

From Zero to Hero

lessons and experiences from the growth of the
China's green bond market

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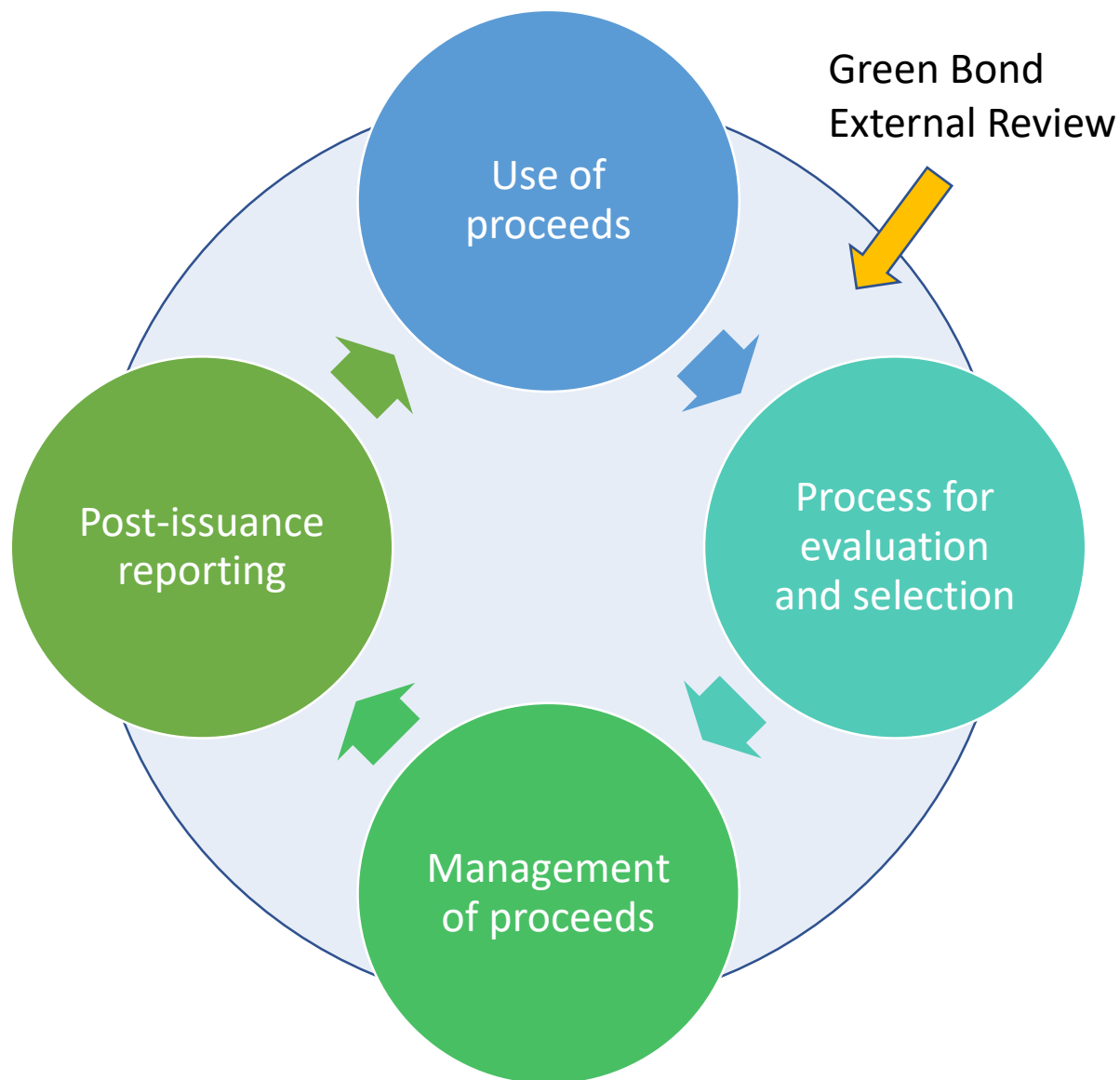
Green Bond Analyst

Climate Bonds Initiative

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What is a green bond?



International Green Bond Definitions















































Green Bond Principles vs. Climate Bonds Standards

“The **Green Bond Principles** are intended for broad use by the market: they provide issuers with guidance on the key components involved in launching a credible Green Bond...”

“The **Climate Bonds Standard** sets out clear criteria to verify certain green credentials of a bond or other debt instrument. It aims to provide a robust approach to verifying that the funds are being used to finance projects and assets that are consistent with delivering a low carbon and climate resilient economy...”

Climate Bonds Taxonomy

Climate Bonds INITIATIVE

ENERGY	TRANSPORT	WATER	LOW CARBON BUILDINGS	INFORMATION TECHNOLOGY & COMMUNICATIONS	WASTE & POLLUTION CONTROL	NATURE BASED ASSETS	INDUSTRY & ENERGY-INTENSIVE COMMERCIAL
Solar 	Rail 	Built (grey) infrastructure 	Residential 	Power management 	Recycling 	Agricultural land 	Manufacturing 
Wind 	Vehicles 	Green and hybrid infrastructure 	Commercial 	Broadband 	Other Recovery 	Forests (managed and unmanaged) 	Energy efficiency processes 
Geothermal 	Mass transit 		Retrofit 	Resource efficiency 	Disposal 	Wetlands 	Energy efficiency products 
Hydropower 	Bus rapid transport 		Products for building carbon efficiency 	Teleconferencing 	Prevention 	Degraded Lands 	Retail and wholesale 
Bioenergy 	Water-bourne transport 				Reuse 	Other land uses (managed and unmanaged) 	Data centres 
Wave and Tidal 	Alternative fuel Infrastructure 				Pollution Control 	Fisheries and aquaculture 	Process & fugitive emissions 
Energy distribution & management 						Coastal infrastructure 	Energy efficient appliances 
Dedicated transmission 						Land Remediation 	Combined heat & power 



Climate
Bond
Certified

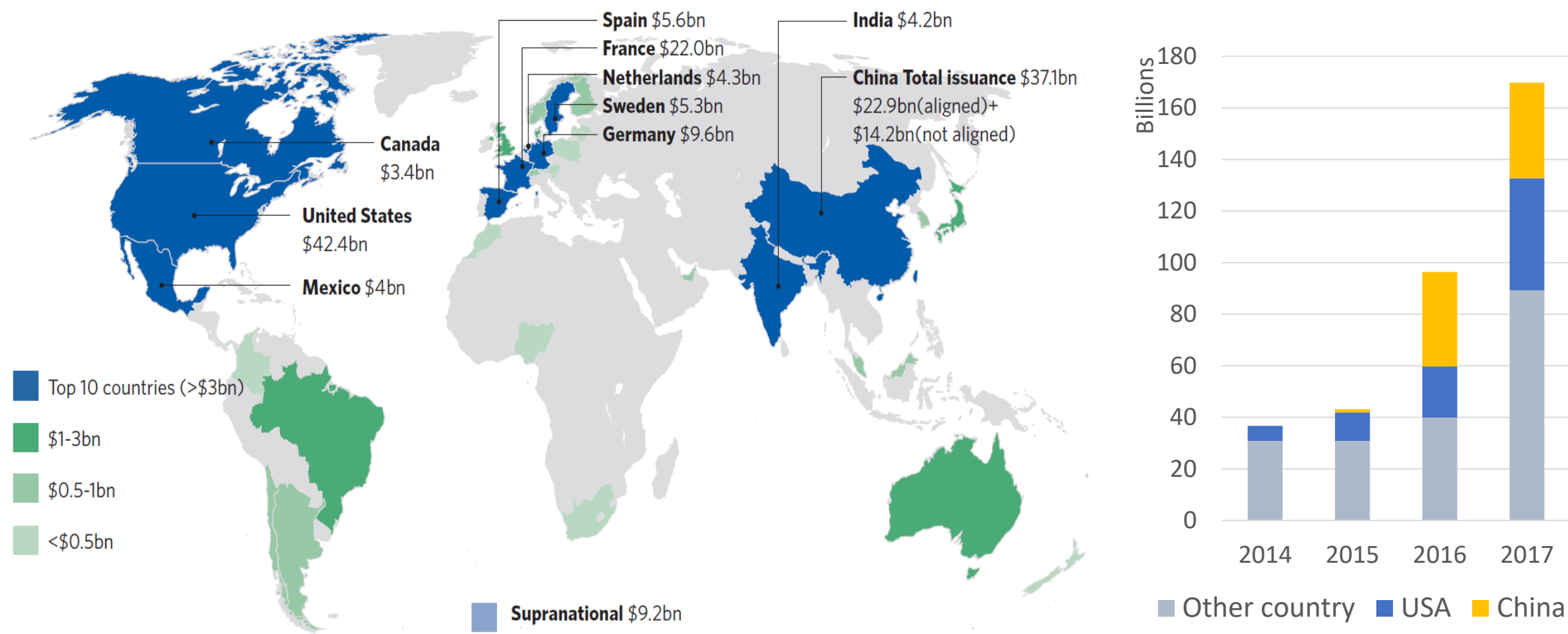
Certification Criteria approved 

Criteria under development 

Due to commence 



A global green bond market in 2017



Issuer types:

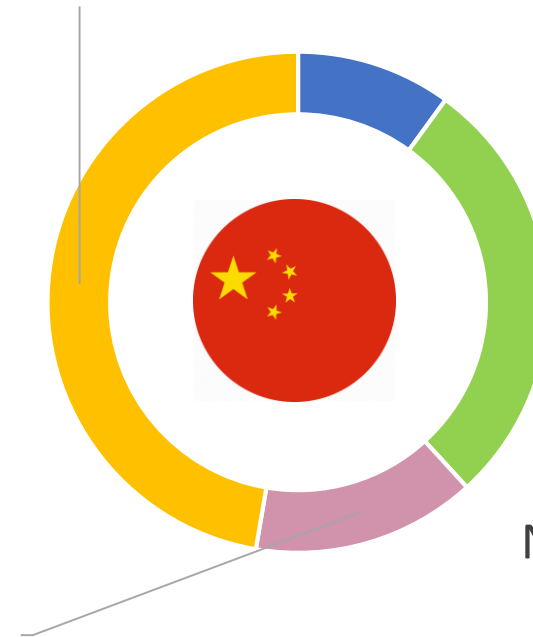
- Commercial banks and other financial institutions
- Non financial corporates
- Government-backed entities
 - e.g. metro companies, or financing vehicles of local government
- Policy banks:
 - China Development Bank
 - Agricultural Development Bank of China
 - Export-import Bank of China

Commercial Bank and other financial institutions

47%

Government-backed

10%



Non financial

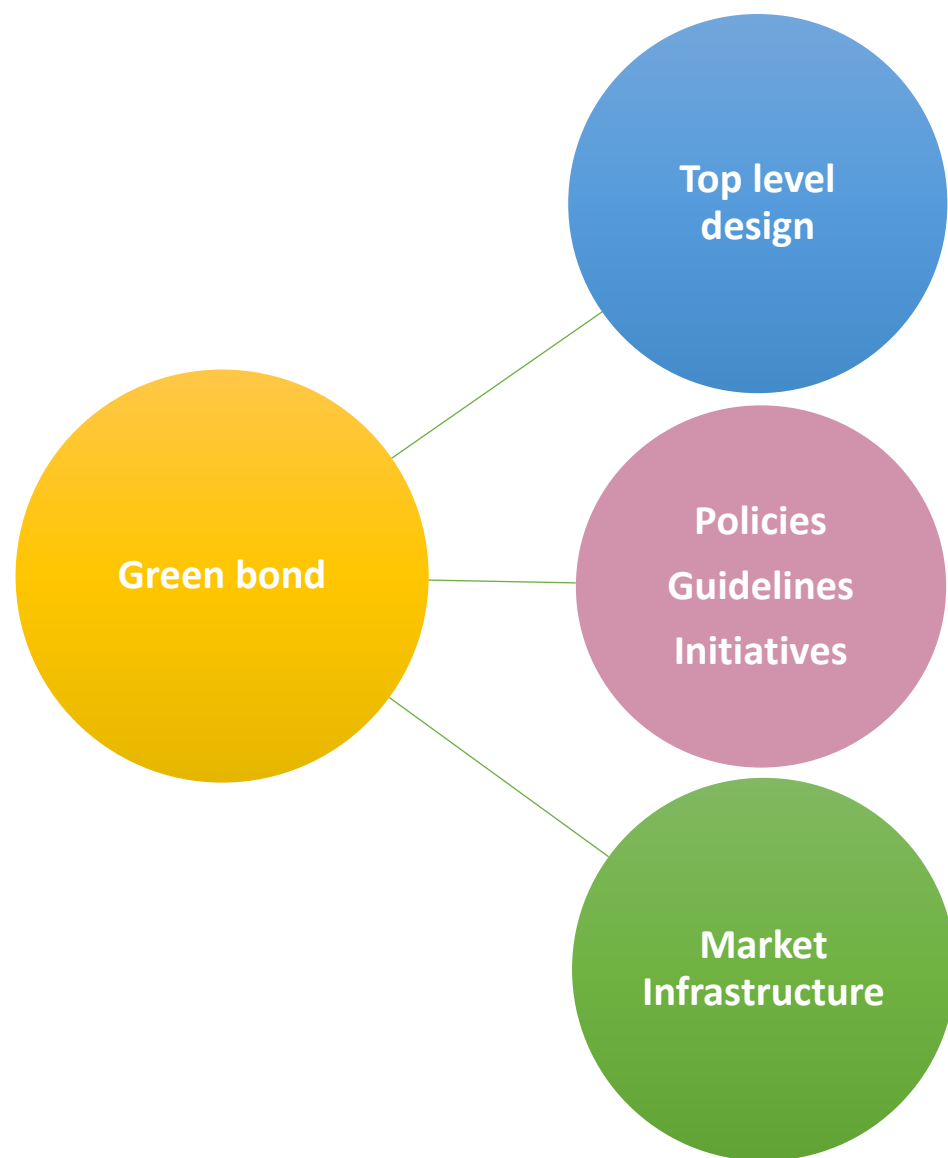
Corporate

28%

Policy Bank

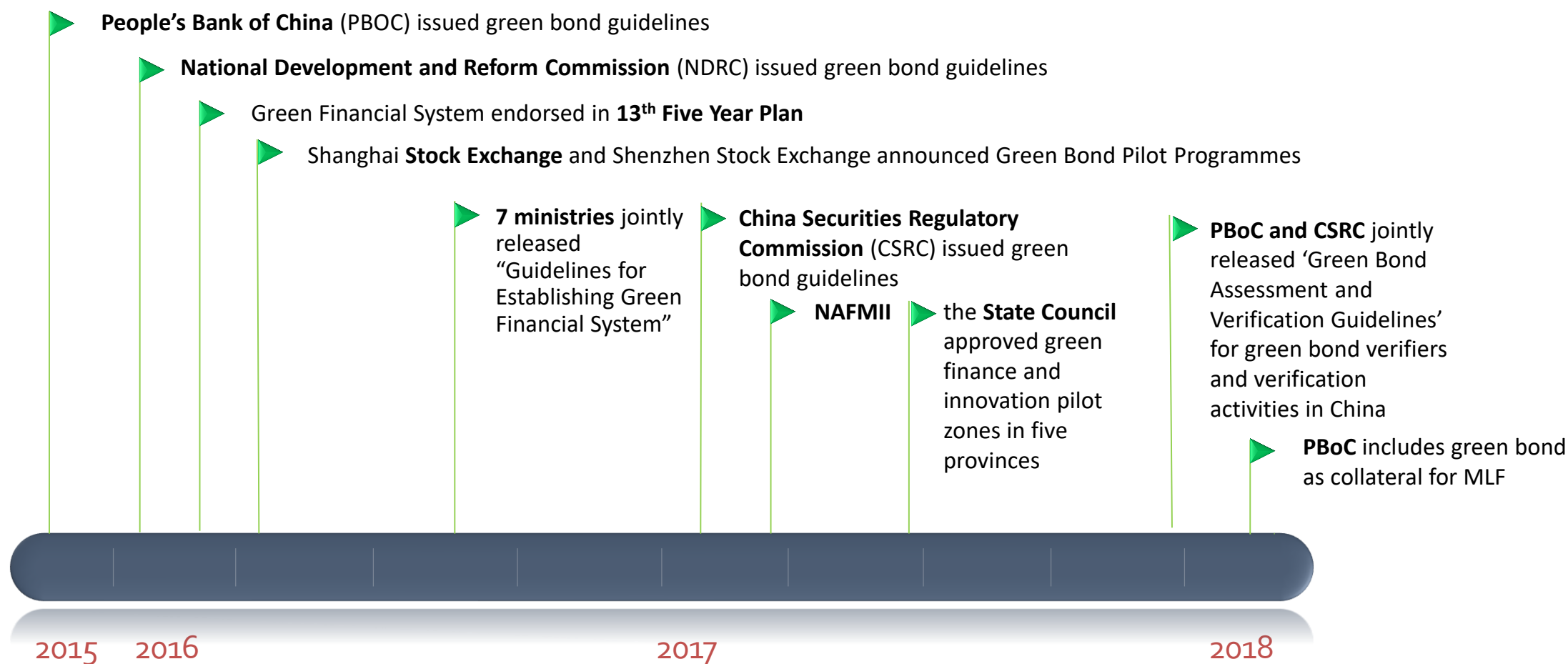
15%

The Troika that has been driving the China green market



- Xi Administration's commitment to develop the "Ecological Civilization"
- People's Bank of China (PBoC)
- National Development and Reform Commission(NDRC)
- China Securities Regulatory Commission (CSRC)
- National Association of Financial Market Institutional Investors (NAFMII)
- Stock exchanges
- Green bond indices
- Green bond verification agencies

Timeline: green finance & green bond policies



Latest news

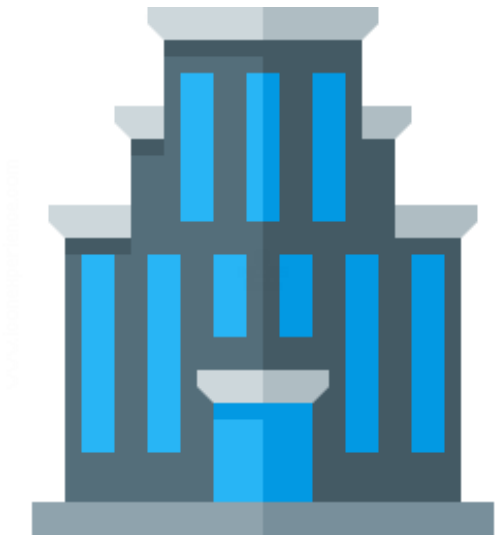
China central bank to include green bond as eligible collateral for medium-term lending facility (MLF)

“The move is beneficial in guiding financial institutions to better support ... and the green economy and other areas”

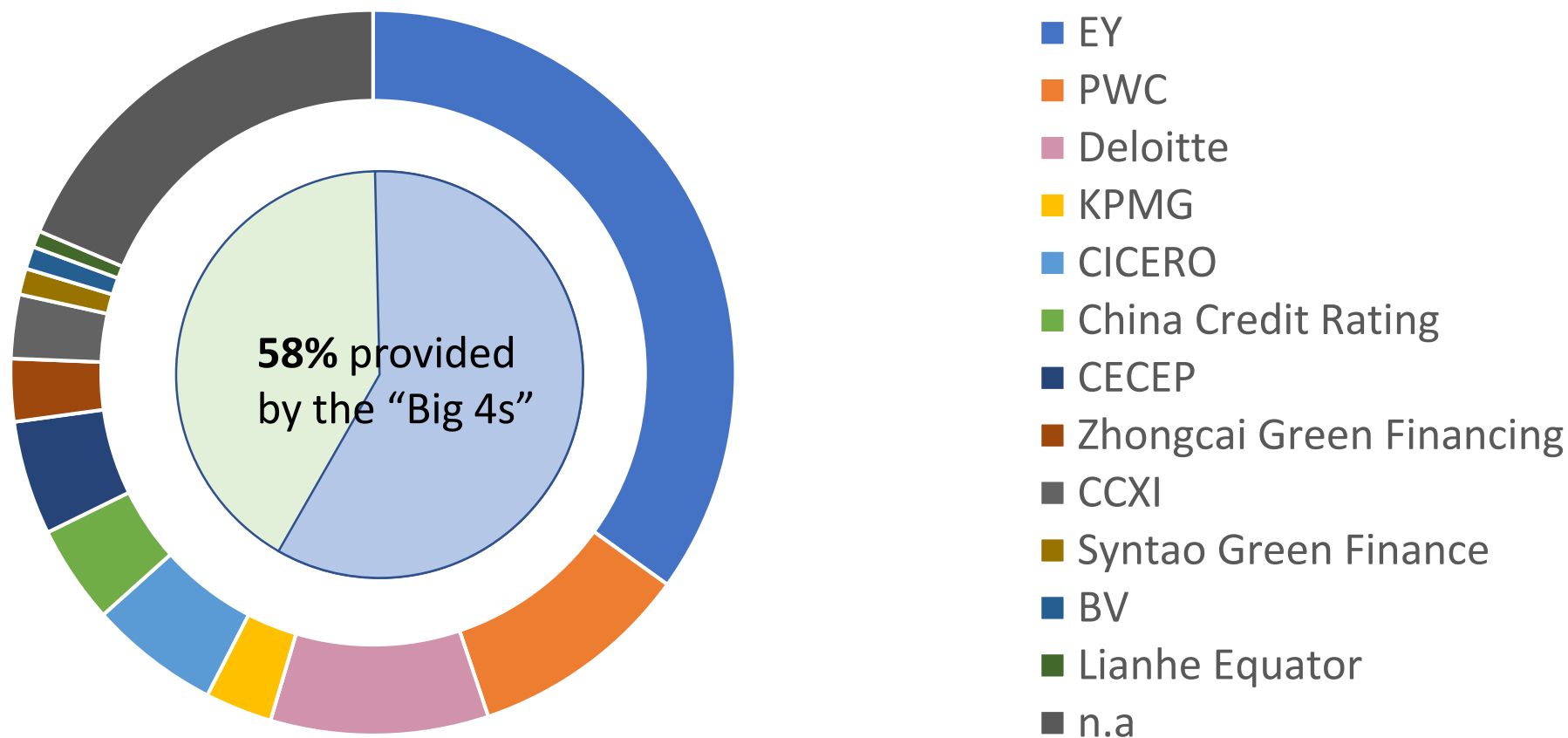
1ST June 2018, the People’s Bank of China

China central bank has included Green Credit into its macro-prudential assessment (MPA)

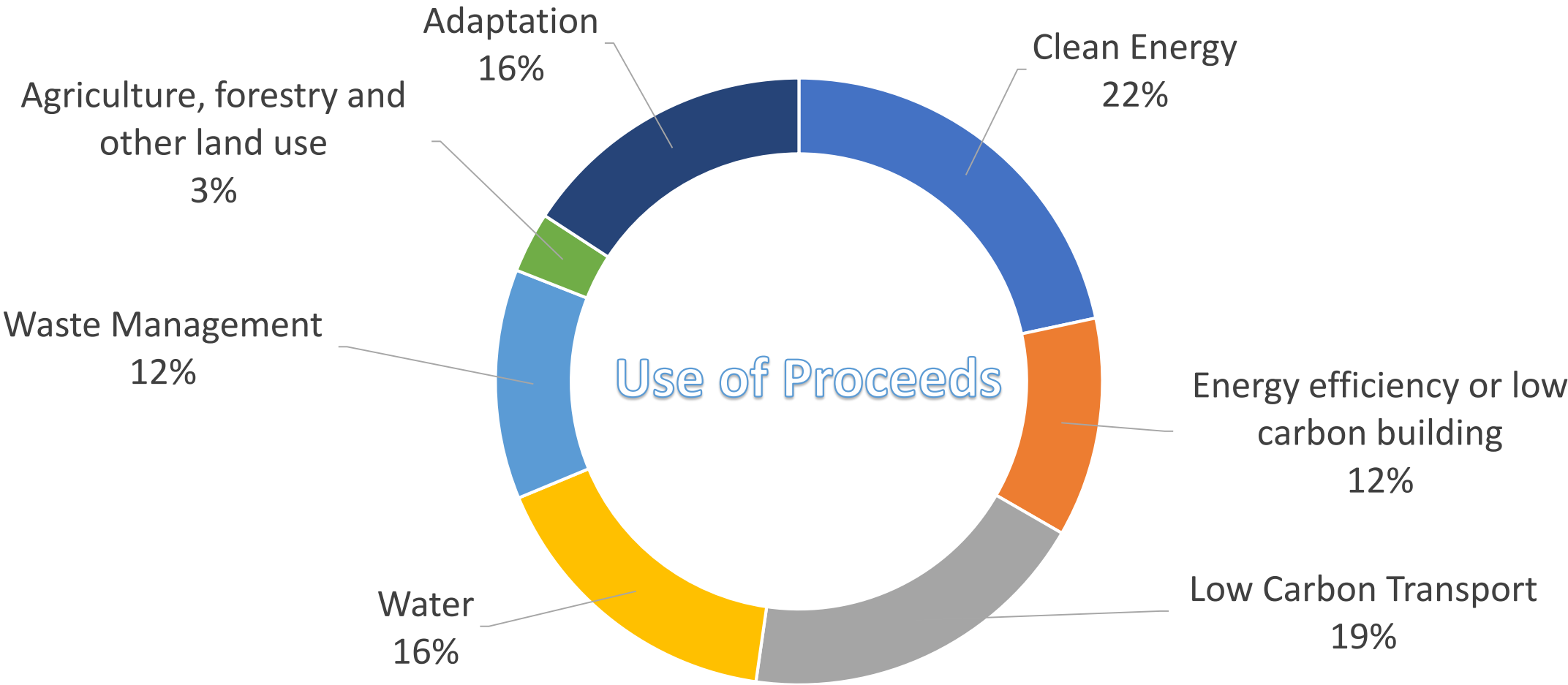
- MPA monitor banks’ capital adequacy ratios, assets and liabilities, liquidity, and risk.
- The more lending to green business a bank has, the higher credit it will receive in the MPA.



Who is providing external reviews?



China green bond market : use of bond proceeds



By Climate Bonds Taxonomy

Challenges: harmonization of green bond definitions

Only **62%** of green bonds from China are in line with international definitions

Bonds fail to meet international definitions because:

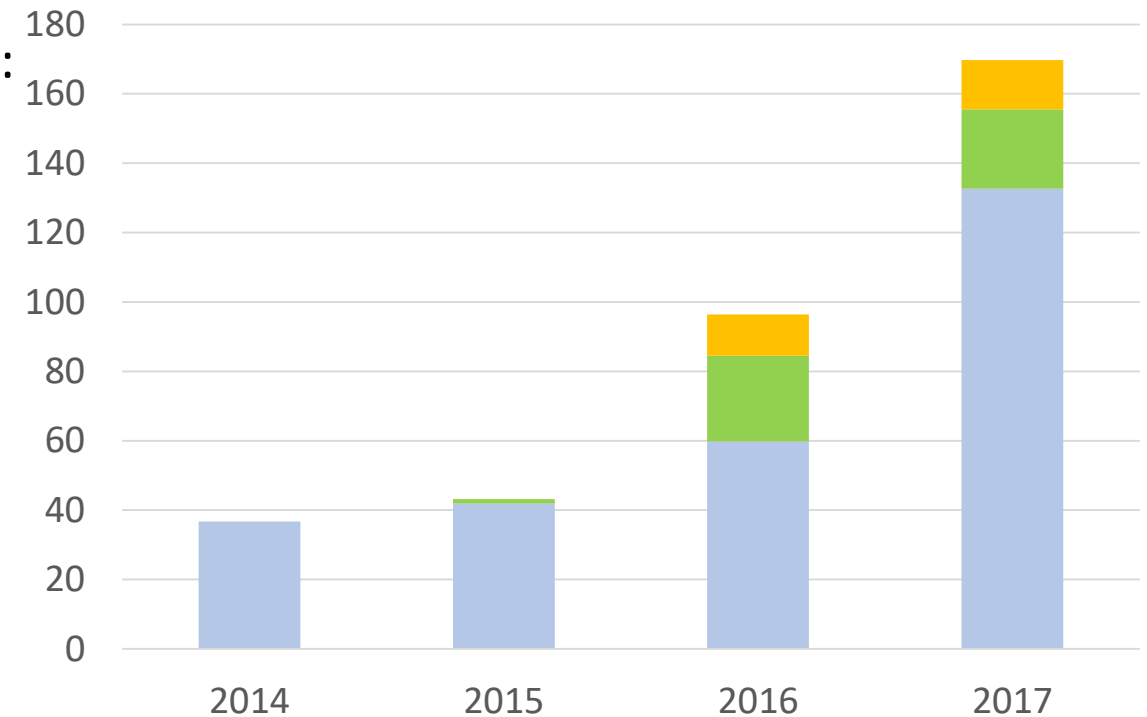
1. Differences in green eligibility definitions

- Clean coal technologies
- Coal power plant retrofit
- and others

2. More than 5% of proceeds allocated to working capital

- Threshold – at least 95% should be used as green

3. Lack of disclosure



■ China's issuance (only aligned with China's definitions)

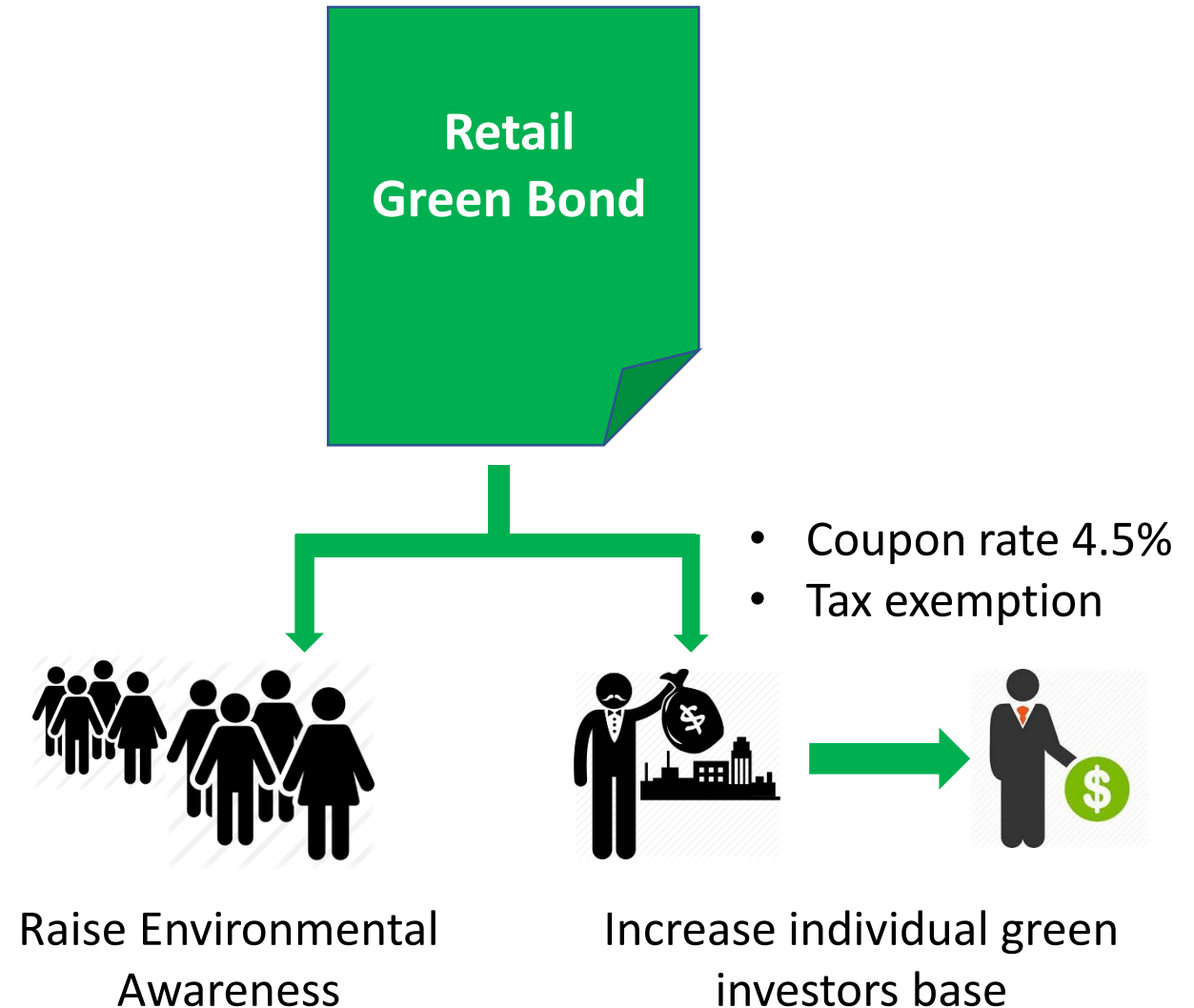
■ China's issuance (aligned with both China and international definitions)

■ other country's issuance (aligned with international definition)

Key deals: retail green bond

China Development Bank

- CNY 5bn (\$763.2m), CNY 600m of the bond is available to individual investors
- Use of Proceeds: water protection and treatment projects in central China's provinces along Yangtze river
- Expected environmental impacts:
 - Reduction in BOD 365 t/a;
 - TSS 5787 t/a;
 - TN 761 t/a;
 - TP 60 t/a;
 -



Key deals: one belt one road and opportunities for green bonds

Industrial and Commercial Bank of China's (ICBC)



- USD2.15bn in 3 tranches
- Listed on Luxembourg Green Exchange
- “One Belt One Road Green Climate Bond”
- Use of Proceeds: renewable energy, low carbon transportation, sustainable water, etc.
- European investors took over 70% of the deal

Opportunities: greening infrastructure projects along the belt and road.



One Belt One Road Initiative

- Covering 68 countries
- 65% of the world's population
- 40% of the global GDP as of 2017



Economist.com



Key deals: green investment overseas

Geely Auto (London Taxi Company)

- USD 400million
- Listed on Singapore Stock Exchange
- Use of proceed: manufacturing hybrid battery-powered London black cab
- 90% allocated to Asian investors
- 6 times oversubscribed



Key deals: Green Panda Bond

New Development Bank

CNY3bn(USD470m), 5 years, 3.07%

To finance renewable energy, low carbon transport, pollution control projects in member countries, including Brazil, India, South Africa and China

e.g. Grid infrastructure connected to renewable energy source in South Africa

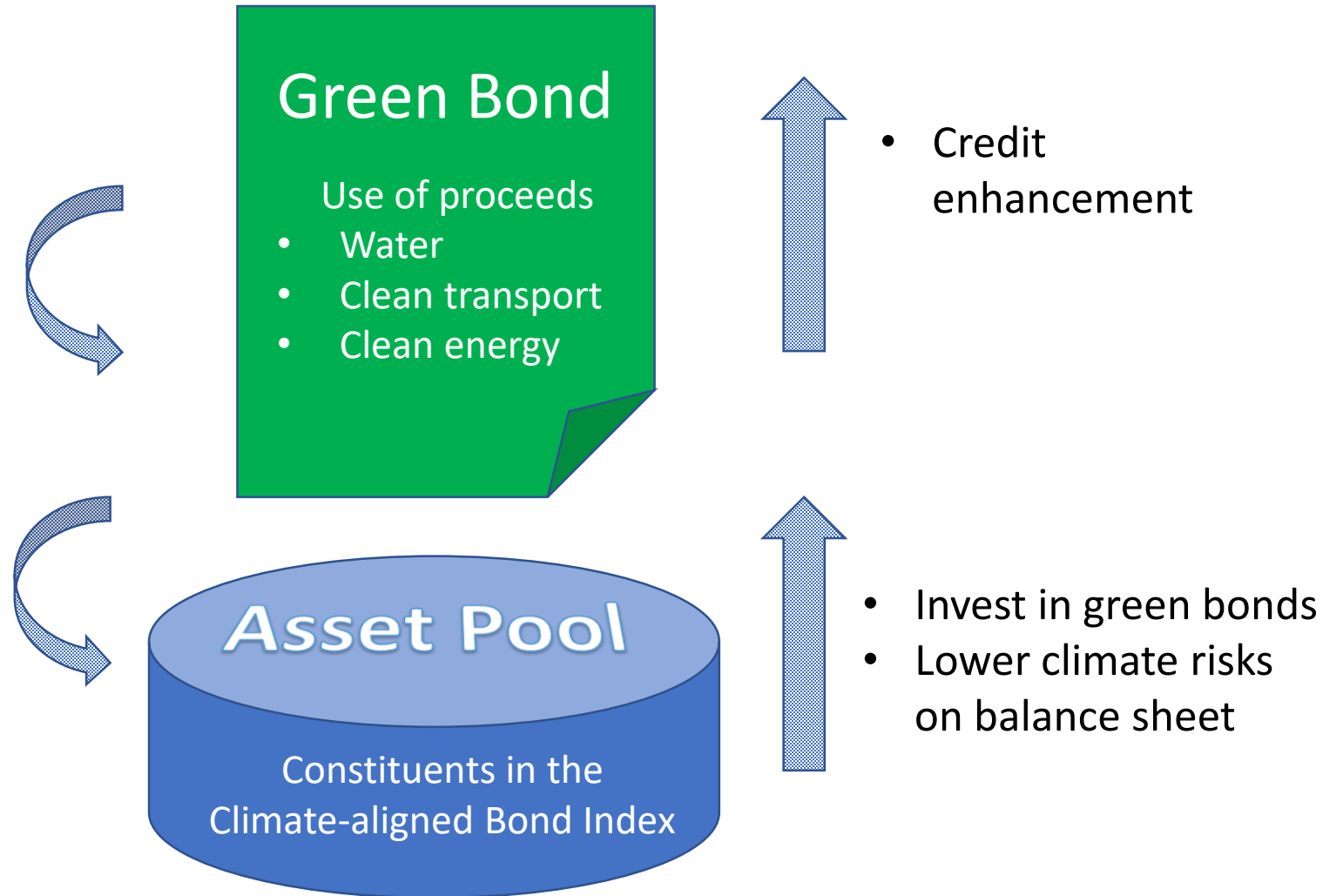
- Market: China Interbank Bond Market
- 3.1 times over subscription
- External review: EY
- AAA Rated by Lianhe Credit Rating
- Underwriter: Bank of China, ICBC, CCB, CDB



Key deals: dual recourse green bond

Bank of China

- USD 500m
- Listed on London Stock Exchange
- Dual recourse structure allowing claims over a dedicated "asset pool", and the usual claim against Bank of China.
- Rated Aa3 by Moody's



Key deals: moving to green

Three Gorges Finance II(Cayman Islands) Limited

- EUR 650 million
- Listed on Irish Stock Exchange
- Use of proceeds: **100% Wind Energy**



Sector	Location	Project	Use of Proceeds (€ Mil.)
Green Energy	Germany	Offshore Wind	€400
Green Energy	Portugal	Onshore Wind	€250

- Expected climate impact: reduction of 2.21 million tons of CO2
- Certified by Climate Bonds Initiative

Next steps – what to expect in the future?

1. Harmonization of green bond definitions

- Domestic: PBoC and NDRC
- International: EIB and PBoC

2. Opportunities: greening the one belt one road

3. Local government financing vehicles (LGFVs)

- What is a LGFV?
- Longer investment horizon
- Green Finance Pilot Zones will accelerate green bonds issuance from local government and LGFVs

Next steps – what to expect in the future?

4. Green securitization

5. Hong Kong, the next powerhouse for green bond market

- Bond Connect scheme
- The largest government green bond programme just released
- Incentives for green bond issuing

6. More green bond based financial products

- Green bond fund and ETF

Thank you!

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