumb trail indicates the current page is 'CLIMATE CHANGE - FROM STRATEGY TO ACTIVITY'. The main content area features a large image of a yellow arrow pointing upwards in water, with a sidebar menu listing various topics. Below the image is a section titled 'Climate Change - from Strategy to Activity' with a brief introductory paragraph and a list of key points.

Swiss Re

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REINSURANCE CORPORATE SOLUTIONS LIFE CAPITAL SWISS RE INSTITUTE INVESTORS MEDIA RE THINKING ABOUT US CAREERS

HOME → ABOUT US → ABOUT OUR BUSINESS → MANAGING OUR ASSETS → CLIMATE CHANGE - FROM STRATEGY TO ACTIVITY

→ Our strategy
→ The reinsurance business
→ Reinsurance
→ Corporate Solutions
→ Life Capital
→ Global partnerships
→ Managing our risks
→ Managing our assets

Climate Change - from Strategy to Activity

Investing responsibly has different aspects. Avoiding investments with excessive ESG risks is just one side of the story. Swiss Re goes beyond that. With our approach, we are supporting the transition to a low carbon economy.

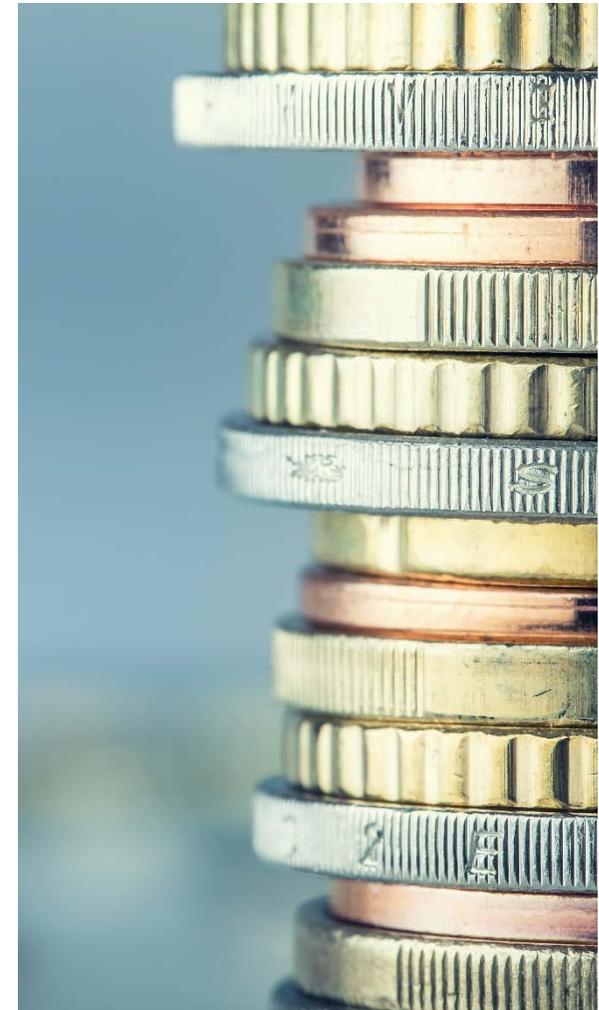
- Investing into the green bond market, primarily relying on the "Green Bond Principles"
- Having infrastructure as a target asset class and focus on renewables
- Avoiding investments in companies where we see high risk of stranded assets

We invest in green bonds in credit markets as well as in the supranational, sovereign and agency (SSA) market. Debt raised through green bonds is used to finance environmental responsible projects that provide clear benefits from that perspective. We are well advanced in meeting our investment target for green bonds of at least USD 1.5bn.

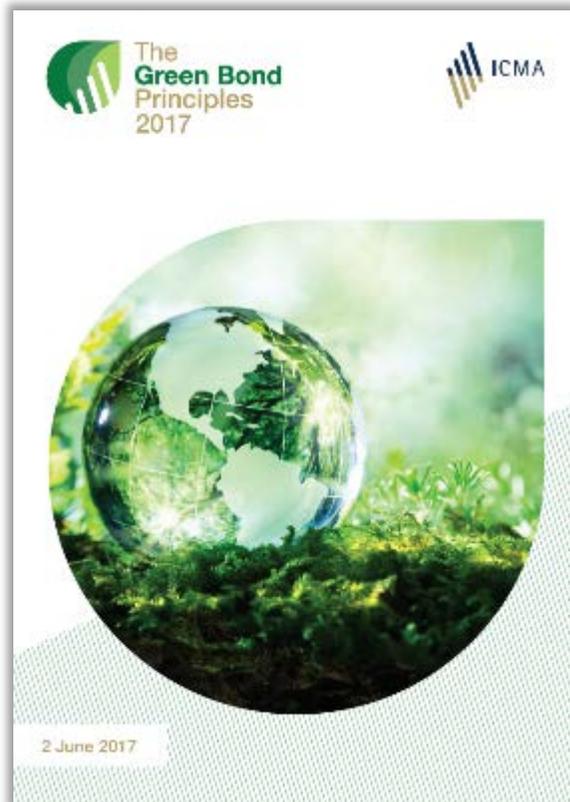
Infrastructure debt is an attractive asset class for a long-term investor like Swiss Re. Improving energy efficiency and developing low-carbon technologies, including renewable energy sources, are critical to reducing carbon emissions and securing future energy supplies. Renewables and social infrastructure investments are therefore the largest sub-sector in our infrastructure mandate.

Furthermore, we avoid investments in companies where substantial part of their revenues stem from thermal coal to actively mitigate the risk of stranded assets over the long term. In case divested companies are able to adapt to a sustainable future, we may reinvest to support them in being part of tomorrow's solution.

We analyse and monitor the actual integration of ESG factors, including climate change, in our portfolio. Moreover, we are committed to regularly reporting on current activities and progress made.



Other developments - standard setters



Standards help to boost the market

Green bond standards can help underpin the trustworthiness of green claims, so that investors can be reasonably confident that the green bonds they invest in actually have a positive impact on the environment. Trust and confidence will be needed to increase deal-flow, streamline transactions and improve liquidity of the market, making it more attractive for large mainstream investors such as pension funds.

9.2 billion people live well in 2050

The pathway and nine elements that lead to Vision 2050



Source: WBCSD

05

Conclusion

What in the Business Leaders' mind

Growth & Innovation: A Climate of Opportunity

54% of business leaders see **opportunities for growth and innovation** in addressing the climate challenge

57% believe that **investment in climate solutions** is essential to competitive advantage

Of leaders from the world's largest companies*:

70% see opportunities for **growth and innovation**

67% report a **clear business case for action**

69% see **investment in climate solutions** as essential to competitive advantage

48% report a **clear business case for action** on climate



*annual revenues in excess of US\$1bn

Source: The UNGC=Accenture CEO Study Special Edition: A Call to Climate Action

Thoughts on how to make green finance more attractive

1. Improve regulations and standards

- Unify definition of “green ”at state level
- Set up other regulations such as assurance guidelines etc
-

2. Implement incentives

- Interest discount
- Tax free
- Impact on Credit rating
-

3. Financial products innovation

- Carbon financial product
- Green index
-

4. Improve transparency of information

- Compulsory environmental information disclosure
- Set up public environmental data platform
- Improve green rating and assurance
-

5. Strength capability building

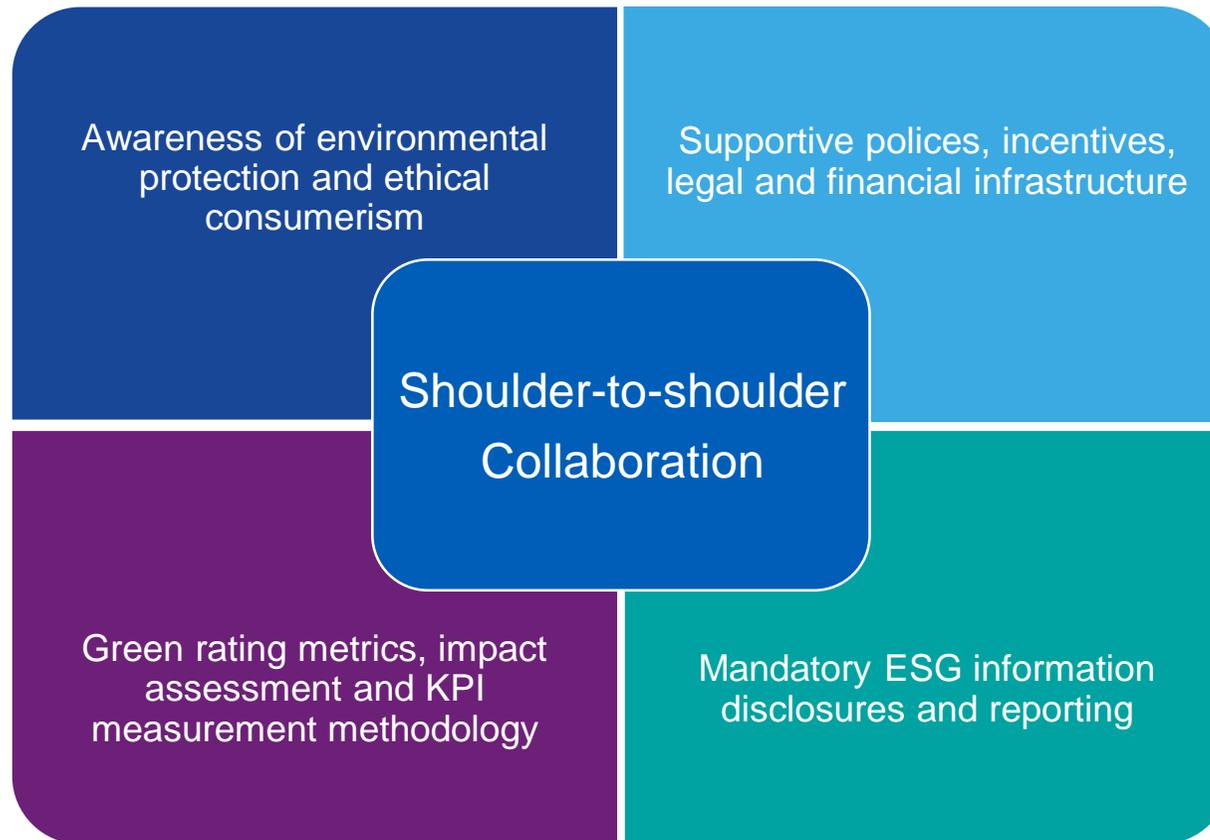
- Development of green financial products
- Management of environmental risks
- Sustainable investment
-

6. Strength international cooperation

- Continue to support G20 Green Finance Study Group
- Communicate on best practice of Green Finance
- Actively participate in all kinds of bilateral cooperation
-

Call for Action

We must act proactively to develop the appropriate economic ecosystem to grow the Green Finance



Action Points



Thank you

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