

# Green bonds and low carbon city development

Climate Bonds INITIATIVE

## 绿色债券和低碳城市发展

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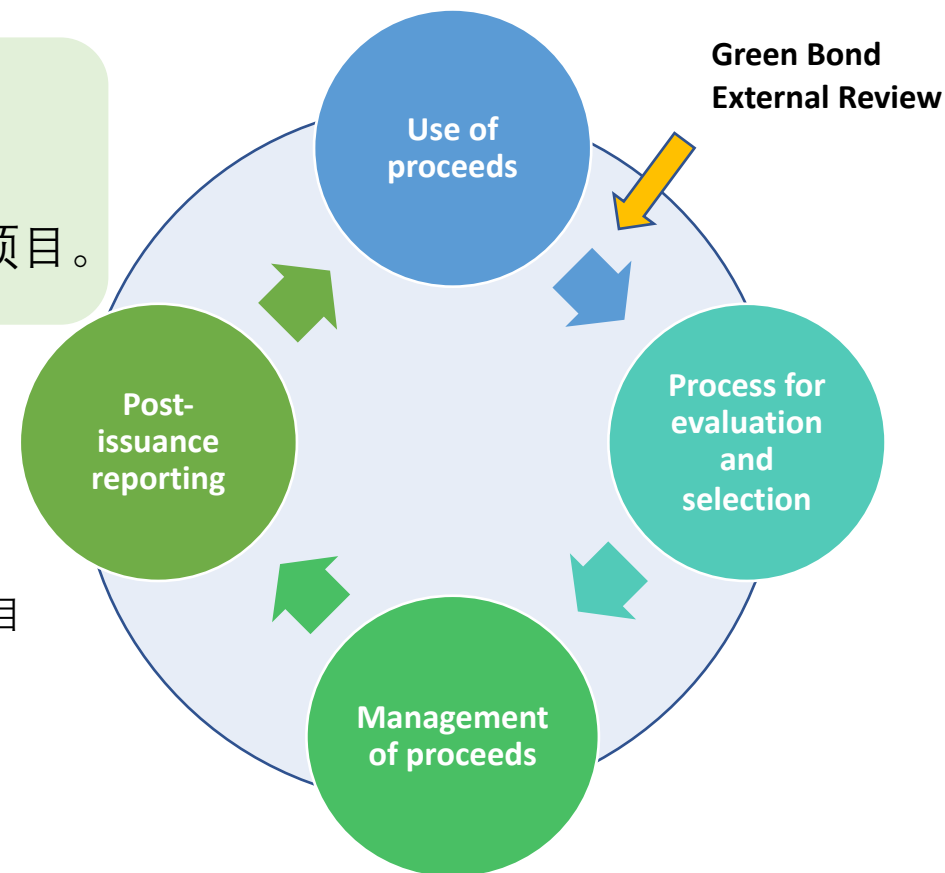
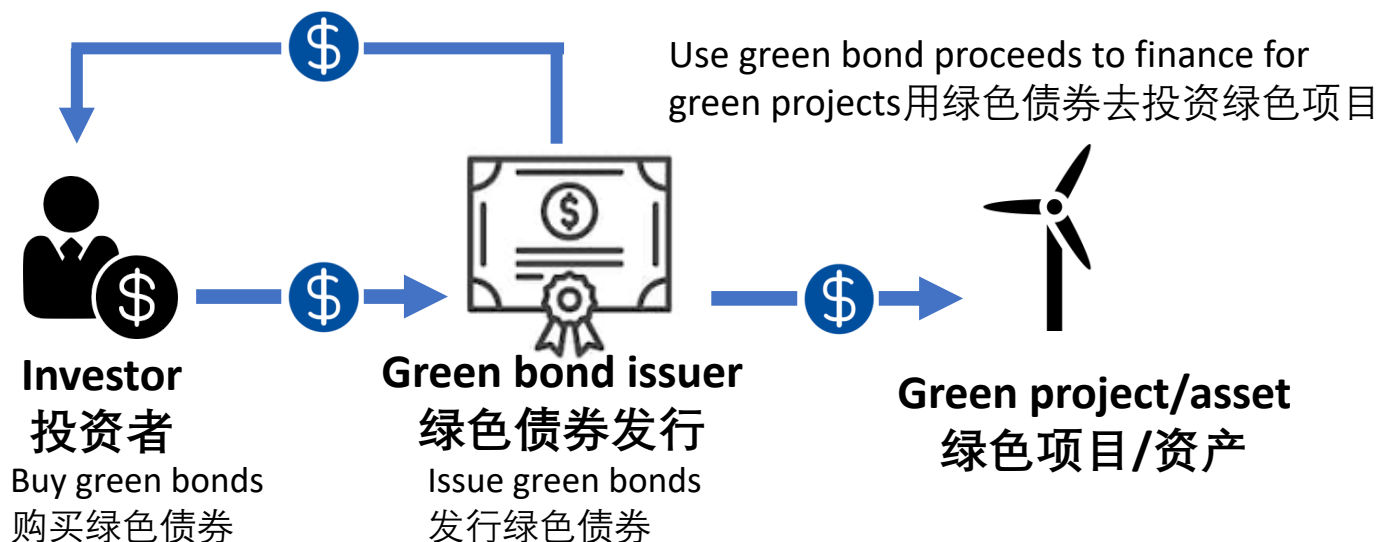
Seoul, September 2019  
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# What is a green bond?

## 什么是绿色债券？

A green bond is a debt security that is issued to raise capital specifically to support climate related or environmental projects.  
绿色债券是一种债务证券，筹集资金专门用于支持气候相关或环境项目。

Green bond issuer pay interest regularly and principal at maturity to investors 绿色债券发行人定期向投资者支付利息和到期本金










































# Eligible green assets 绿色资产

- **Renewable energy**  
可再生能源
- **Low carbon transport**  
低碳交通
- **Water**  
水
- **Low carbon buildings**  
低碳建筑
- **Land use and marine resources**  
土地利用和海洋资源
- **Industry**  
工业
- **Waste**  
废弃物
- **ICT**  
信息通信技术

## Climate Bonds Taxonomy 气候债券分类

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ENERGY	TRANSPORT	WATER	BUILDINGS	LAND USE & MARINE RESOURCES	INDUSTRY	WASTE	ICT
Solar 	Private transport 	Water monitoring 	Residential 	Agriculture 	Cement production 	Preparation 	Broadband networks
Wind 	Public passenger transport 	Water storage 	Commercial 	Commercial Forestry 	Steel, iron & aluminium production 	Reuse 	Telecommuting software and service
Geothermal 	Freight rail 	Water treatment 	Products & systems for efficiency 	Ecosystem conservation & restoration 	Glass production 	Recycling 	Data hubs
Bioenergy 	Aviation 	Water distribution 	Urban development 	Fisheries & aquaculture 	Chemical production 	Biological treatment 	Power management
Hydropower 	Water-borne 	Flood defence 		Supply chain management 	Fuel production 	Waste to energy 	
Marine Renewables 		Nature-based solutions 				Landfill 	
Transmission & distribution 						Radioactive waste management	
Storage 							
Nuclear							

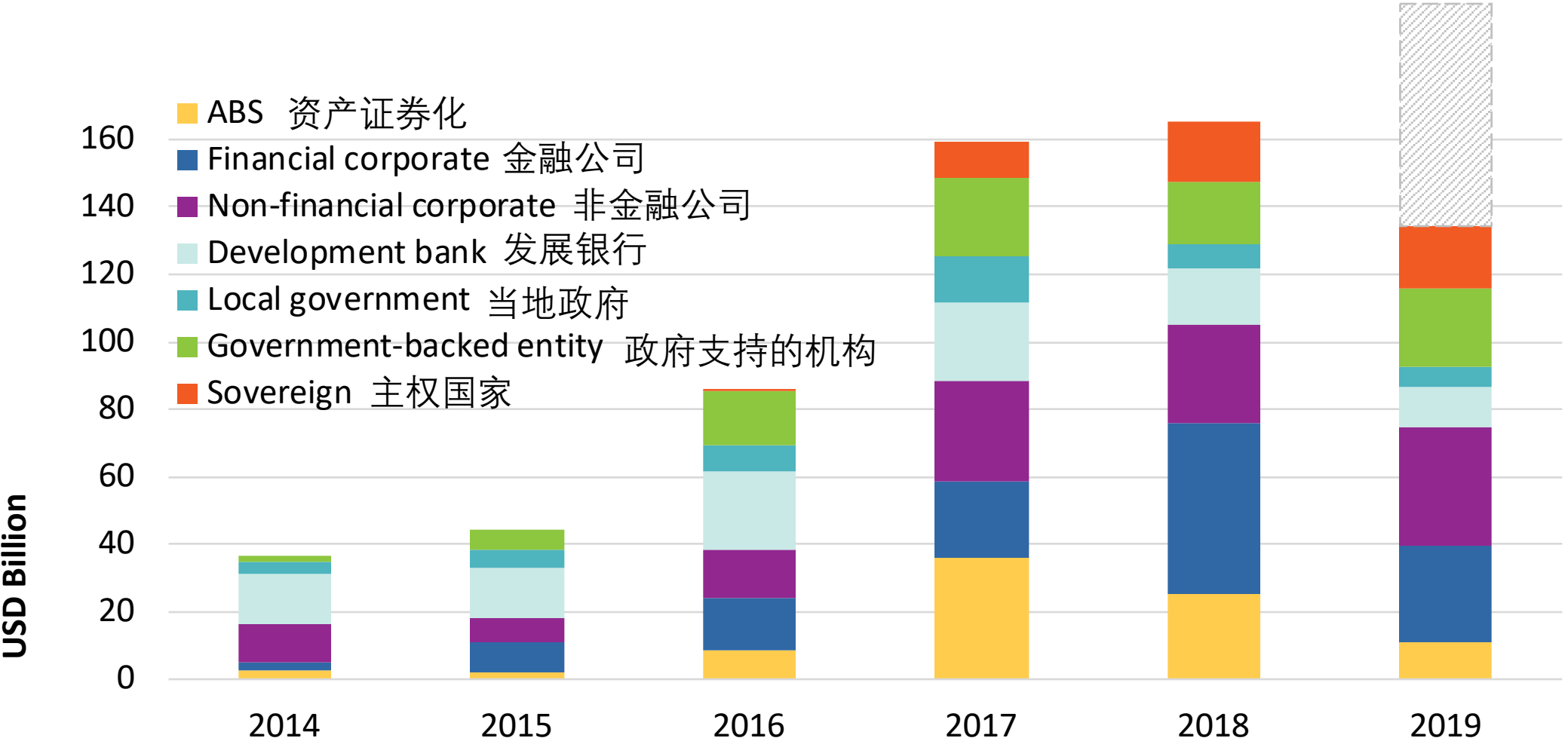


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# Evolution of the global green bonds market

## 全球绿色债券市场的演变

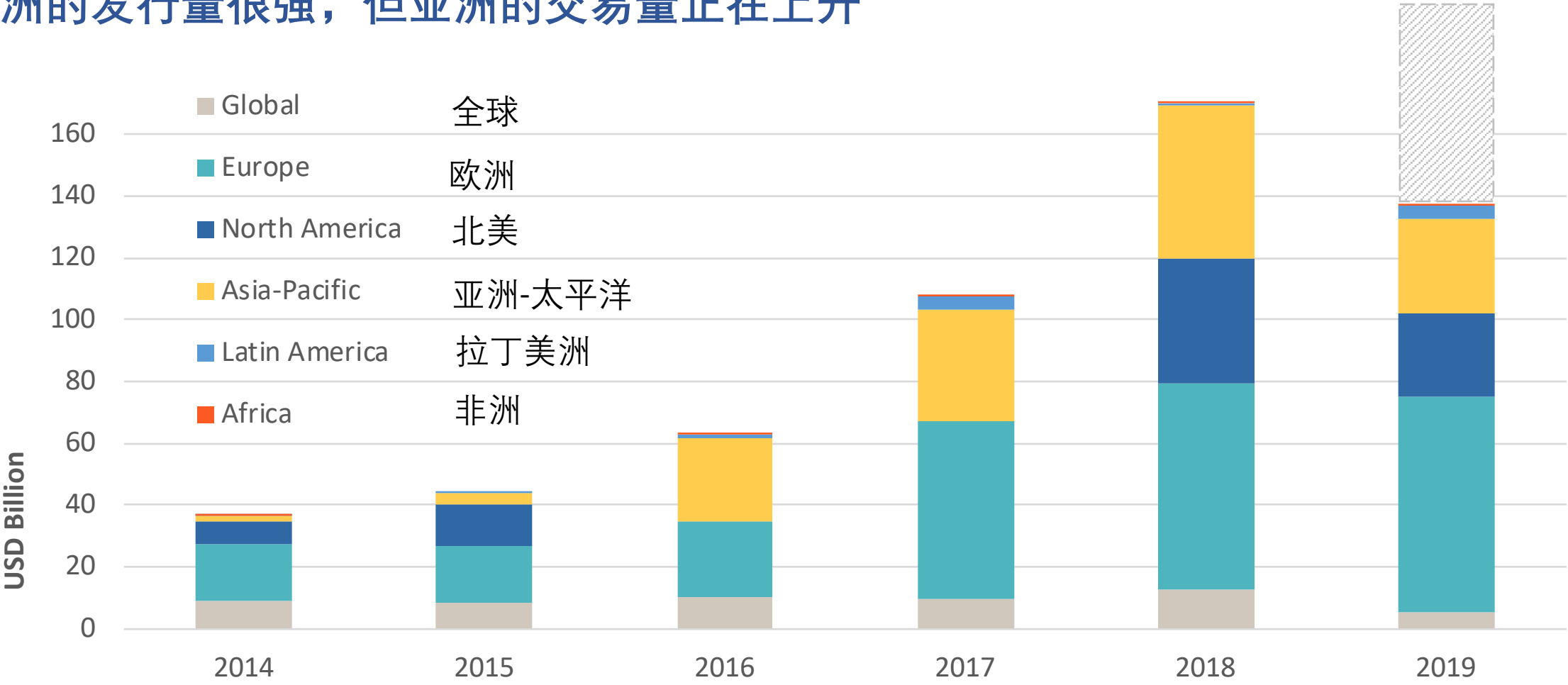


Data source: Climate Bonds Initiative  
数据资源: 气候债券倡议组织



# European issuance is strong but Asian volumes are rising

欧洲的发行量很强，但亚洲的交易量正在上升

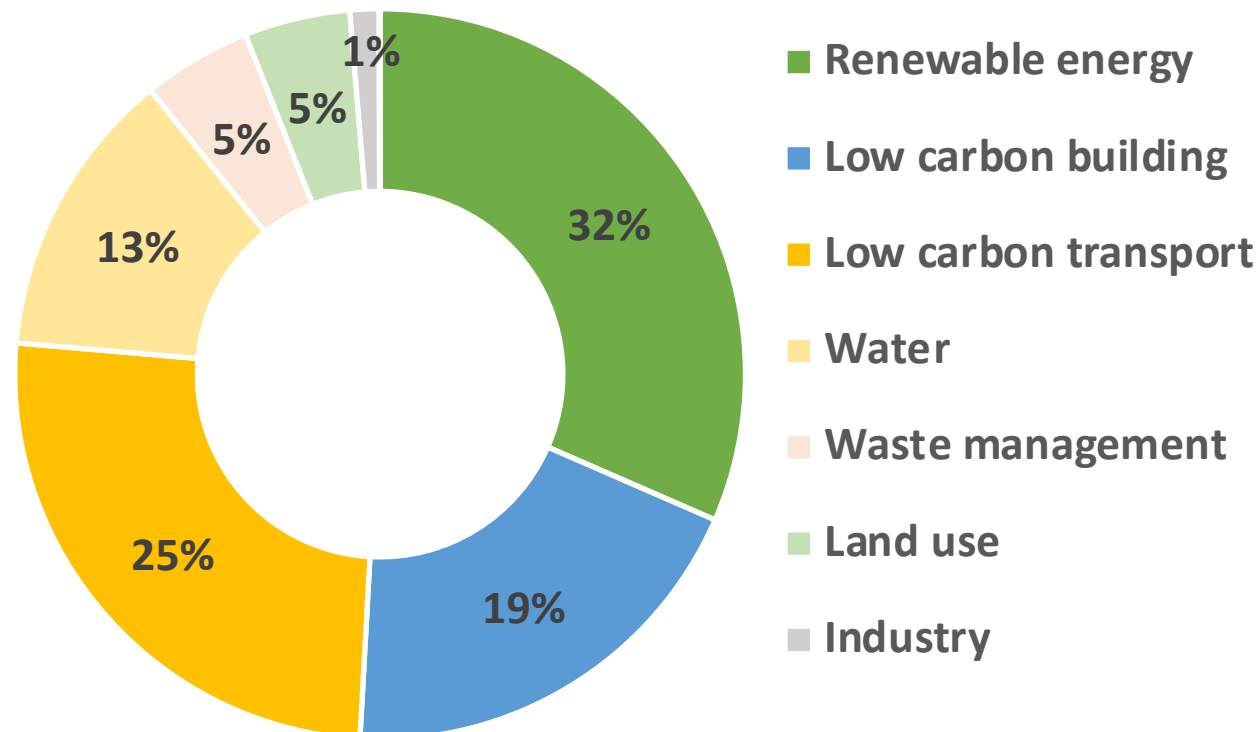


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## Low carbon infrastructure financed by green bonds

### 通过绿色债券融资的低碳基础设施

- Green bonds issued by sovereign government, local government, government-backed entity and development bank are largely financing for public green infrastructures.
- 主权政府、地方政府、政府支持的机构和开发银行发行的绿色债券主要用于公共绿色基础设施的融资。
- The cumulative amount has reached to USD 300 billion.
- 累计金额已达到3000亿美元
- Renewable energy, certified green buildings and low carbon transport, such as metro, light rail and intercity rail are the most popular assets to be financed.
- 可再生能源、经过认证的绿色建筑和低碳交通(如地铁、轻轨和城际铁路)是最常见的需要融资的资产。



**Data source: Climate Bonds Initiative**  
**数据资源: 气候债券倡议组织**

# Sovereign, local government & gov-backed green bond issuers

## 主权国家、地方政府和政府支持的绿色债券发行人

### Sovereign government: 主权政府

**12 countries, 23 bonds, a total of \$48.2bn** 12个国家，23支债券，总共482亿美元

Belgium, Chile, Fiji, France, Hong Kong SAR of China, Indonesia, Ireland, Lithuania, Netherlands, Nigeria, Poland, Seychelles

### Local government: 地方政府

**148 cities and municipal agencies, 14 countries, 284 bonds, a total of \$45bn**

148个城市和市政机构，14个国家，284支债券，总计450亿美元

Examples: **France:** Île-de-France, City of Paris; **Sweden:** City of Stockholm, City of Gothenburg; **Japan:** Tokyo Metropolitan Government; **Australia:** Queensland Treasury Corporation, Treasury Corp New South Wales, Treasury Corp Victoria; **USA:** City of Los Angeles, City of Ashville, City of Puget Sound, City of Tacoma, City of Venice; **South Africa:** City of Johannesburg; **Canada:** Province of Québec, City of Ottawa

### Government-backed entities: 政府支持的机构

**114 issuers; 32 countries, 262 bonds, a total of \$85.9bn** 114个发行机构; 32个国家，262支债券，总计859亿美元

Examples: **China:** Beijing Infrastructure Investment, Wuhan Metro, Beijing Enterprises Water; **UK:** Transport for London; **USA:** DC Water; **Republic of Korea:** K-Water; **India:** IREDA; **Vietnam:** Ho Chi Minh City Finance

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# How to issue a green city bond 如何发行绿色城市债券



1. Identify qualifying green projects/assets 确定符合条件的绿色项目/资产



2. Arrange independent review 安排独立审查



3. Set up tracking and reporting 设置跟踪和报告



4. Issue the green city bond 发行绿色城市债券



5. Monitor use of proceeds and report annually 监督收益使用情况并年终报告

# Benefits for issuing a green city bond 发行绿色城市债券的好处



Access to low-cost debt capital markets 进入低成本债务资本市场



Investor diversification 多样化的投资者



Marketing of climate change plans 宣传气候变化计划



Increased collaboration between financial and environmental departments  
增强金融和环境部门之间的合作



Connecting with citizens' environmental concerns 与公民关心的环境问题联系起来



**The potential is huge! 潜力巨大！**

**The \$550 billion Labelled  
green bond market**

**5500亿美元的绿色债券市场**



**The \$1.1 trillion Climate aligned  
bond universe**

**1.1万亿美元气候相关的债券市场**

**The 90 trillion  
Global Bond Market  
90万亿 全球债券市场**

# Climate Bonds Initiative 气候债券倡议组织

[www.climatebonds.net](http://www.climatebonds.net)

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