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Phipps Conservatory and Botanical Gardens,
Center for Sustainable Landscapes (CSL)

Photo credit: ©Dennis Photography, Inc.

LEED: Connecting the Environment and the Built World

**The Benefits of LEED[®] Buildings –
from the pandemic to the future**

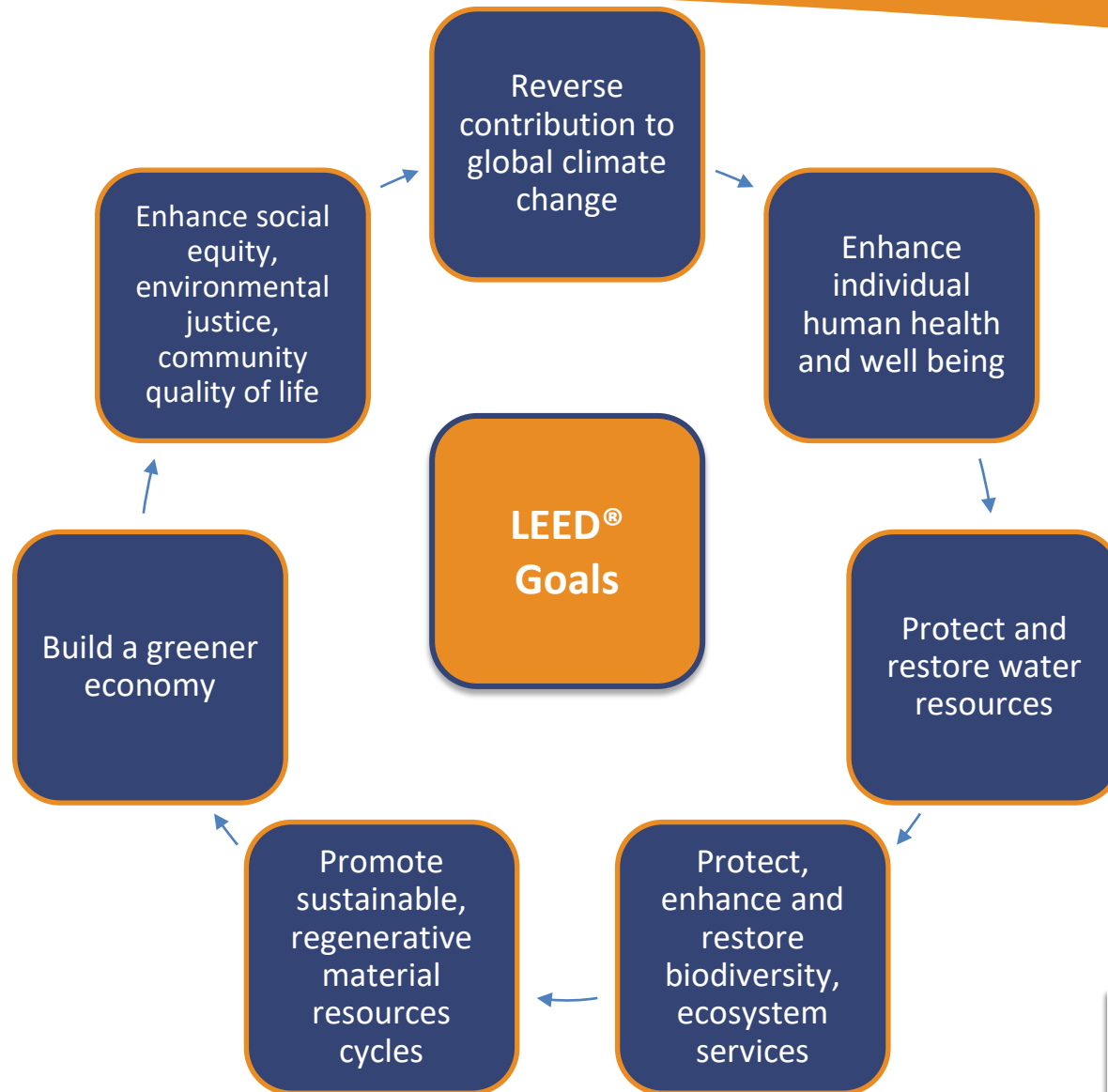
Module Description

- LEED® Buildings offer tremendous tangible benefits to building occupants and to the community in which they are sited
 - Environmental benefits
 - Health benefits
- LEED® Buildings offer tremendous tangible benefits to building owners
 - Environmental benefits
 - Financial benefits
 - Resilience during dramatic economic events
 - Environment/Social/Governance (ESG) imperatives
- Knowing the facts can help you make the case for LEED® buildings

Module Objectives

- Discuss the environmental benefits LEED® BD+C, ID+C, and O+M certified buildings provide
- Discuss the health benefits LEED® BD+C, ID+C, and O+M certified buildings provide their occupants
- Discuss the financial benefits LEED® BD+C, ID+C, and O+M certified buildings provide to their owners/investors
- Discuss the financial resilience of LEED® BD+C, ID+C, and O+M certified buildings during dramatic economic events
- Discuss the ESG imperatives that LEED® BD+C, ID+C, and O+M certified buildings help owners/investors meet
- Learn how to use these benefits to advocate for LEED® building projects.

Goals of LEED® Buildings



Popularity of LEED® Buildings

- High level of growth among building owners who plan to sustainably build more than 60% of their portfolio

World Green Building Trends 2021, Smart Market Report, Dodge Construction Network

- Vast majority of projects use a green rating system
 - Creates better-performing buildings
 - Provides 3rd party verification
 - Allows marketing and competitive advantages
- LEED® certified office buildings account for nearly 33% of total offices
 - Size of the U.S. green building market: \$81 billion
 - 1,216 Class-A buildings, 301 million sf
 - Share of U.S. commercial office green building design market: 21.2%

“Green buildings in the U.S. - statistics & facts,” Raynor de Best

Environmental Benefits of LEED® Buildings

- “LEED Gold-rated buildings generally perform better when compared to industry baselines.”

“Re-Assessing Green Building Performance: A Post Occupancy Evaluation of 22 GSA Buildings,”
Kim M. Fowler. Emily M. Rauch. Jordan W. Henderson

- 34% lower CO₂ emissions
 - 78 million tons of avoided CO₂ emissions
- 25% less energy consumed
 - 1.3 million tons of coal equivalent saved each year
- 11% less water consumed
- 80 million tons of waste diverted from landfills
 - By 2030, LEED® projects will have diverted more than 540 million tons of waste from landfills
- 89 average ENERGY STAR score for LEED® projects

Environmental Benefits of LEED® Buildings

- Fewer cars, fewer miles driven
 - Nearly 4 billion vehicle miles traveled have been avoided
- Green building materials
 - Estimated to have specified more than \$100 billion in green building materials
- Implement sustainable strategies
 - To become high performing buildings

Environmental Benefits In Real Life

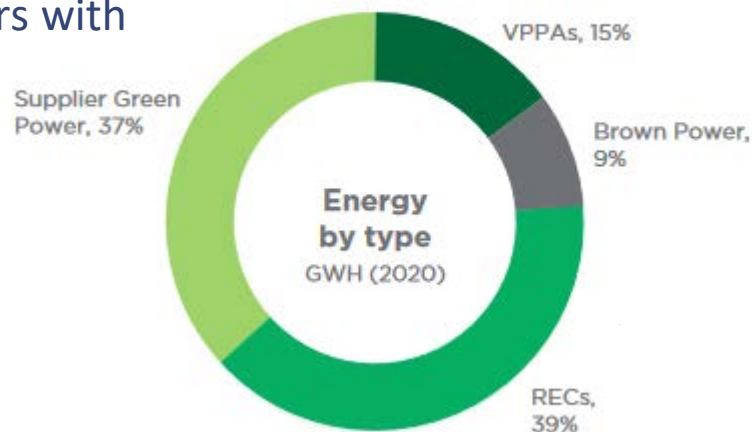
- Boston Properties (BPX)

- More than 25m square feet of actively managed LEED® Gold- and Platinum-certified buildings
- “These efforts have helped reduce greenhouse gas emissions by 70% while decreasing site energy use intensity by 27% since 2008. These efforts are part of Boston Properties' bold goal of achieving carbon-neutral operations by 2025.”

3 REITs ESG Investors Should Consider,
millionaires.com

- Equinix

- Designing, building, and operating data centers with high energy-efficiency standards
- Long-term goal of using 100% clean and renewable power on its global platform



Environmental Benefits In Real Life

- Host Hotels & Resorts

- Prioritizes water efficiency with a 2025 target to reduce water intensity per occupied room by 25% from the 2008 baseline
- Employ innovative technologies to target two of the largest sources of water consumption in hotels
 - Landscaping
 - Installed smart irrigation management systems that use cloud-based data to optimize watering schedules based on weather forecasts and landscape-specific parameters
 - Installed sophisticated irrigation systems on many golf courses enable the control of individual sprinkler heads to deliver water with pinpoint precision and avoid overwatering
 - Laundry service
 - Implemented on-site wastewater laundry recycling systems
 - Installed high efficiency laundry equipment, which use 70% less water

Health Benefits of LEED® buildings

- Happier employees, happier occupants
 - Higher recruitment and retention rates, increased employee productivity
 - > 80% say green buildings promote increased occupant health/well-being
- Bringing in the good, keeping out the bad
 - Cleaner air, access to daylight, free from harmful chemicals found in paints and finishings
 - Self-reported improvements in productivity
 - > 2/3 rank indoor air quality as 'important'
- Indoor environmental quality
 - Reduce absenteeism and work hours affected by asthma, respiratory allergies, depression and stress
- Reduced pollution
 - Energy-efficient buildings help reduce pollution and improve outdoor air quality in major industrialized areas
 - A critical tool in reducing smog

Health Benefits in Real Life

- Vornado Realty Trust

- More than 27 million sf LEED® certified buildings in portfolio
- “Healthy buildings contribute to a healthy society. Vornado Realty Trust believes that consistent health programming and communications protocols not only mitigate health risks within its buildings, but they also create a responsible behavior framework for employees, tenants and visitors to consider elsewhere in their daily lives.”

2021 REIT Industry ESG Report, Nareit,
<https://www.reit.com/investing/reits-sustainability/2021-reit-esg-report>

- Brandywine Realty Trust

- 5.6 million sf LEED® buildings in portfolio
- Through assessment, improved the indoor environmental quality
- All new construction is designed to leading healthy building standards including WELL and Fitwel, with an emphasis on indoor air quality

Financial Benefits of LEED® Buildings

- According to USGBC, LEED® buildings offer:

- \$1.2 billion in energy savings
- \$149.5 million in water savings
- \$715.3 million in maintenance savings
- \$54.2 million in waste savings

Estimate from LEED®-certified buildings from 2015-2018

“Why LEED®,” USGBC

- Long-term benefits

- Greater impact offsetting aging and obsolescence
- Higher building selling point
- Greater rental cash flow
- Sharper competitive edge

Green is Good, Cushman & Wakefield Research Spotlight, 2021
The Strategy Behind Green Investing, Principal Real Estate Investor

Long-term Benefits of LEED® Buildings

- Greater impact offsetting aging and obsolescence
 - Measure – benchmarking and tracking environmental metrics
 - Energy
 - Water
 - Waste consumption
 - Other sustainability metrics
 - Implement – take action through sustained
 - Execution, monitoring and reporting results
 - Engaging tenants and stakeholders
- LEED® Buildings start – and then STAY – sustainable

Long-term Benefits of LEED® Buildings

- Higher building selling point
 - Sales premiums for LEED® Buildings
 - > 25% for Class A Office Buildings
 - > 77% for Class B Office buildings
 - Lower cap rate for LEED® Buildings
 - Cap rate (Capitalization Rate) is a measure of risk
 - Net Operating Income/Property Value

Green is Good, Cushman & Wakefield Research Spotlight, 2021



Long-term Benefits of LEED® Buildings

- Greater rental cash flow
 - RevPAF (Revenue per available foot)
 - Combines occupancy and rental income metrics
 - The RevPAF of LEED® buildings is exceptional
 - 29.6% premium for LEED® buildings in the 1st three years of occupancy

Green is Good, Cushman & Wakefield Research Spotlight, 2021

- Corporate leasing decisions can facilitate the implementation of an ecologically responsible strategy
- Real estate provides a tangible element of the ecological responsiveness of a firm.

“Why Do Companies Rent Green? Real Property and Corporate Social Responsibility,”
Eichholtz, Piet, Kok, Nils, Quigley, John M. <https://escholarship.org/uc/item/7br1062q>

Long-term Benefits of LEED® Buildings

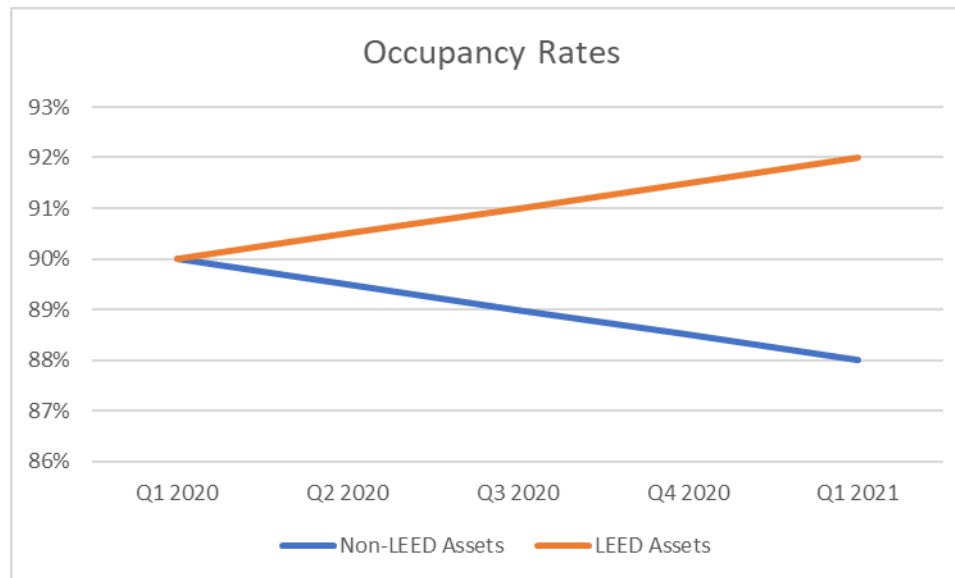
- Sharper Competitive Edge

- Achieve competitive distinction for properties
- Secure pricing advantage
- Insulate properties from market, maintenance, and regulatory risks
- Position assets for improved liquidity
- Quality tenants
- Community appeal



Financial Resilience of LEED® Buildings

- LEED® Buildings are financially resilient
 - LEED®-certified buildings that are able to achieve a lower vacancy than non-LEED® in the post-pandemic world
 - Non-LEED® occupancy rate **fell** from 90% to 88%
 - LEED®-certified assets occupancy rate **increased** from 90% to 92% over the same period.

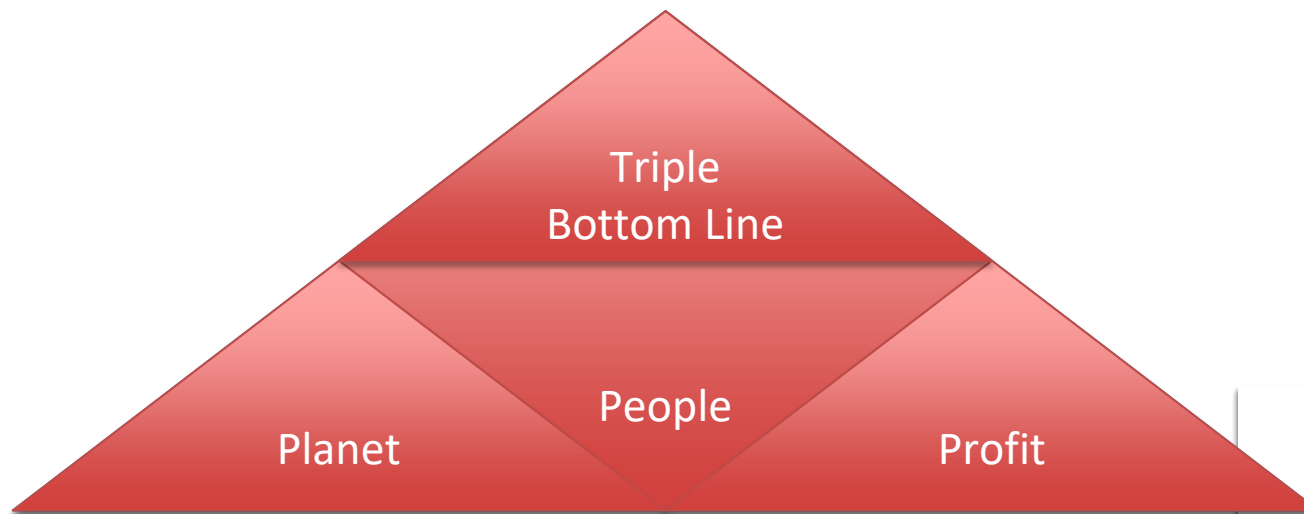


Financial Resilience of LEED® Buildings

- LEED® Buildings are financially resilient
 - New LEED®-certified assets had more resilient revenue streams in the immediate post-Global Financial Collapse (GFC) era
 - RevPAF growth for LEED®-certified buildings exceeded that of the non-LEED during *both* the immediate post-GFC period and the Pandemic
- LEED®-certified assets outperform *particularly*
during recessionary periods

ESG Imperatives and LEED® Buildings

- What are ESG Imperatives?
 - Environmental **S**ocial **G**overnance
 - Non-financial factors measuring sustainability of *an enterprise*
 - *Not* a Corporate Sustainability Report (CSR)
 - CSRs are qualitative
 - ESG is quantitative
 - ESG can be requirements for organizations
 - Investors can use ESG to evaluate risk and growth opportunities



ESG Imperatives and LEED® Buildings

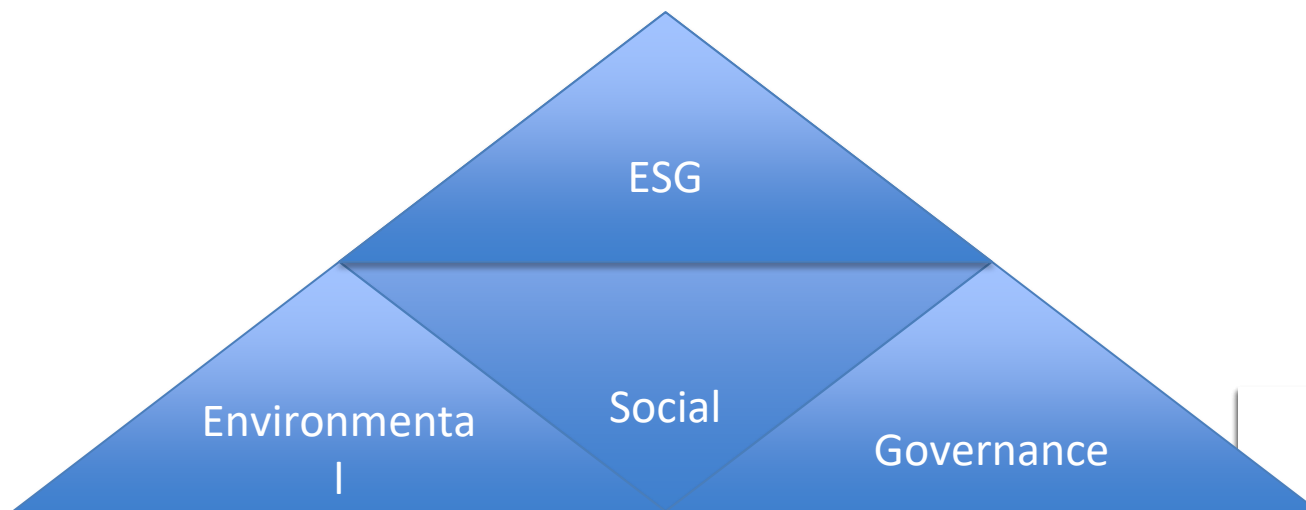
- “There is no doubt that demand for ESG-linked real estate investment is increasing.”

Driving ESG in real estate and construction: A foundation for impact investment

RICS World Built Environment Forum

- “...it was important for us to be an early adopter of emerging ESG trends such as on-site solar...and sustainable building design and construction.”

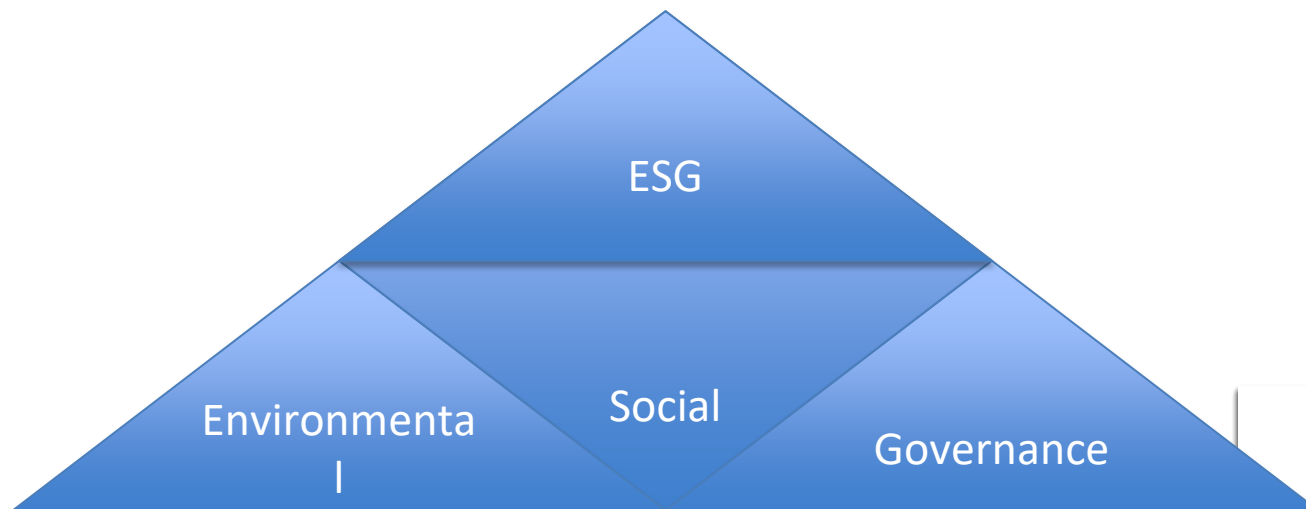
Emily Paciolla, Head of Sustainability, Federal Realty Investment Trust



ESG Imperatives and LEED® Buildings

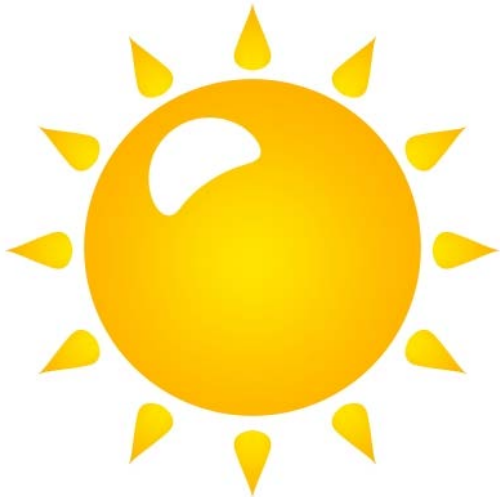
“As interest grows for ESG-committed assets in both the investor and tenant community, questions have naturally risen as to the performance of these assets to like-kind non-ESG assets. **While the definitions of satisfying ESG strategy and choice of performance metrics shift across institutions as the space grows**, the most established benchmark of LEED® certification can provide a valuable reference point for investors.”

Green is Good, Cushman & Wakefield Research Spotlight, 2021



Summary

- LEED® buildings provide environmental benefits
- LEED® buildings provide their occupants health benefits
- LEED® buildings provide financial benefits to their owners/investors
- LEED® buildings provide financial resilience during dramatic economic events
- LEED® buildings help owners/investors meet ESG imperatives



**The future looks very bright
for LEED® certified buildings!**

Additional Information

- 3 REITs ESG Investors Should Consider, millionaireacres.com
- Re-Assessing Green Building Performance: A Post Occupancy Evaluation of 22 GSA Buildings. Kim M. Fowler. Emily M. Rauch. Jordan W. Henderson
- Introduction to the Virtual Power Purchase Agreement, Rocky Mountain Institute
- Equinix Corporate Sustainability Report
- World Green Building Trends 2021, Smart Market Report, Dodge Construction Network
- 2021 REIT Industry ESG Report, Nareit
- “Why LEED,” <https://www.usgbc.org/leed/why-leed>
- Green Is Good Spotlight, Parts 1 and 2, Cushman & Wakefield Research Spotlight
- “Why Do Companies Rent Green? Real Property and Corporate Social Responsibility,” Eichholtz, Piet, Kok, Nils, Quigley, John M. <https://escholarship.org/uc/item/7br1062q>
- “The Strategy Behind Green Investing,” Principal Real Estate Investors
- “Cap Rate Compression – What Does It Mean?,” Mohr Partners, Inc.
- “Driving ESG in real estate and construction: A foundation for impact investment,” RICS World Built Environment Forum, <https://www.rics.org/zh/wbef/megatrends/natural-environment/driving-esg-in-real-estate-and-construction-a-foundation-for-impact-investment/>
- “Driving ESG in real estate and construction,” RICS World Built Environment Forum, <https://www.rics.org/zh/wbef/megatrends/natural-environment/driving-esg-in-real-estate-and-construction-a-foundation-for-impact-investment/>

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