

New
Development
Bank

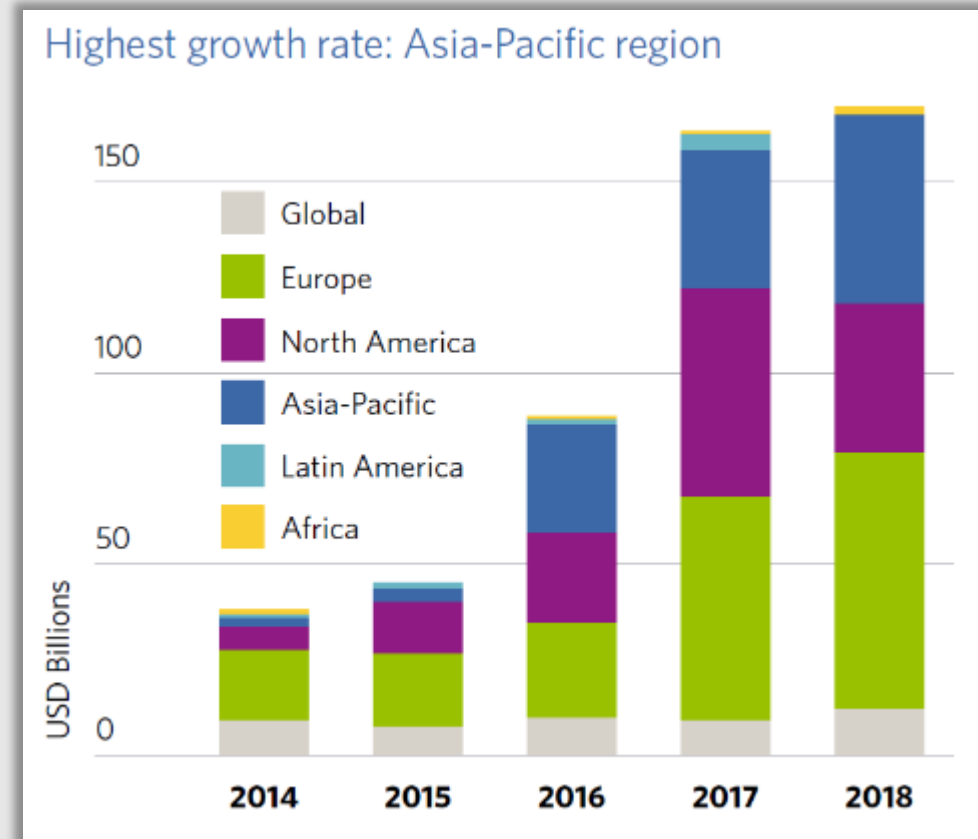
Green bonds in Asia

April 12, 2019



Green Bond Market Overview: Asia Rapid Growth

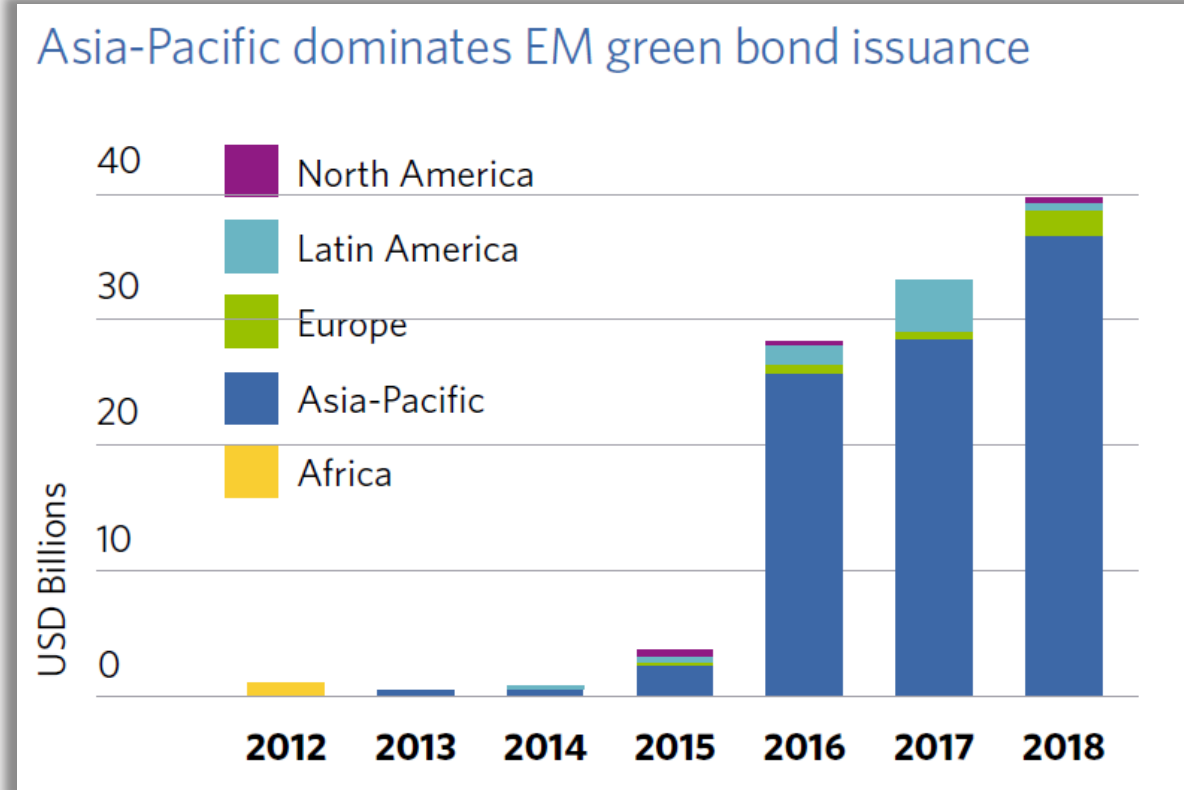
- Asia-Pacific achieved the highest regional year-on-year growth rate at 35% and had the second largest 2018 volume after Europe
- In 2018, the top 3 Asian-Pacific countries were China (USD31bn), Australia (USD4.2bn) and Japan (USD4.1bn)
- Supranationals ('Global' in the chart) ranked second in terms of growth for 2017/18 at 34% USD5.6bn), World Bank (USD2.4bn) and Asian Development Bank (USD1.7bn)



Data Source: CBI

Green Bonds in EM: China Leads the Way

- The first emerging market (EM) green bonds were issued in South Africa in 2012
- Green bonds have gained momentum with the wide uptake of capital markets regulations on green bond issuance. This is particularly evident in EM countries from Asia
- China's entry in 2016 and push in 2017 boosted overall EM issuance. China has the largest green bond market and accounts for over 70% of the total EM issuance to date, and about the same in 2018



Data Source: CBI

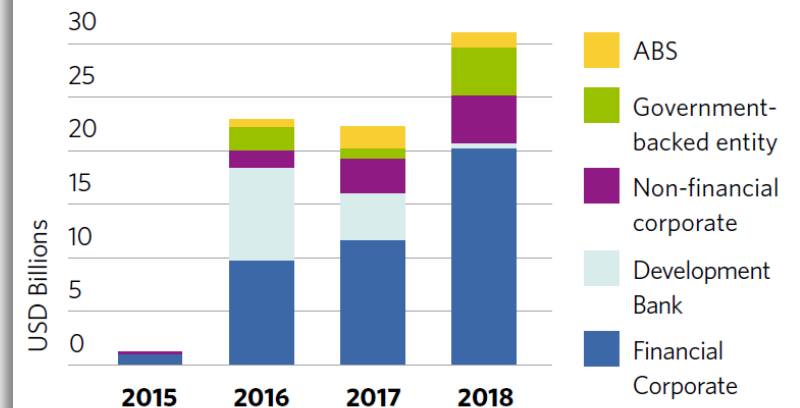
China Green Bond Market: Recent Developments

- China's green bond market growth kept its pioneering role in the green bond market as the second largest source of green bonds in the world by the end of 2018
- Internationally-aligned green bond issuance from China reached USD31.2bn (CNY210.3bn) in 2018, including USD30.9bn (CNY208.9) issued by Chinese issuers on both domestic and overseas markets, and USD208m (CNY1.4bn) green panda bonds issued in China
- Green bonds from Chinese issuers account for 18% of global issuance. 2018 volume represents a 33% increase from the USD23.5bn (CNY157.8bn) reached in 2017. If bonds that align only with China's local definitions are factored in, total issuance in 2018 reached at USD42.8bn (CNY282.6bn), representing a 12% increase YoY



Data Source: CBI and CCDC

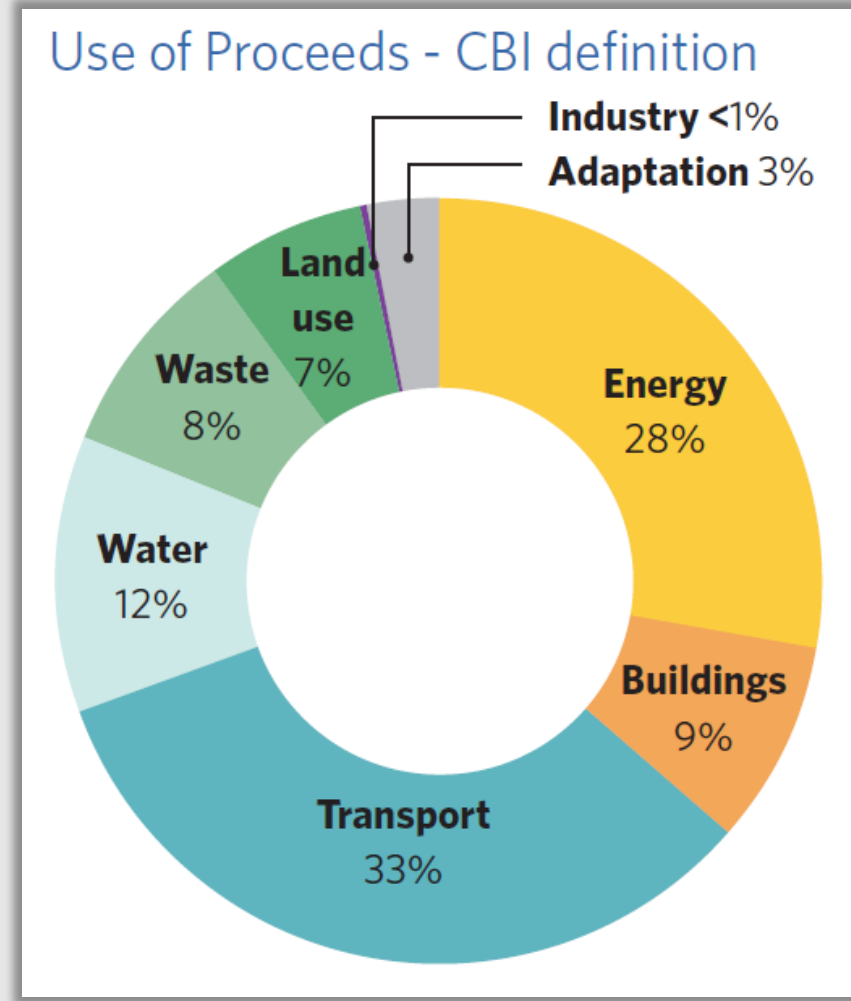
Chinese issuance topped USD30bn in 2018



Data Source: CBI and CCDC

China Green Bond Market: Diversifying Use of Proceeds

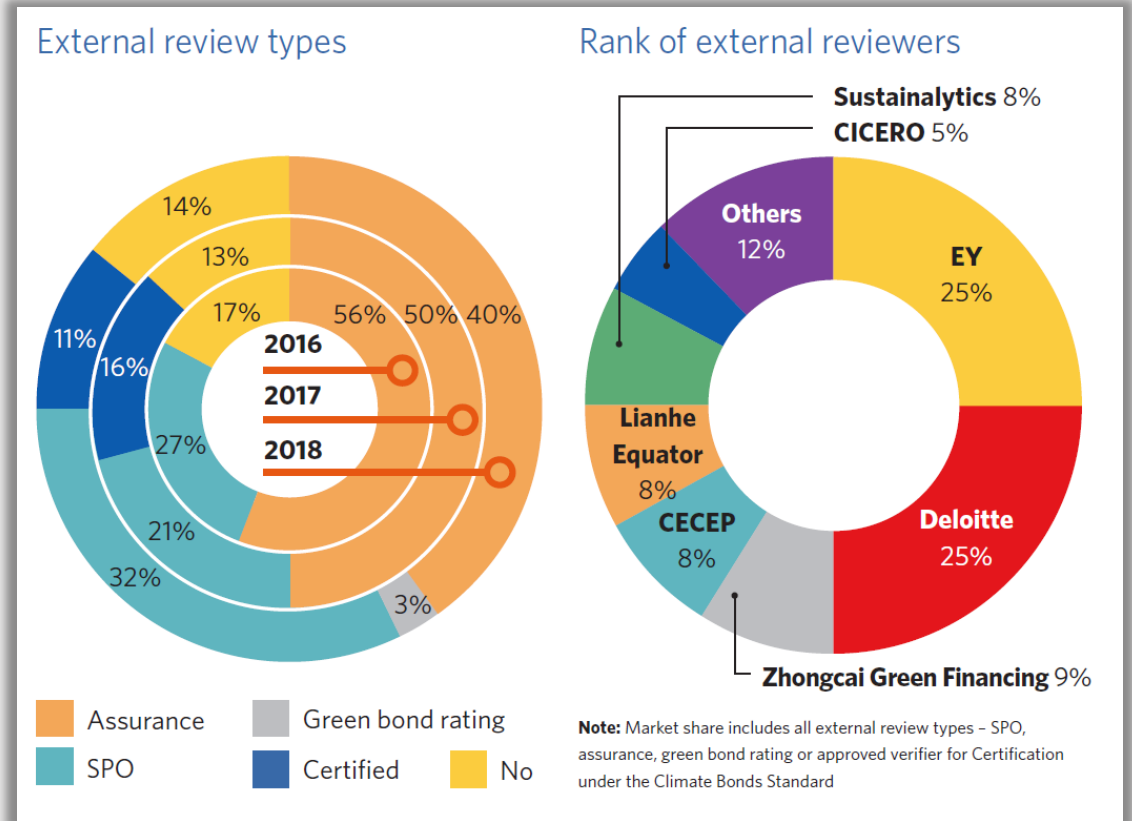
- Among the key sectors, low-carbon transport is the largest theme for green bond issuance and allocation to this sector accounts for 33% of the total proceeds raised in 2018
- Energy represents the second largest sector and solar and wind are the two main common energy types financed
- Sustainable water infrastructure saw an increase in the raise of proceeds with several green ABS instruments issued. Beijing's commitment to extend its campaign to tackle pollution from air to water, could be a contributing factor
- According to PBOC's Green Bond Guidelines and Green Bond Endorsed Project Catalogue, Clean Transport has also taken the largest share at 33%, followed by Clean Energy at 28%



Data Source: CBI and CCDC

China Green Bond Market: Certification

- In 2018, the share of green bond assurance decreased to 40%, as more issuers sought a second party opinion
- Certified Climate Bonds made up 11% of issuance volume, and 3% obtained a green bond rating
- The Big 4 accounting firms still dominate. Together, they are responsible for over 50% of external reviews by total amount



Data Source: CBI and CCDC

Highlights of the Inaugural Green Bond Issuance

Issuer Rating	AAA (CCXI and China Lianhe)
Instrument	Senior Unsecured Green Financial Bond
Listing	China Interbank Bond Market
Pricing	July 13 th , 2016
Settlement	July 19 th , 2016
Tenor	5-year
Maturity	July 19 th , 2021
Amount	CNY 3bn (~USD 450mn) ¹
Coupon	3.07%

- First time an international financial institution issued a green financial bond in the China Interbank Bond Market
- Rated AAA by leading domestic rating agencies in China
- Final order-book was more than 3x oversubscribed
- More than 30 investors participated in the bidding process
- The proceeds are used for “Green” infrastructure and sustainable development projects
- Independent certification agency (EY) provided assurance to confirm that the bond meets the criteria of ICMA Green Bond Principles and the Green Bond regulations in China² to be qualified as “Green”

1. At the exchange rate at the time of issuance

2. The Issuance of Green Financial Bonds in the National Inter-bank Bond Market (Letter [2015] No. 39) and the Green Financial Bond Endorsed Project Catalogue (2015) published by the People's Bank of China

Selected Projects for the Use of Proceeds from the inaugural Green Bond



> Lingang Distributed Solar Power Project in Shanghai, China

- 100 MW solar rooftop PV and avoided 73,000t CO₂/year

> Putian Pinghai Bay Offshore Wind Power Project in Fujian, China

- 700 MW offshore wind power and avoided 869,900t CO₂/year

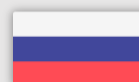


> Renewable Energy Projects and Associated Transmission in Brazil

- 600 MW renewable energy and avoided 1,000,000t CO₂/year

> Petrobras Environmental Protection Project in Brazil

- harmful emissions significantly reduced, water and soil contamination avoided



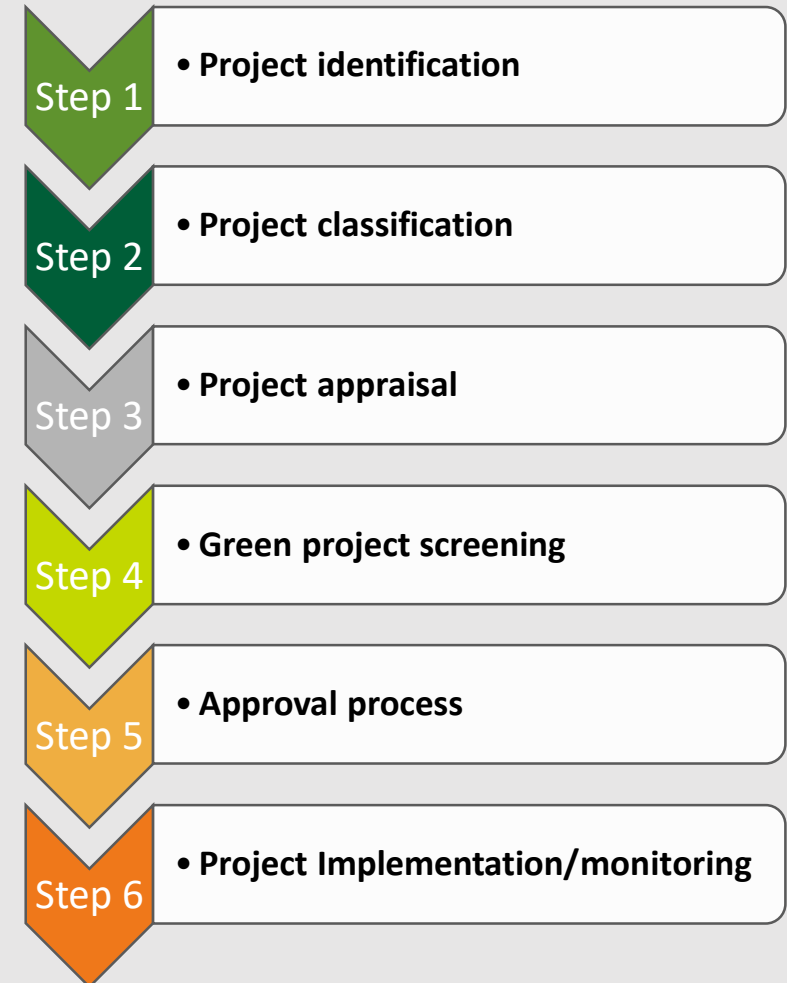
> Hydroelectric Power Project in Karelia, Russia

- 50 MW renewable energy and avoided 48,000t CO₂/year

NDB Green Bond: Key Requirements

- Prior to issuing the Bond, NDB approved its Green Bond Internal Guideline
- According to the best practices in the Green Bond market, NDB engaged a third party certification agency (EY) to provide a pre-issuance assurance that the bond meets all the applicable regulatory requirements to be qualified as “green” in terms of the use and management of the proceeds, project evaluation and selection process, information disclosure and reporting aspects
- **Key Regulations:** GBP, PBOC’s No. 39 Announcement, Green Bond Endorsed Project Catalogue
- Prior to each loan disbursement, the Bank evaluates, selects and reviews green projects in accordance with the regulation requirements
- A qualified third party is engaged to review the use and management of the proceeds and issues an assurance report on an annual basis
- The usage of the proceeds for the eligible projects is recorded in the separate account in order to track and control the receipt of funds, use of the proceeds and repayments

Key Steps of Green Projects Evaluation and Selection process from the NDB Green Bond Guideline



Sustainable Development Financing Framework

- Purpose of the this Framework is to set out how NDB will issue bonds to fund new loans to businesses and projects that promote development which is socially inclusive and environmentally sustainable
- Principles referred in the Framework include the Green Bond Principles, the Social Bonds Principles, the Sustainability Bonds Guidelines, as well as in line with the Green Bond Guidelines in the Bank's member countries

1

Use of Proceeds

- Eligible sectors for sustainable development bonds
- Funding through various forms of Financial Support
 - Loans
 - Bonds
 - Equity investments
 - Contractual or Conditional financial support, e.g. guarantee

2

Project Evaluation and Selection

- NDB Environmental and Social Framework
- <https://www.ndb.int/wp-content/uploads/2017/02/ndb-environment-social-framework-20160330.pdf>
- Project Screening

3

Management of Bond Proceeds

- Compliance with GBP on eligible sectors
- Planning the use of proceeds and the investment of unallocated proceeds
- Recording the use of proceeds through an established register

4

Reporting

- Annual sustainable Development Financing Report with an emphasis on Impact Reporting
- Assurance Report includes second party opinion and third party assurance reports

Eligibility Criteria of the Sustainable Development Framework

- The proceeds of each bond issued under the Sustainable Development Framework will be used exclusively financing in support of sustainable development activities in line with NDB policies, the sustainable development plans of member countries, as well as falling within the Eligible Sectors as defined below

Eligible Sectors		Description
1	Agribusiness	Financial support to promote the development of agriculture and food production including: <ul style="list-style-type: none"> Investments that increase food production yields whilst mitigating adverse impacts on the environment Investments that improve the efficiency of food production chain including reduce loss and waste in the production and distribution process Investments that mitigate the adverse impact of food production on the ecosystem
2	Clean Transportation	Low energy or emission transportation assets, systems, infrastructure, components and services (examples include Rail (passenger or freight), Tram, Metro, Bus Rapid Transit systems, Electric Vehicles), excluding fossil fuel powered and diesel assets shall be excluded.
3	Climate Change Adaptation	Flood defenses systems and related infrastructure; Removal and relocation of core infrastructure services away from locations at high risk of adverse climate change impact to areas of lower risk
4	Cultural Heritage	Investments in the protection of cultural heritage including tangible and intangible attributes of a group or society that are inherited from past generations, maintained in the present and preserved for the benefit of future generations
5	Education	Projects that provide or support the provision of quality education to disadvantaged sectors of society where education opportunities are not generally available
6	Efficient Buildings	<ul style="list-style-type: none"> New construction building developments or renovation of existing buildings (including public service, commercial, residential and recreational) which meet recognized environmental standards such as Chinese Green Building Label, LEED, BREEAM, HQE, CASBEE or equivalent; Buildings which have reduced life cycle consumption of energy levels of at least 20% less than statute/city baseline consumption levels, where this can be easily and transparently demonstrate
7	Energy Efficiency	Development of products or technology and their implementation that reduces energy consumption of underlying asset, technology, product or system(s) across manufacturing, industrial, buildings and other sectors <ul style="list-style-type: none"> Examples include improved lighting technology, and reduced power usage in manufacturing operations Improved efficiency in the delivery of bulk energy services (examples include district heating/ cooling systems, smart grids, energy recovery technology, and the storage, transmission and distribution of energy that results in reduced energy losses) Manufacture of components to enable energy efficiency described above (examples include LED lights, fuel cells, smart grid meters)
8	Financial Institutions	Financial Institutions with sustainable development objectives in line with the Bank and who have committed to on-lend to businesses and projects to support activities in Eligible Sectors as defined in this framework
9	Healthcare	Projects that contribute to the goal of achieving the highest attainable standard of primary healthcare for disadvantaged or high risk sectors of society
10	Low Carbon Energy	Investment in projects that deliver a substantial and measurable reduction in the emission of greenhouse gases when compared to alternatives including investment in processes that significantly reduce greenhouse gas emissions from existing power generation facilities. Fossil fuel related assets are excluded.
11	Renewable Energy	Generation of energy from renewable sources (examples include wind, solar, tidal, small hydro, and waste to energy facilities) Manufacture of components of renewable energy technology (examples include wind turbines, solar panels)
12	Small and Medium Enterprise Funding	Businesses run by or in support of disadvantaged groups or regions that do not otherwise have general access to commercial funding alternatives Businesses that support disadvantaged groups either by offering employment, sources of materials or distribution channels for produced goods or services
13	Social Housing	Projects that deliver affordable, safe, clean and resource efficient housing to disadvantaged sectors of society
14	Sustainable Land Use and Biodiversity	Forestry with FSC or PEFC certification and agriculture with RSPO, RTRS certification or equivalent Schemes for allocation and protection of environment, local community, biodiversity or equivalent
15	Sustainable Waste Management	Waste minimization, collection, management, recycling, re-use, processing, disposal (such as methane capture) products, technologies and solutions
16	Sustainable Water Management	Water collection, treatment, recycling, re-use, technologies and related infrastructure (examples include water pipes and collection facilities to collect water/rainwater, dams, treatment plant facilities)

Who We Are

- ▶ NDB is a multilateral development bank established by BRICS countries to mobilise resources for infrastructure and sustainable development projects
- ▶ The membership is open to members of the United Nations



HIGH CAPITALISATION

- High level of initial **authorised capital of US\$ 100bn** with initial **subscribed capital of US\$ 50bn** and **paid-in capital of US\$ 10bn** places NDB amongst the largest MDBs globally
- **Equal shareholding and voting power** amongst the five founding members



CREDIT STRENGTHS

- **AA+ long-term international credit rating with stable outlook**
- **Conservative risk management and financial policies**
- Sound governance structure, led by a **highly experienced management team**



FLEXIBILITY

- Support of public and private projects through **loans, guarantees, equity participation and other financial instruments**



IMPROVING EFFICIENCY

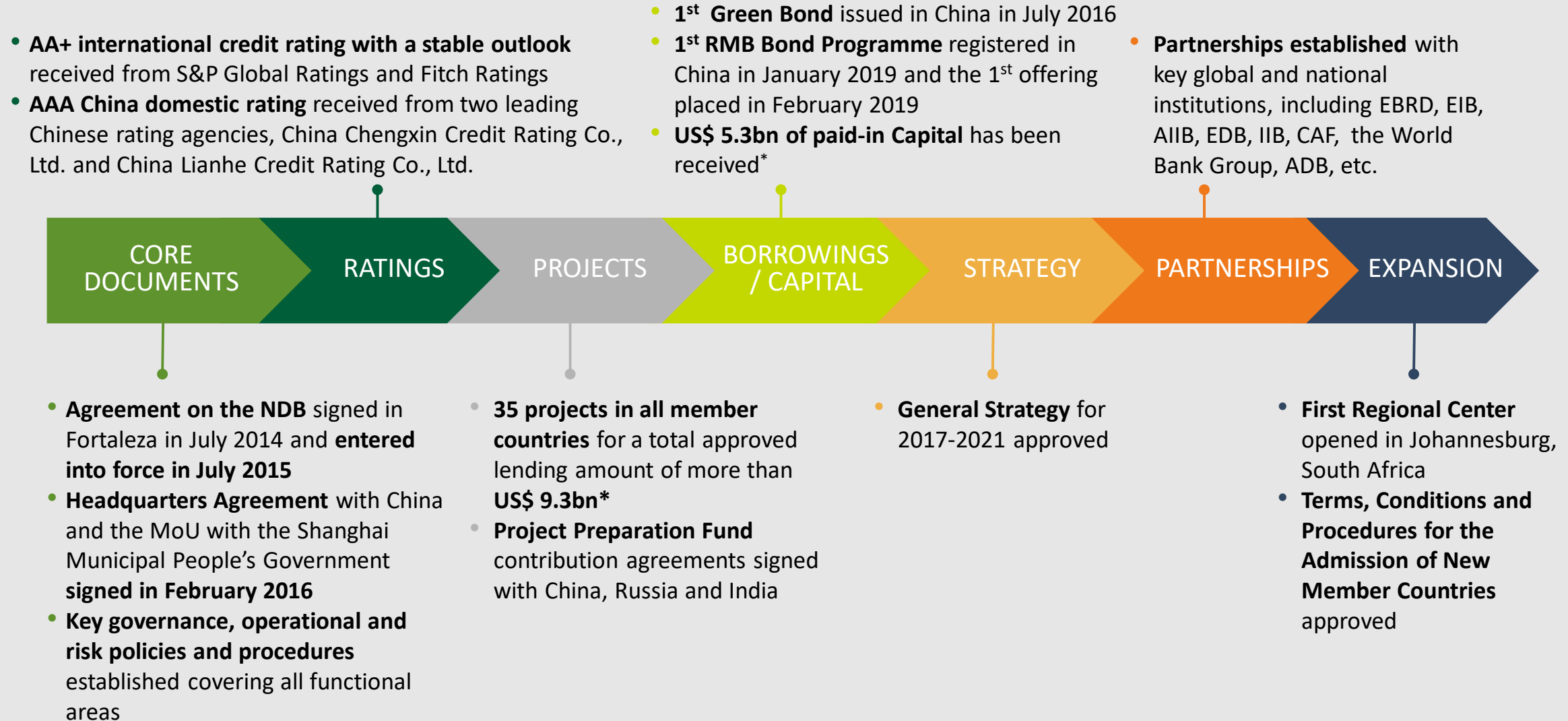
- NDB aims to structure, negotiate, review, and **approve loans within a period of 6 months** without compromising on risk management standards and credit quality



DRIVING INNOVATION

- **Support the development of financial markets in member states**, provide financing in both local and hard currencies and apply country systems

Key Milestones



* As at April 1, 2019

Funding Strategy

- 2019 – set up ECP and MTN (Reg-S) Programmes
- 2019 – register RUB and ZAR Programmes in Russia and South Africa
- 2020 – register INR and BRL Programmes in India and Brazil



Diversification of funding portfolio in terms of currencies, tenors and types of interest rates



Access to the international capital markets



Domestic borrowing programmes in BRICS



Benchmark size transactions



Regular issuances



Focus on Green and Sustainability financing instruments

Capital Markets Presence: China

- July 2016 – debut CNY 3bn Green Bond issued
- January 2019 – CNY 10bn Programme registered
- February 2019 – 3-year CNY 2bn and 5-year CNY 1bn bonds issued

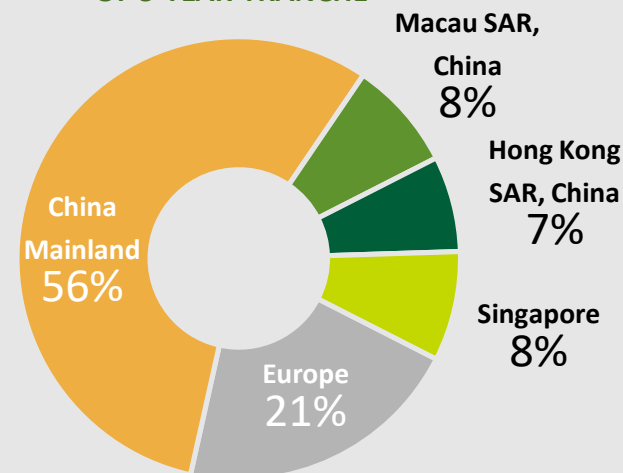
Issuer Rating	AA+ (S&P and Fitch) AAA (CCXI and China Lianhe)	
Instrument	Senior Unsecured	
Listing	China Interbank Bond Market	
Pricing	February 26 th , 2019	
Settlement	February 26 th , 2019	
Tenor	3-year	5-year
Maturity	February 26 th , 2022	February 26 th , 2024
Amount¹	CNY 2bn (~USD 300mn)	CNY 1bn (~USD 150mn)
Coupon	3.00%	3.32%

- First international financial institution to register and issue bond in the China Interbank Bond Market under the “New Panda Bond” regulations² issued by the People’s Bank of China and China’s Ministry of Finance
- Final order-book was more than 3x oversubscribed
- More than 20 investors from domestic state-owned, joint-venture and rural banks, fund companies, securities companies, foreign banks and sovereign funds participated in the bidding process

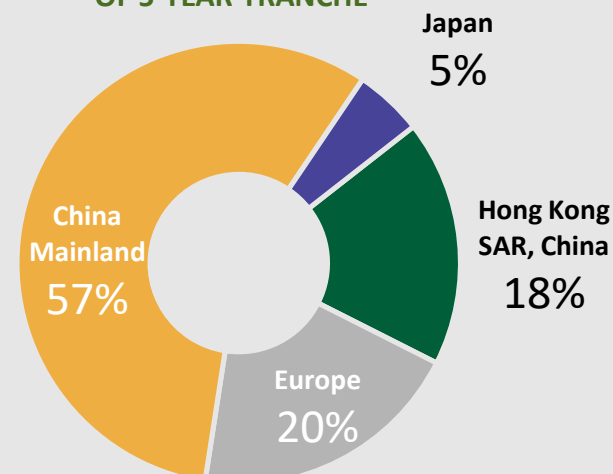
1. At the exchange rate at the time of issuance

2. Interim Measures for the Administration of Bond Issuance by Overseas Institutions in the National Interbank Bond Market under the People’s Bank of China and Ministry of Finance Announcement [2018] No. 16 issued on September 25, 2018

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