



# Green Bonds in China Workshop Series

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# EMSD EMERGING MARKET SUSTAINABILITY DIALOGUES

Sustainable Economic  
Policy



Global Think Tank Alliance  
for Sustainable Growth

Sustainable Business  
Solutions



Business Model Innovation for  
Sustainability in Emerging Markets

Sustainable  
Finance



Dialogues on Green Finance  
and Financial Sector Stability



# Green Finance on the International Agenda



Achieve sustainable development – economic, social and environmental:

- Goal 6: Clean Water and Sanitation
- Goal 7: Affordable and Clean Energy for All
- Goal 9: Resilient Infrastructure and Sustainable Industrialization
- Goal 11: Sustainable Cities and Communities
- Goal 13: Climate Action



Combat climate change and accelerate and intensify the actions and investments needed for a sustainable low carbon future:

- China's Intended Nationally Determined Contribution (INDC)  
→ Reduce carbon intensity by 60-65% below 2005 levels by 2030



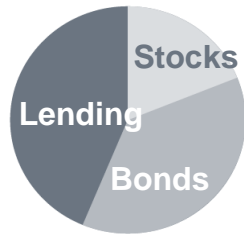
Scale up green financing:

- G20 Green Finance Study Group → Greening the Bond Market



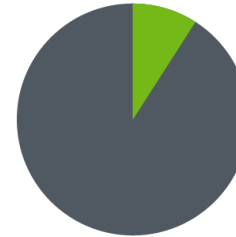
# Financing the Green Transformation

Global Financial Markets:  
*USD 255 trillion*



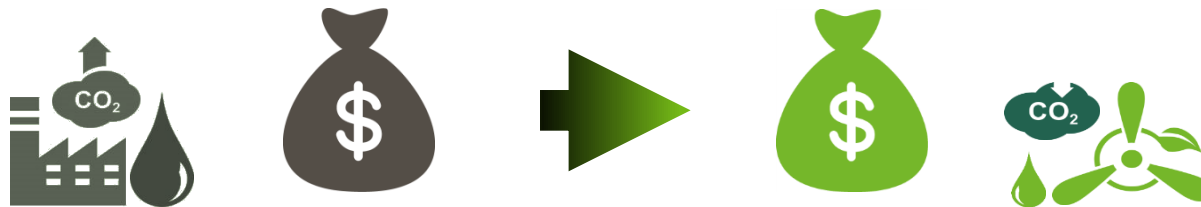
Source: IMF 2013

Annual need of additional climate  
investments ca. *USD 1.5 trillion*



Source: IEA 2015

Hence:



Instrument: Green Bonds





# The Strategic Alliance on Green Bonds

Objective	Support the development of efficient, prosperous and sustainable green bond markets in G20 emerging economies			
Activities	<ul style="list-style-type: none"> <li>• Green Bond Symposia</li> <li>• Capacity Building Trainings</li> <li>• Tailored Advisory Support &amp; Technical Assistance</li> </ul>			
Stakeholders	Policymakers and Regulators	Public and Private Sector Issuers	Investors	Domestic Second Opinion Providers
Services	Support the adaptation and enhancement of a conducive regulatory framework	Transfer knowledge on green bonds as (re)financing tool and tailored advisory support	Provide in-depth knowledge on the risks and opportunities offered by green bonds	Enable the delivery of second opinions based on the highest certification and verification standards





# The Strategic Alliance on Green Bonds partners

Strategic Partners



Academic Partner



Regional Implementation Partners





# Integrating Water Risk in Corporate Bond Valuation

## Goal:

Develop and test a tool for financial institutions to incorporate water risk in corporate bond credit risk analysis

Global data  
on water stress  
(WRI)

Data on location of operations  
(Bloomberg)

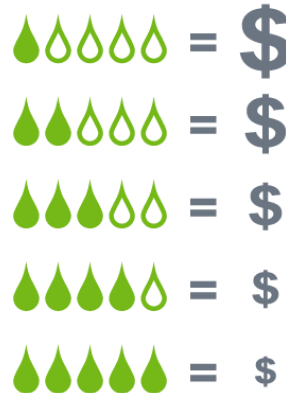
Corporate credit Information

## WATER VALUE



Calculate shadow prices

## COSTS FOR WATER



Combine company data  
with location-specific price

COMPANY FINANCIAL SPREADSHEET <span>X</span>	
P&L, US \$ DOLLARS MILLION	2014
REVENUES	30,222
OPERATING COSTS	-27,474
<b>ADDITIONAL WATER OPEX</b>	<b>-298</b>
NON OPERATING SPECIAL ITEMS	-469
SHARE OF NET INCOME FROM ASSOCS AND JVS	168
OTHER SPECIAL ITEMS	4,514
EBIT UNDERLYING	6663

Adjust credit ratios



# Environmental Stress Testing

## Goal:

Develop and test an analytical framework and model that allows banks to assess the potential impact of environmental shocks on the performance of their corporate loan portfolio.



**3-5 drought scenarios** per focus country (Mexico, Brazil, China, US) that simulate the impact of drought on water availability, taking into account local water infrastructure.



**Model to estimate the effects of drought on up to 8-12 industries** in country reflecting direct and indirect impacts as well as macro-economic feedbacks/political decisions.



Model that **links drought impacts to drivers of corporate credit quality** (such as profitability, leverage) and can be plugged into or inform banks' internal stress testing models.





Thank you  
for your kind attention.

[www.emergingmarketsdialogue.org](http://www.emergingmarketsdialogue.org)

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