

The Use of Green Bonds in Financing Energy Efficiency Retrofits in Buildings

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Background

Retrofits are Climate Solutions

- Implementing deep energy efficiency retrofits in buildings is needed to meet GHG mitigation targets because:¹
 - Buildings are responsible for 75% of global energy-related GHG emissions.³
 - Approximately two thirds of the global building stock of 2040 has already been built.⁴
 - The current rate of retrofit implementation lags the pace needed to meet these targets.⁵
- Many retrofit projects face financial barriers to implementation.⁶

Can Green Bonds Finance Retrofits?

- Green bonds could help overcome the financial barriers to retrofits by providing sizeable upfront capital with long payback periods.⁷
- The Green Bond Principles (GBPs) are independent, voluntary guidelines for green bond issuers that define appropriate uses of green bond proceeds.⁸
- Despite the development of the GBPs, green bond issuances still face criticism of greenwashing.⁹
- There is a dearth of research on how green bonds are specifically used to finance energy efficiency retrofits.¹⁰

What are Energy Efficiency Retrofits?

- Improvements that make a building's energy-consuming systems more efficient, reducing associated GHG emissions (Ex. lights, HVAC, insulation, windows, doors).⁶



What are Green Bonds?

- Bonds that enable capital raising for new and existing projects that have environmental benefits.¹¹
 - Ex. Renewable energy projects, pollution control initiatives, etc.

Research Question & Objectives

Question

- How are green bonds being used to finance energy efficiency retrofits in buildings?

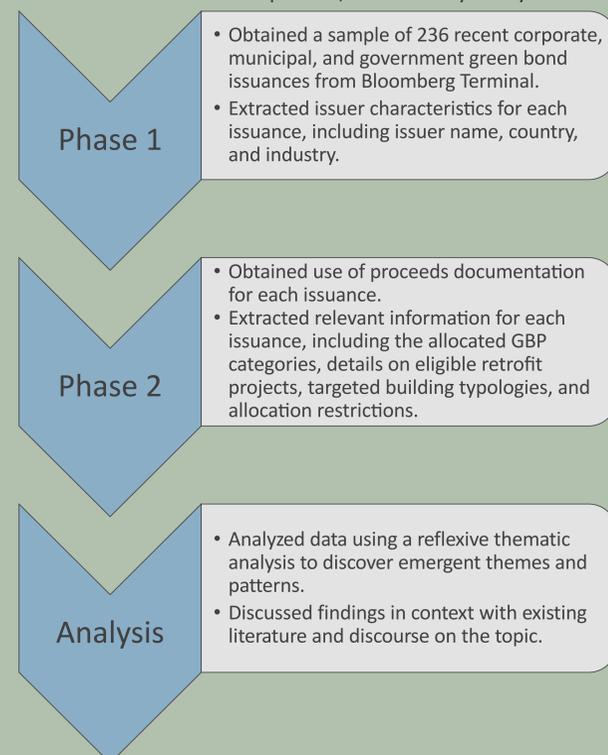
Objectives

- Describe the prevalence of proceed allocation to energy retrofits among recent green bond issuances.
- Describe the characteristics of retrofits financed.
- Compare use of proceeds across various issuer characteristics.
- Comment on data availability and transparency among green bond issuers.



Methodology

- A descriptive design research approach was employed in two data collection phases, followed by analysis.



Findings

1. Most issuers allocated some proceeds to “Green Buildings” or “Energy Efficiency,” but far fewer allocated proceeds to retrofitting projects.

- Even fewer issuers specified any minimum requirements for retrofits to meet.
- Green bonds have created GHG reductions through renewable energy implementation without minimum performance standards, but the scale and variability of retrofit projects leaves doubt that similar results could be achieved in this sector without standards.^{8, 12}

2. Of the issuers that set minimum performance standards for financed retrofits, the standards were too low to indicate deep retrofits are occurring.

- The most common minimum performance requirement was a 30% post-retrofit efficiency improvement.
- For reference, the UK building stock must achieve at least 60-80% efficiency improvements to align with climate targets.²

3. Issuer publication of green bond use of proceeds appears to be a norm, but transparency does not always equate ambition or impact.

- Issuers from most asset classes and countries had very high levels of data availability in the form of detailed, public, use of proceeds documentation (ex. Green Bond Frameworks).
- Some multibillion-dollar property owners had issuances with high transparency, but unambitious efficiency targets or zero allocation to retrofits, which is a significant missed opportunity for decarbonization.

Recommendations

- In the future, the use of combined green and sustainability-linked bonds may help spur deeper decarbonization through retrofits by adding minimum performance standards to existing green bond structures.¹³
- This field would benefit from future research on:
 - Allocation restrictions and exclusions from issuers.
 - The definitions of retrofit actions and minimum performance standards outlined in use of proceeds documents from green bond issuers.
 - Searching for causal links between green bond issuance, retrofit implementation, and decarbonization.



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