Financing Green Buildings: barriers, policies, solutions

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What is Green Building?

- Green buildings usually refers to those built (and maintained) using environmentally friendly materials, processes and operation.
- The definition of a green building has evolved over time. Initially green building was defined only in terms of environmental performance.
- Further, sustainable and environmentally friendly construction methods and materials are also a component of what makes a green building.
- Recently, resource use efficiency, improving air quality and reducing pollution has been added to the characteristics of green building.

Energy efficient buildings

Green buildings

Net-zero carbon buildings
PROBLEM

• Steel and cement are among the most carbon-intensive industrial materials on the planet. Producing them accounts for 14%-16% of global energy-related CO2 emissions (S&P 2021)

• If the cement industry were a country, it would be the 3rd largest emitter (The Economist 2021)

• In order to meet a 2°C scenario, the cement industry need to reduce its emissions by 24% by 2050, while meeting demand forecasts an increase by 23% (BNEF 2021).

• The United Kingdom (UK), India, Germany, Canada and United Arab Emirates (UAE) have committed to support new markets for low-carbon steel, cement and concrete (COP26 2021)

SOLUTION

• Investing in construction of Green Buildings could provide huge opportunities to producers of low-carbon construction materials

4Rs for construction material

Reduce

Reuse

Recycle

Replace with Green (CCS, RE, ‘engineered’ timber, etc.)

*CCS – Carbon capture and storage; RE – Renewable energy
### Barriers

**Barriers for financing green buildings:**

- Split incentives in the building market
- Developers are hesitant to absorb the additional upfront costs of green building design
- Mismatch between the longevity of buildings and the relatively short holding periods for real estate assets in investment portfolios
- Landlord has minimal incentive to invest in energy-efficient equipment
- Subsidized energy prices
- High initial investment

**Other challenges:**

- Lack of awareness, information, and education about the benefits of green building
- Lack of access to design, construction material, and skills individuals
- Lack of guidelines and policies promoting green buildings
Green Buildings can be Financed at Different Stages

**CONSTRUCTION**
- Merdeka PNB118 Tower
  - Malaysia

**RETROFIT**
- DBS Newton building
  - Singapore

**REFINANCING**
- Republic Plaza
  - Singapore

Past loan/acquisition

Citation: Left, photo taken by B. Ray 2022. Middle, artist’s impression from dbs.com. Right, photo taken by Katrin Janberg, Structurae [ID:18195].
Green Bonds

- **Green bonds** are fixed income financial instruments used to fund projects that have positive environmental and/or climate benefits, inc. Green Buildings.

- Allows to borrow from many responsible investors and from different countries

- **Green Building Standards**: Green buildings that meet regional, national or internationally recognized standards or certifications for environmental performance.

- The global issuance of green bonds has doubled from 2020 to 2021.
Top Green Bond Issuing Countries

PRC | Germany | US | France | UK | Rep.of Korea | Spain | Italy | Netherlands | Sweden | Japan

0% | 2% | 4% | 6% | 8% | 10% | 12% | 14% | 16%

0 | 10,000 | 20,000 | 30,000 | 40,000 | 50,000 | 60,000 | 70,000 | 80,000 | 90,000 | 100,000

mln USD | share, %

Citation: Bloomberg
What is Green Bonds Being Used to Finance?

- Green bonds mostly finance green buildings and energy.
- In Southeast Asia, nearly half of green bonds proceeds is used to finance green buildings (compared to one fifth globally).

Citation: Bloomberg
Real Estate Sector Emerged as a New Driver

- From Covid-19, we learnt the importance of having green bonds issued by different sectors. The finance sector and the governments (major issuers of green bonds) were adversely affected by the pandemic, resulting in a decline of green bond issuance in 2020.
- Peoples’ Republic of China lost its place as top three issuers of green bonds in 2020.
- Non-financial entities accounted for more than half of green bonds issuance for the first time.
- Real estate developers have emerged as a new driver.

Citation: Bloomberg
Challenges and Opportunities for Green Bonds

- Cost of labeling bonds ‘green’, which includes cost of external reviewers.
  **Solution:** Green Bond Grants; such as those awarded in Hong Kong, China; Japan; Malaysia and Singapore

- Local currency exchange risks when issued in foreign currency.
  **Solution:** Support local demand; such as in Malaysia

- Uncertain demand especially for issuers with low ranking (Moody’s rating).
  **Solution:** Government purchase green bonds (guaranteed demand)

Citation: Bloomberg
Green Bond Grant

- The grant covers the cost of external review in order to label a bond ‘green’ following specified standards, national or international.
- Usually covers 90-100% of cost with a maximum cap.
- Examples: Hong Kong, China; Japan, Malaysia and Singapore.

Hot off the press: Singapore’s central bank announces Green Bond Grant scheme to cover any additional issuance costs of going green – what a way to kick-start the market!
Grants/Subsidies for Green Bonds in ASEAN

- Green bond grants in ASEAN are provided in **Malaysia and Singapore**. Non-ASEAN countries with grants include **Hong Kong, China; and Japan**.

- Green bond grant schemes are usually set for a limited number of years as a temporary measure to boost green bond issuance.

- Most schemes allow claims up to **US$ 70,000** to cover the cost of external review. However, there are some differences in these grant schemes.
Conclusions and policy implications

- Green buildings can help with meeting nationally determined contributions, reducing air pollution and energy security in sectors of manufacturing of building material, building construction and building operation.

- However, there are several challenges to financing green buildings in developing countries.

- Green bonds can be used for attracting investments (locally and from abroad) and can be promoted and supported by:
  
  ➢ Subsidizing the cost of labeling bonds ‘green’:
  
  ➢ Green bond standards need to be credible and exclude ‘brown projects’.
  
  ➢ Policies reducing the cost of ‘labeling bonds green’ can promote green bond issuance.

- Energy efficiency policies and/or financing are not an equal substitute for green building policies and/or financing as they do not cover manufacturing of construction material and building constriction.
Thank you!

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