



# A Green Finance Policy Framework

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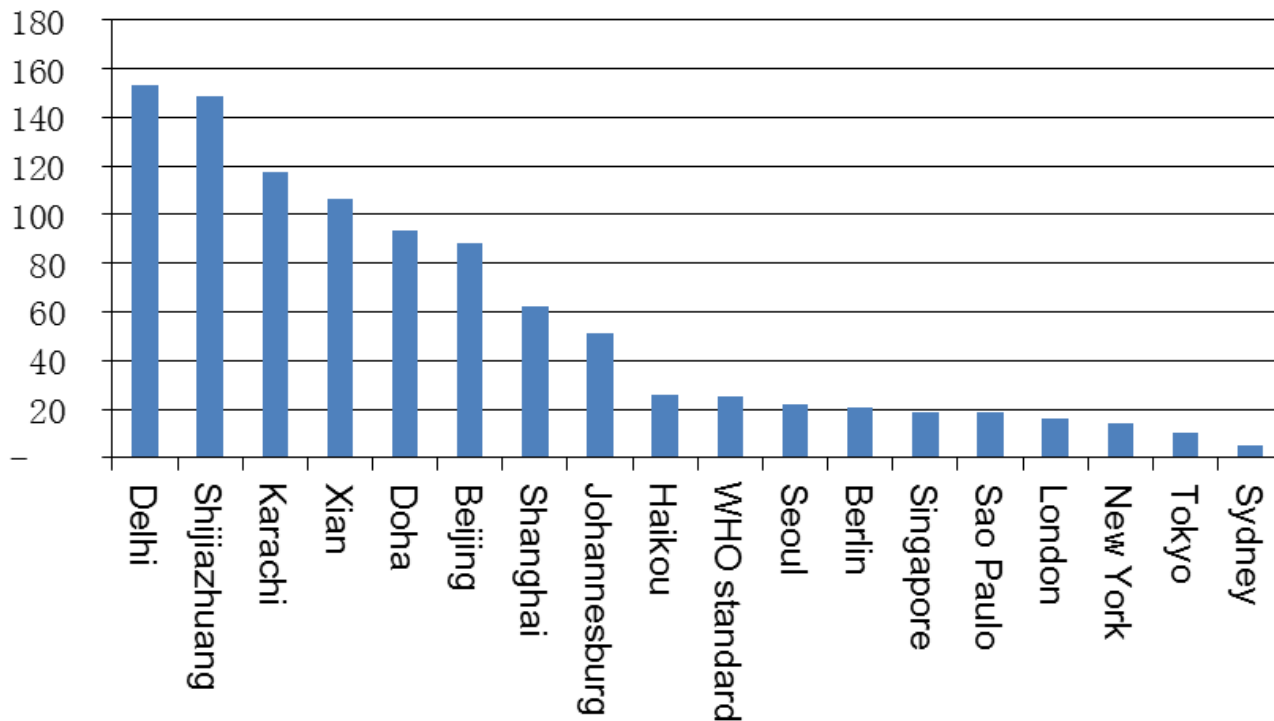
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November 2018

# Daunting environmental/climate challenges

12 million people die prematurely due to pollution every year, according to WHO

PM 2.5 (air pollution index) level by city in 2013





# Objectives of a green financial system

- 1. To mobilize green finance:** USD3-7tn will be needed per year to finance green and low-carbon investments
- 2. To manage financial risks** due to financial sector exposure to physical and transition risks (e.g., stranded assets)

# G20 Green/Sustainable Finance Study Group proposed 11 options in 2016-8

- Provide **policy signals** to support green investment
- Promote the adoption of **green finance principles**
- Expand capacity building networks
- Develop local currency **green bond** markets
- Develop risk analysis **capacity**
- Improve **measurement** of green finance
- Encourage financial institutions to conduct environmental risk **analysis**
- Improve availability of environmental **information**
- **Securitization** of sustainable assets
- Development of sustainable **PEs and VCs**
- Application of **fintech** to sustainable finance

# A policy framework for green finance

Key elements	Why
Taxonomy/Labeling	Prevent green washing
Policy incentives	Mobilize private investment
Disclosure	Address info asymmetry
Products, tools & capacity	Address specific project needs and provide capacity

# **“Guidelines for Establishing the Green Financial System”**

## **(Aug 2016) presents a policy roadmap in China**

- PBOC relending, interest subsidies/guarantees for green Lending;
- National and regional green development funds;
- Developing the green bond market;
- Developing green equity indices & products;
- Introducing mandatory pollution liability insurance;
- Introducing mandatory disclosure requirement for listed companies;
- Developing the carbon finance market;
- Promoting international collaboration on green finance

# EU action plan: key features

- **Taxonomy:** Establish a common language for sustainable finance, i.e. a unified EU classification system – or taxonomy – to define what is sustainable.
- **EU labels:** Create EU labels for green financial products.
- **Fiduciary duty:** Clarifying the duty of asset managers and institutional investors to take sustainability into account in the investment process and enhance disclosure requirements.
- **Green supporting factor:** Explore the feasibility of recalibrating capital requirements for banks for green investments, when it is justified from a risk perspective.
- **Disclosure:** Revise the guidelines on non-financial information to further align them with the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD).



# Taxonomies

# China -- Green Credit Definition

## **Green Credit Definition, by China Banking Regulatory Commission (2013)**

- 1 Green Agriculture
- 2 Forestry
- 3 Energy Saving and Water Saving
- 4 Natural resource protection, environmental restoration, disaster prevention
- 5 Recycling of natural resources
- 6 Waste treatment
- 7 Renewable energies (solar, wind, biomass, hydro etc)
- 8 Water supply projects
- 9 Green building
- 10 Green transportation
- 11 Energy saving and water saving services
- 12 Green projects by international standards

# China -- Green Bond Catalog (2015)

**Energy saving:** 工业节能、绿色建筑、能源管理等

**Environmental remediation:** 污染防治（水、大气、固体废物）、环境修复、清洁煤炭利用等

**Circular economy:** 节水，尾矿、伴生矿可再开发利用，固废和再生资源利用等

**Clean transportation:** 铁路、城市轨道交通、公共交通、清洁燃油、新能源汽车等

**Clean energy:** 太阳能、风能、水能、天然气、地热能、海洋能、分布式能源、智能电网等

**Eco-protection and climate change adaptation:** 生态保护、植树造林、生态农牧渔业、灾害应急防护等
















































# Ten categories of the GBP use of proceeds


1. Renewable energy
2. Energy efficiency
3. Pollution prevention and control
4. Environmentally sustainable management of living natural resources and land use
5. Terrestrial and aquatic biodiversity conservation
6. Clean transportation
7. Sustainable water and wastewater management
8. Climate change adaptation
9. Eco-efficient and/or circular economy adapted products, production technologies and processes
10. Green buildings


# The CBI Taxonomy


## Climate Bond Taxonomy

Climate Bonds INITIATIVE

ENERGY	LOW CARBON BUILDINGS	INDUSTRY & ENERGY-INTENSIVE COMMERCIAL	WASTE & POLLUTION CONTROL	TRANSPORT	INFORMATION TECHNOLOGY & COMMUNICATIONS	NATURE BASED ASSETS	WATER
Solar 	New residential 	Manufacturing 	Recycling facilities 	Rail 	Power management 	Agricultural land 	Flood Defences 
Wind 	New commercial 	Energy efficiency processes 	Recycled products & circular economy 	Vehicles 	Broadband 	Forests (managed and unmanaged) 	Water distribution infrastructure 
Geothermal 	Retrofit 	Energy efficiency products 	Waste to energy 	Mass transit 	Resource efficiency 	Wetlands 	Water capture & storage infrastructure 
Hydropower 	Products for building carbon efficiency 	Retail and wholesale 	Methane management 	Bus rapid transport 	Teleconferencing 	Degraded Lands 	Water treatment plants 
Bioenergy 		Data centres 	Geosequestration 	Water-bourne transport 		Other land uses (managed and unmanaged) 	Assets in energy & production industries 
Wave and Tidal 		Process & fugitive emissions 		Alternative fuel Infrastructure 		Fisheries and aquaculture 	
Energy distribution & management 		Energy efficient appliances 				Coastal infrastructure 	
Dedicated transmission 		Combined heat & power 					

Certification Criteria approved 

Criteria under development 

Due to commence 



# **Policy signals and incentives**

# Policy incentives by central banks & bank regulators

Name	Impact	Country
Green MPA	Incentivize banks to increase green lending	China, 2017
Green Re-lending	Provide cheap funding for green loans	China, 2017
Lower (higher) risk weights for green (brown) assets	Financial stability and cost reduction(increase) for green (brown) lending	(Discussed by NGFS and EU, China)
Disclosure ERA by banks	Raise awareness of environmental risk by financial institutions	Pilot by China-UK green finance taskforce, 2017-2020

# Policy incentives by fiscal authorities

Name	Impact	Country
Interest subsidies for green projects	Incentivize banks to increase green lending	KFW, China regional govts 2017
Subsidies for green bond verification	Incentivize green bond issuance	Shanghai, Shenzhen, Hong Kong, Singapore (2016-18)
Investment by government-owned green funds	Reduce risk perception & crowd in private investment	UK and China
Guarantees for green loans	Reduce risk premium	US DOE 2006; China CHUEE 2007-; LATAM
Grants for green projects (e.g., EE projects)	Boosting project return	Singapore
Tax incentives for green energy, green building, green tech	Boosting project return	Hong Kong, Malaysia



# Policy incentives by regulation

Name	Impact	Country
Mandatory(or semi-compulsory) disclosure for environmental info	Boosting market reputation of green companies	China, Hong Kong, Singapore, France, S. Africa
Mandatory requirement for pollution liability insurance	Boosting demand for green insurance	Shenzhen, China
Green PPP projects	Boosting return for green projects	Anhui, Hong Kong, Beijing

# Policy incentives by govt services

Name	Impact	Country
Govt incubators for green tech	Provide cheap services	China, Singapore
Establishing e-platform for matching green projects and green loans	Reduce information asymmetry	Huzhou, China
Establishing green project database	Reduce information asymmetry	Xinjiang, Huzhou etc, China

# Disclosure

# Sample of disclosure report: Environmental impact

## Positive environmental impact of the issuing of green bond of China Pudong Development Bank

节约标煤 Saved standard coal	1,198,627 t	清淤长度 Dredging length	97.27 km
二氧化碳减排量 CO2 reduction	3,025,358 t	购置公交车辆 Purchase bus	2,370
氨氮减排量 NH3-N reduction	4,738 t	治水量 Treated polluted water	45,663,000 t
烟气减排量 Gas reduction	10,653 t	垃圾处理量 Waste disposal	1,531,600 t
种植苗木 Planted seedlings	39,207,172	污泥处理量 Sludge treatment capacity	81,074 t
绿化面积增加量 Increased green area	9,018,307 m2	废旧物品回收量 Recycling amount of waste articles	276,863 t
河流综合治理长度 Comprehensive control length of river	2,057 km	综合管廊长度 Integrated corridor length	1244.24 km
综合治理流域面积 Comprehensive treatment of basin area	4,478,792 m2	城市轨道长度 City track length	268.06 km

# Implementing TCFD

The four recommendations are supported by specific **recommended disclosures** organizations can include in financial filings to provide decision-useful information about their climate-related risks and opportunities.

Governance	Strategy	Risk Management	Metrics and Targets
<p>Disclose the organization's governance around climate-related risks and opportunities.</p>	<p>Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.</p>	<p>Disclose how the organization identifies, assesses, and manages climate-related risks.</p>	<p>Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.</p>
<p><b>Recommended Disclosures</b></p>	<p><b>Recommended Disclosures</b></p>	<p><b>Recommended Disclosures</b></p>	<p><b>Recommended Disclosures</b></p>
<p>a) Describe the board's oversight of climate-related risks and opportunities.</p>	<p>a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.</p>	<p>a) Describe the organization's processes for identifying and assessing climate-related risks.</p>	<p>a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.</p>
<p>b) Describe management's role in assessing and managing climate-related risks and opportunities.</p>	<p>b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.</p>	<p>b) Describe the organization's processes for managing climate-related risks.</p>	<p>b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.</p>
	<p>c) Describe the potential impact of different scenarios, including a 2° c scenario, on the organization's businesses, strategy, and financial planning.</p>	<p>c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.</p>	<p>c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.</p>

# **Products, tools and capacity**

# Green Finance Products/ERA

- Green loans
- Green bonds
- Green insurance
- ESG investment
- Financing on emission rights as collaterals
- Green rating/verification
- Environmental impact assessment
- Environmental risk Analysis

THANK YOU