

Investing in High-Performance Buildings

Leonard Kolstad, Institute for Market Transformation

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Investing in High-Performance Buildings Webinar

April 20, 2016



IMT's Webinar Series

Series of Three Webinars



1) Investing in High-Performance Buildings

- Lenny Kolstad (IMT) and Nick Stolatis (TIAA)

2) Valuing High-Performance Buildings

- Tuesday, May 17th, 2-3 PM EDT
- Tim Runde, MAI, Carneghi and Partners, Inc.

3) Green Physical Needs Assessments

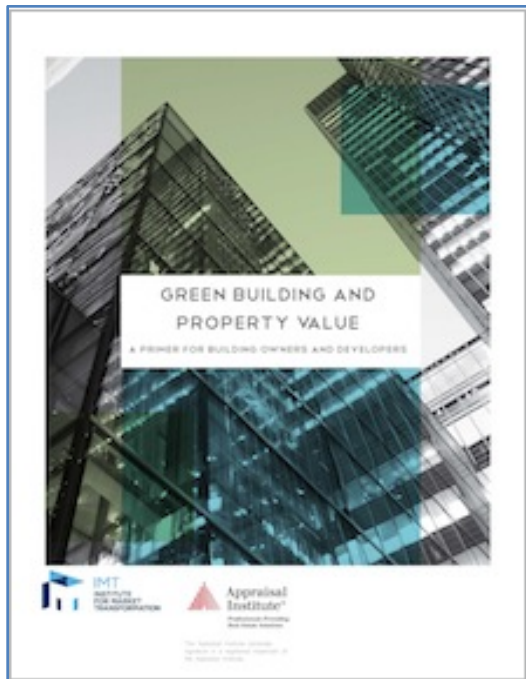
- Date and presenters TBD (June)

Why Invest in High-Performance Buildings?

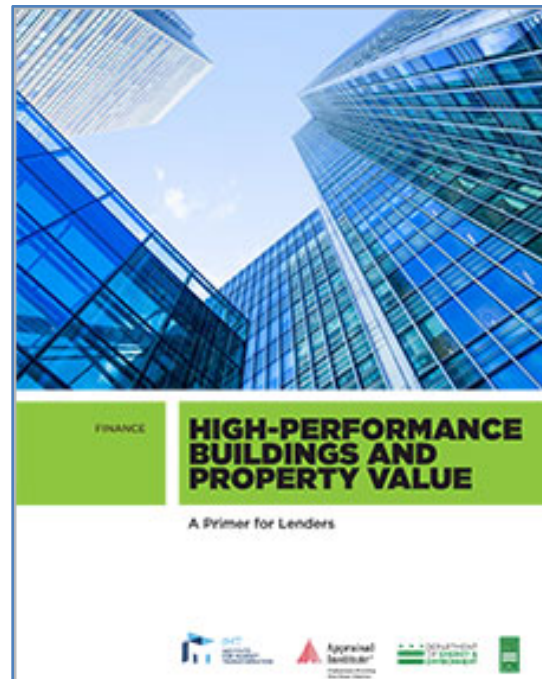
The Theory

IMT and Appraisal Institute's guides:

For Owners



For Lenders



Why Invest in High-Performance Buildings?

Owner's Perspective

- Lower operating expenses
 - Lower utility bills (lease type important)
 - Reduced maintenance
- Greater revenue
 - Rental premiums
 - Occupancy premiums
 - Tenant retention
- Increased property value
 - In part due to greater Net Operating Income (NOI)

Why Invest in High-Performance Buildings?

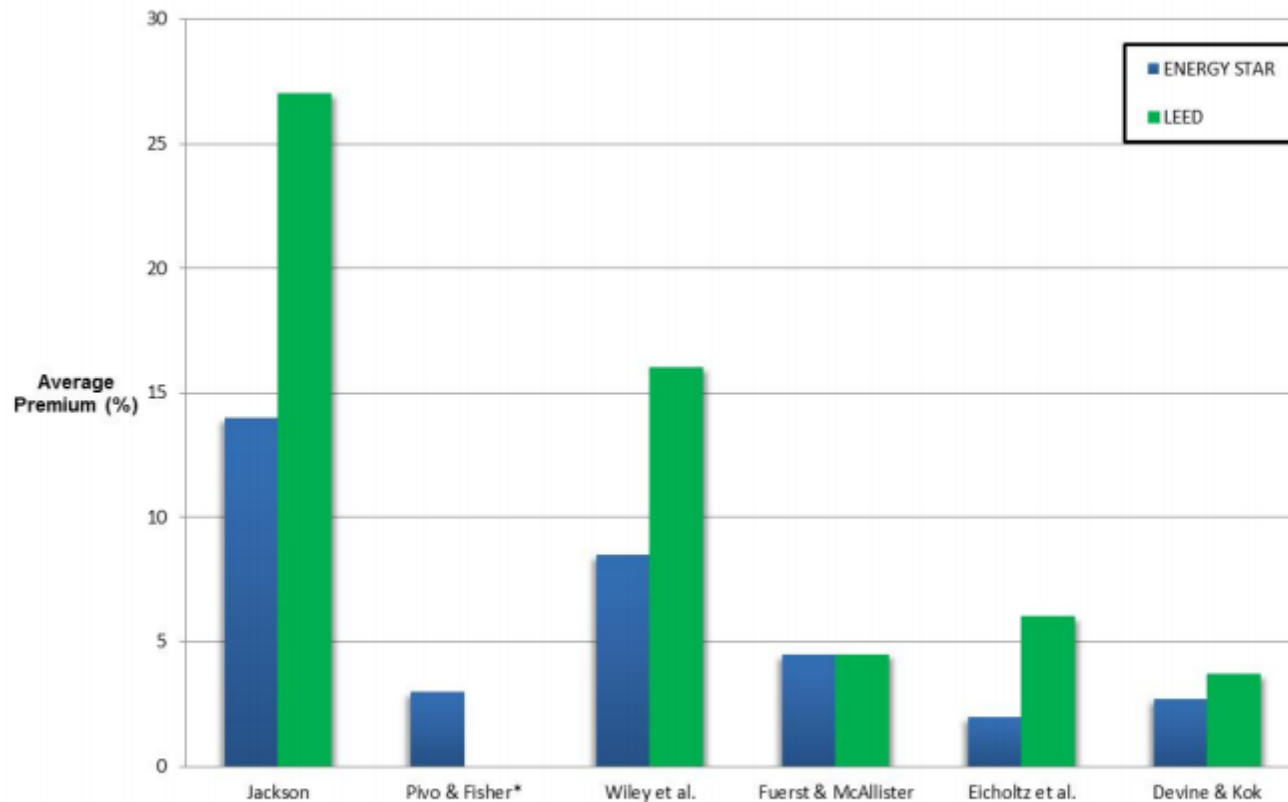
Lender's Perspective

- Lower risk
 - Increased owner NOI
 - Higher collateral value
 - Obsolescence



Market Evidence

Rental Premiums of Green Commercial Buildings in the U.S.



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* Study did not include LEED buildings.

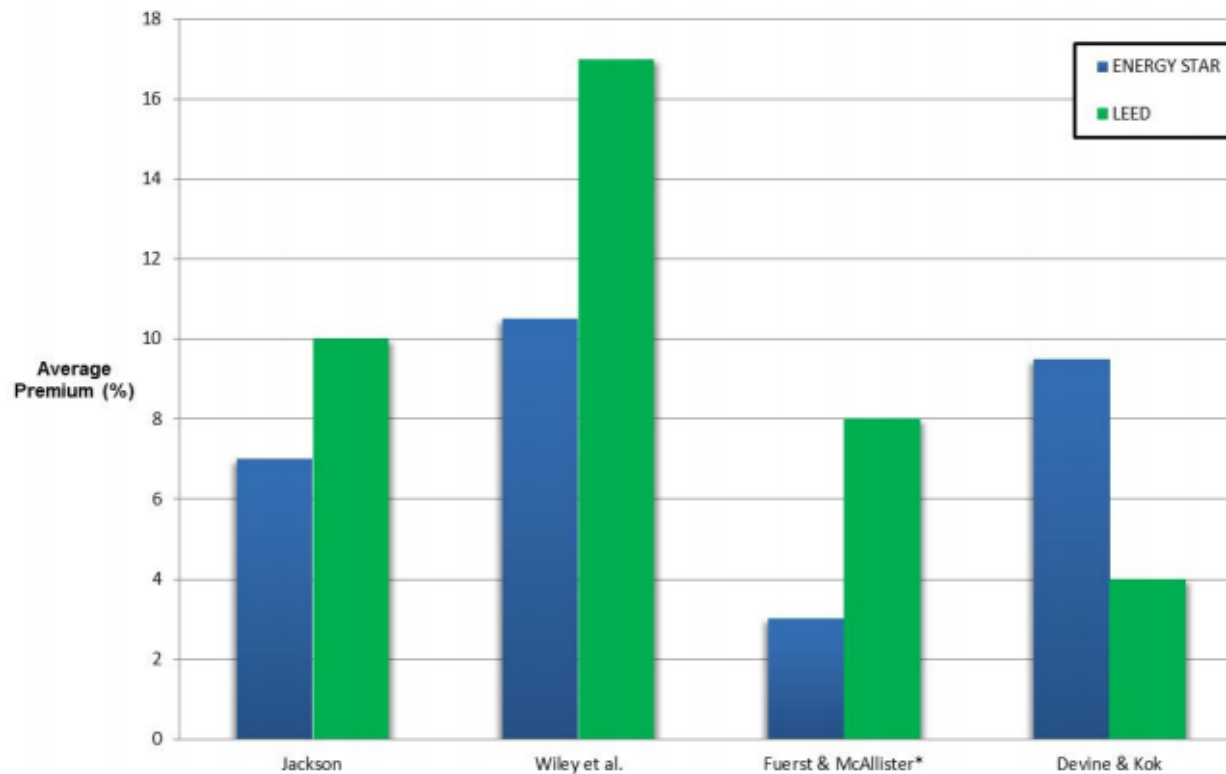
Sources: Jackson 2009; Pivo & Fisher 2010; Wiley, Benefield & Johnson 2010;

Fuerst & McAllister 2009, 2011; Eicholtz, Kok & Quigley 2010, 2011; Devine & Kok 2015

For more information, contact Leonard Kolstad at lenny@imt.org

Market Evidence

Occupancy Premiums of Green Commercial Buildings in the U.S.



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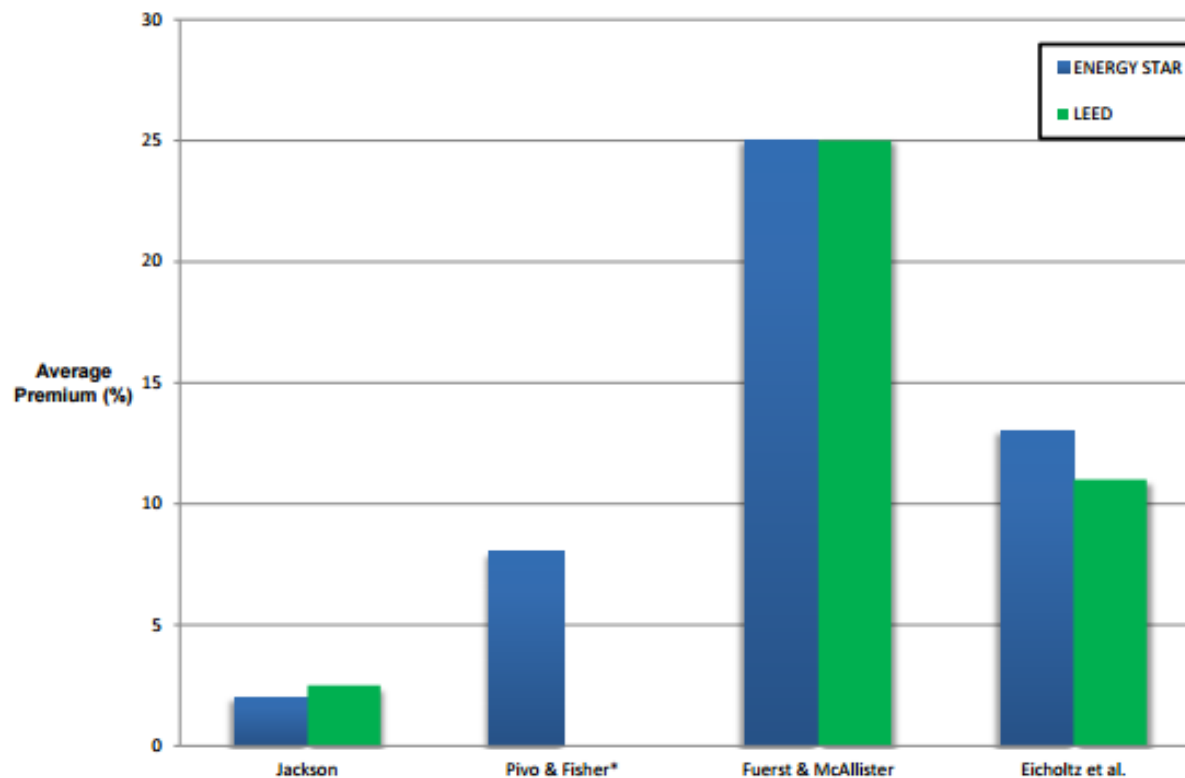
* Combines 2009 and 2011 results.

Sources: Jackson 2009; Wiley, Benefield & Johnson 2010; Fuerst & McAllister 2009, 2011; Devine & Kok 2015

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Market Evidence

Sale Premiums of Green Commercial Buildings in the U.S.



©Institute for Market Transformation, 2014

* Study did not include LEED buildings.

Sources: Jackson 2009; Pivo & Fisher 2010; Fuerst & McAllister 2009, 2011;

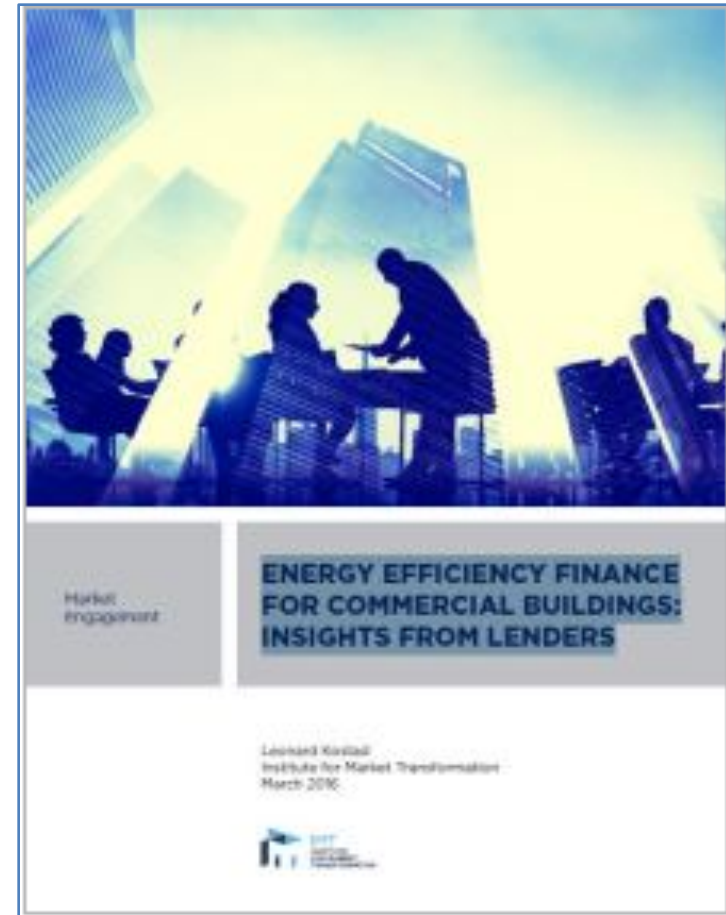
Eicholtz, Kok & Quigley 2010, 2011

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IMT's Commercial Lender Survey

Inspiration and Purpose

- Many specialized financing mechanisms (PACE, OBF, ESA) and lenders
- Commercial banks have potential to greatly scale building energy efficiency, but they are often on the sidelines – why is this the case?



IMT's Commercial Lender Survey

Methodology

- Survey of 30 commercial lenders

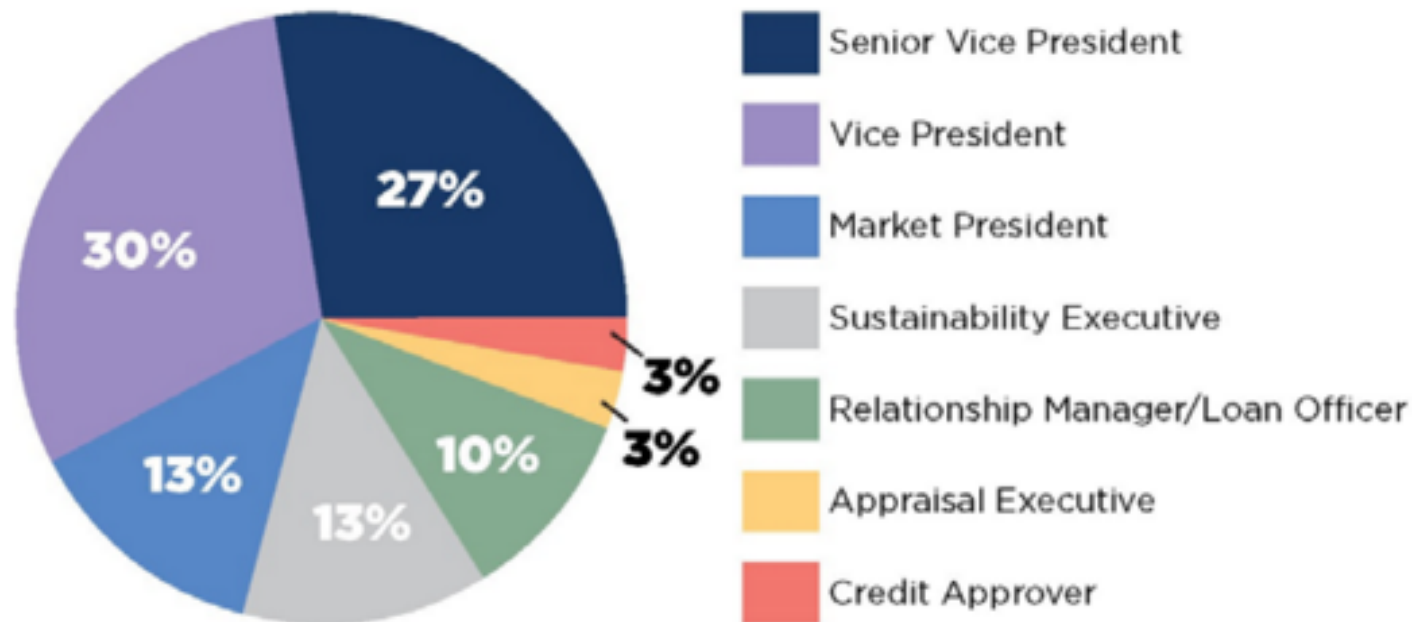


Institution Size and Type	Number of Interviews
>\$200B Banks	5
\$5B-\$200B Banks	10
<\$5B Banks	12
CDFIs	3

IMT's Commercial Lender Survey

Methodology

- Interviewees mostly senior level



IMT's Commercial Lender Survey

Questions Asked

- Are you seeing demand for financing commercial building energy upgrades?
- Is your institution incentivizing building energy efficiency through specific loan products or programs?
- How do you perceive the risks of lending to support building energy efficiency?
- To what extent do you incorporate building energy data into your underwriting and appraisal processes?

IMT's Commercial Lender Survey

Key Findings – Demand and Supply

- Low perceived demand for energy efficiency finance:

Level of Demand	Number of Responses
None	3
Low	18
Moderate	7
High	2

- As a result, lender not incentivizing building energy efficiency

IMT's Commercial Lender Survey

Key Findings – ESG Policies

- Majority stated that their institution has an Environmental, Social, and Governance (ESG) policy
- None said energy efficiency finance integrated into these policies
 - “We have an environmental policy, but nothing that’s related to energy efficiency per se. I don’t know of any bank that does include energy efficiency in their environmental policy, which is more related to mold, asbestos, groundwater contamination, and other things like that.”



IMT's Commercial Lender Survey

Key Findings – Lender Risk

- Energy savings not materializing - lenders' #1 concern
 - Technology and education-related risks
- Trusted third-parties
- Energy efficiency as risk-mitigating:
 - “We analyze [energy efficiency] as part of the offset to risk. It may make a property more desirable and better suited for sale or tenancy. We like when customers are incorporating some type of energy efficiency into their properties, although we don't require it.”

IMT's Commercial Lender Survey

Key Findings – Energy Data

- Nine banks and three CDFIs thought building energy data would be beneficial to consider during underwriting
- Majority unfamiliar with energy benchmarking policies, but one CDFI mentioned:
 - “Benchmarking data is valuable to us because we have staff who know what to do with it. We see it as our job to take that information to loan officers and ultimately convince borrowers to do something smart with it...Loan officers might find this information persuadable and useful because they can go to the borrower and say there is money on the table.”

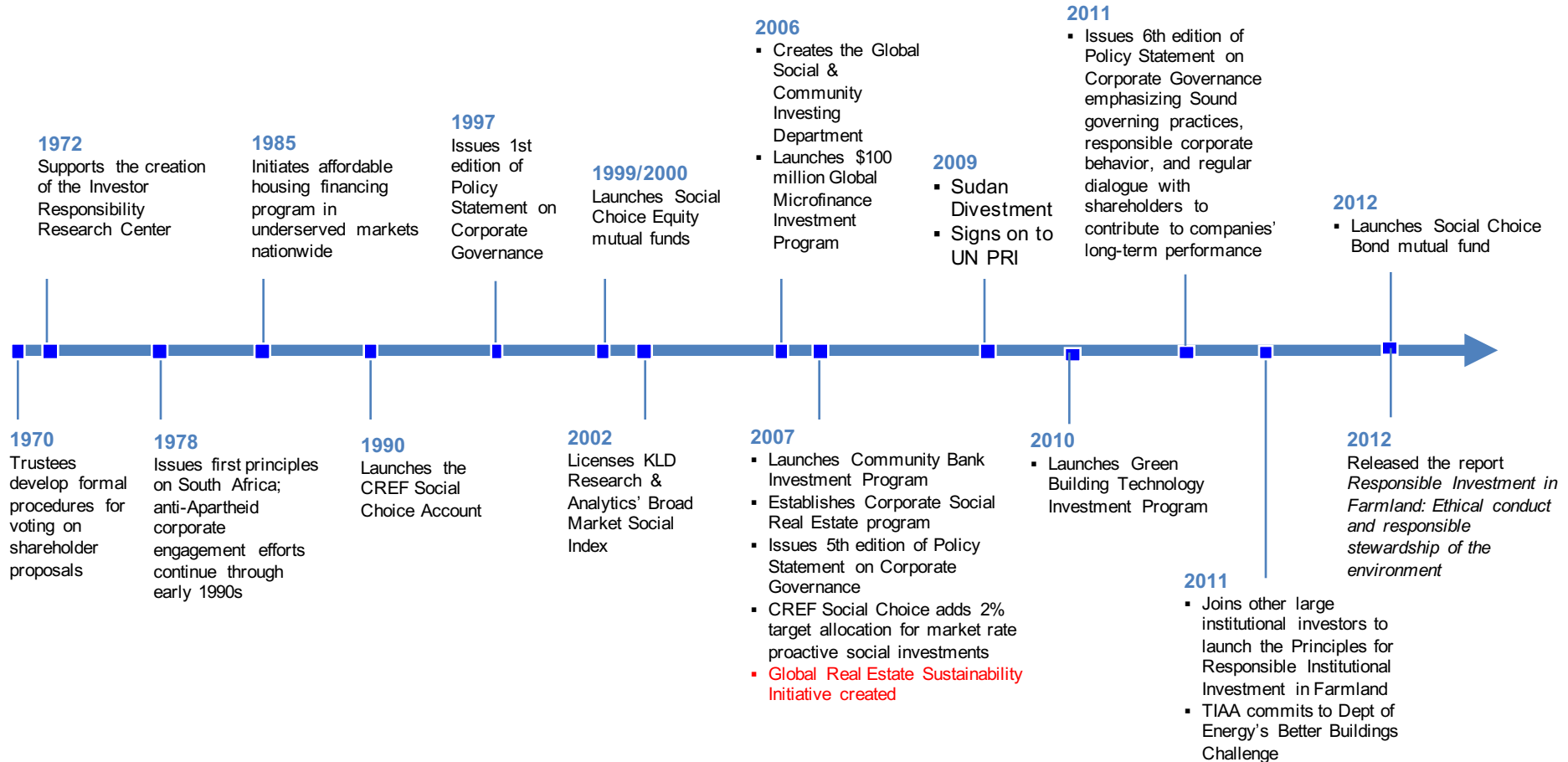
IMT's Commercial Lender Survey

Conclusions and Recommendations

- Initial engagement that can be built upon by other stakeholders, including advocacy organizations
- Expand ESG policies to incorporate real estate finance
- Guidance from federal banking regulators on appraising high-performance buildings
- Further lender engagement on Community Reinvestment Act proposed revision



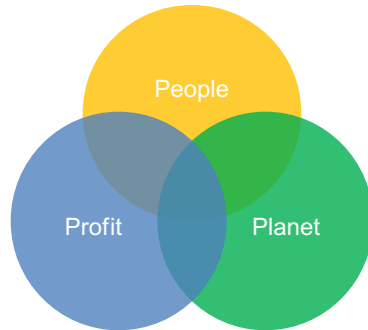
TIAA's Historical Commitment To Responsible Investing



Global Real Estate Sustainability Initiative

Keeping it Simple

Why we do it:



ESG Integration –
Triple Bottom Line

- Environmental - *Planet*
- Social - *People*
- Governance - *Profit*

How we do it:

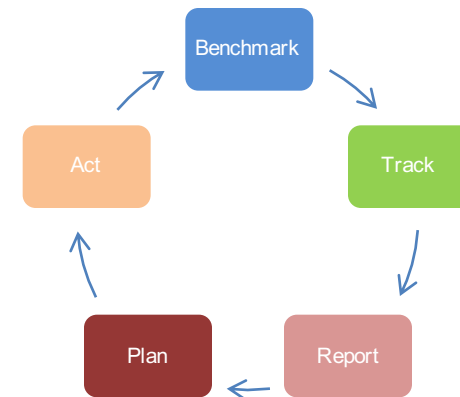
Benchmark – measure performance

Track – measure change over time

Report – disclose performance

Plan – develop program for enhancement

Act – implement plan for enhancement



Global Real Estate Sustainability Initiative

High Performance Case Study



801 Brickell, Miami

TIAA identified a series of low- and no-cost strategies to further reduce utility consumption at 801 Brickell, an already efficient urban office building, reflecting its ongoing commitment to identify and capture energy savings opportunities across its real estate portfolios

Annual energy use savings: 32%

Annual energy cost savings: \$400,000

The projects yielded an overall payback period of 2.7 years and an ROI of 37%.

Over the course of four years, we:

- Upgraded the building's energy management system and optimized programming to enhance building heating, ventilation, and air conditioning (HVAC) controls
- Performed water balancing for the HVAC system
- Installed and adjusted exhaust fan variable frequency drive (VFD) controls
- Reduced garage fan energy use by 25% by installing high efficiency fans and reducing the number of fans required
- Implemented stairwell, tenant space, garage and trellis lighting retrofits

These efforts increased 801 Brickell's ENERGY STAR score from 76 in 2011 to 90 in 2015.



Global Real Estate Sustainability Initiative Performance Metrics

TIAA integrates sustainability in decision-making processes throughout its investment portfolio from the budget process to ongoing property management activities – and tracks opportunities portfolio-wide to target high returns on investments in sustainability measures

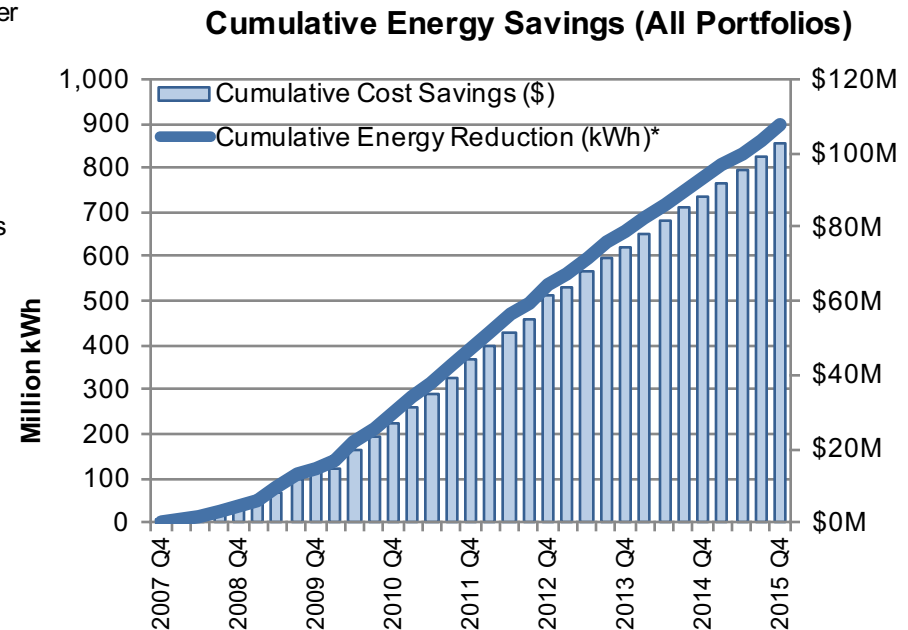
Key initiatives driving sustainable practices...

- Benchmarking the energy and water use of its office, multifamily and retail portfolios – currently comprising approximately 29.1 million square feet of office space, 15,989 multifamily units, and 3.7 million square feet of retail space – using ENERGY STAR Portfolio Manager
- Focused assessments and analyses to identify sustainability opportunities and challenges during the acquisition process – with standardized processes in place for introducing new acquisitions to the sustainability program
- Mandated LEED certification for all new development projects and directed pursuit of LEED certification for selected existing properties
- Pursuit of ENERGY STAR certification for all eligible properties

■ ...with significant outcomes

- Average ENERGY STAR rating of 83 across entire office portfolio
- Greenhouse gas emissions avoided through December 31, 2015 equivalent to removing about 91,700 cars from the road
- Total reduction in annual energy costs in 2015 alone equal to approximately \$14.96 million

Aggregate TIAA portfolio savings as of December 31, 2015



*kWh savings totals include savings in both electricity and natural gas consumption

“You can’t manage that which you don’t measure”

Performance

- Benchmarking
- Reporting
- Continuous Improvement
- Setting Goals

Thought Leadership

- Client
- Industry
- Global Advocacy

Recognitions

- TIAA
- Global Real Assets
- Property Level

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