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Integrating ESG into the Supply Chain

Jill Ziegler Forest City Realty Trust January 24, 2018



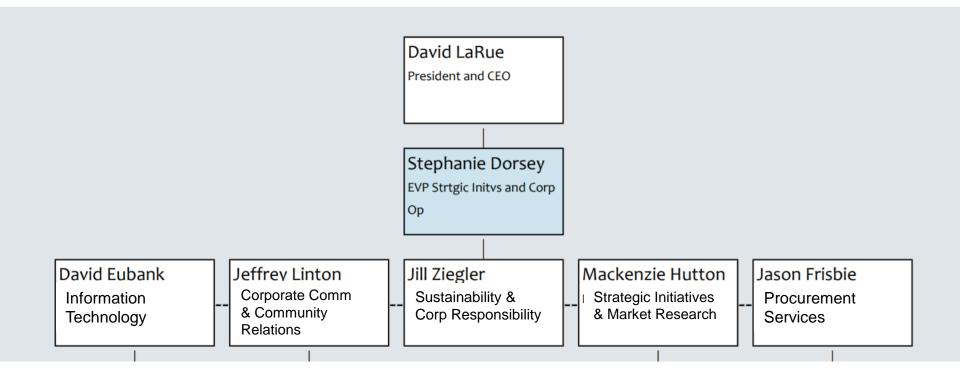
Overview

- Procurement Services at Forest City
- Value Proposition: Why incorporate ESG into the supply chain?
- Forest City's Approach
 - Development
 - Operations
- Getting Started
- Best Practices
- Measurement/KPIs





Org Chart



Supplier Relationship Management

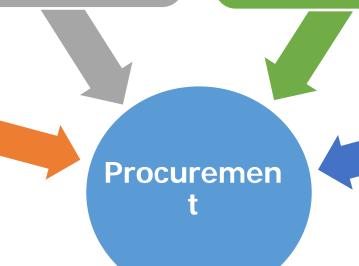
- Offers streamlined corporate support to the business as a single source of contact for all preferred supplier business needs
- Drives supplier performance to include innovation, continuous improvement and performance to contractual terms (price, quality & delivery)

Accounts Payable & Technology

 Ensures efficient and quality transactional processes and services to the Enterprise to include Supplier Setup and Data Management, Invoice Processing, Payment Processing, Utility Payments, Corporate Cards, Development Draw and Purchase Process, Coupa and Concur Administration

Strategic Sourcing

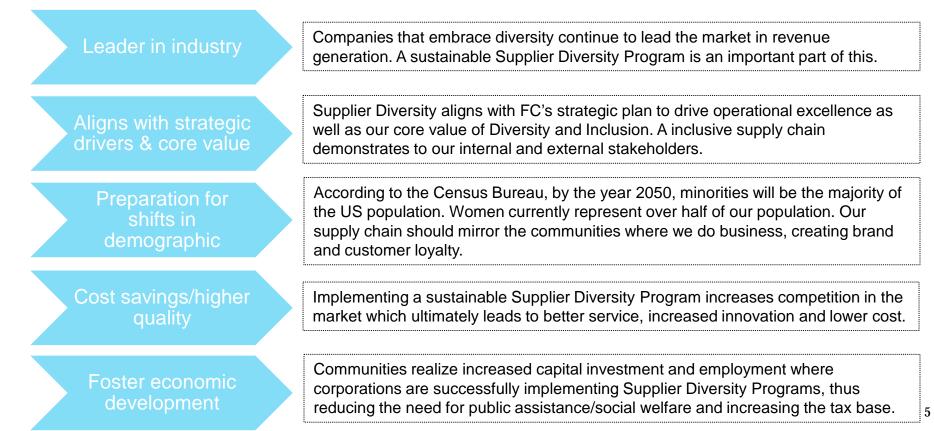
 Leads large procurement events that usually include multiple properties and complex/various requirements



Program Management

 Actively manages and provides customer service to the Enterprise centralized programs such as Energy & Sustainability, Supplier Diversity, Fleet, Business Solutions and Travel

Integrating ESG into the Supply Chain: The Business Case



Integrating ESG into Procurement Forest City's Areas of Focus

- Development
 - Design Standards for New Construction
 - Public-Private Partnership Requirements
- Operations

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- National vendor contracts
- Supply chain audits
- Supplier diversity



Development



Development: Supplier Diversity & Social Inclusion

Case Study: The Yards DC

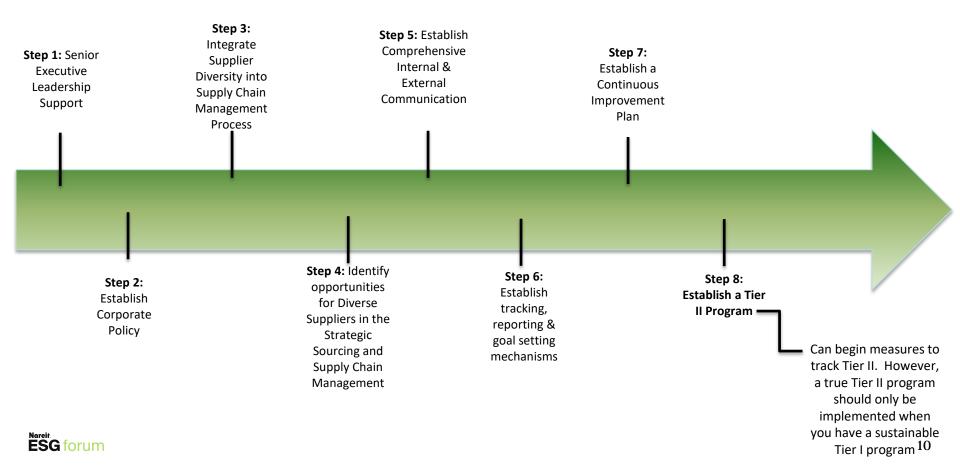
- Contractor Goals: DC requirement that 35% of the contracts go to certified business enterprises
 - Instituted voluntary mentor/protégé program, large prime contractors encouraged to subcontract to small or disadvantaged local builders and trades
 - Results: Forest City has met or exceeded its contractor goals, with 35%-57% of the work going to CBEs.
- Workforce Intermediary: First developer in Washington to launch its own organization that acts as a broker to pair businesses with local residents seeking work
 - Work with local businesses, labor unions, educational institutions, social services agencies and faithbased and community groups to recruit, train, place and retain local residents for positions at Harris Teeter
 - Results: Harris Teeter and local restaurants at The Yards hired approx. 300 local residents, represents a 1% reduction in DC's unemployment rate. 82% of those hired at the Harris Teeter store have stayed on the job for six months or longer.



Operations



Evolution of a Sustainable Supplier Diversity Program



Measuring Results

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#/\$ of Contracts awarded to diverse suppliers

Forest City's 2018 Supplier Diversity Goals

- 1. 9% enterprise-wide, Procurement-directed diversity spending
- 2. Include at least one diverse contractor in the bidding process for all projects over \$25,000



Getting Started

- In-depth review of current suppliers
 - Look for diverse suppliers
 - Identify non-certified suppliers that can become certified
- Identify the top diverse spend opportunities in pipeline
 - Review contracts and look for expiring contracts
 - Anticipated purchases
- Mandate 100% inclusion when competitive diverse suppliers exist
 - A diverse supplier should be included in every bid opportunity/RFP to the maximum extent possible
- Include Supplier Diversity language in Contracts, RFPs and Training Manuals
 - Clear language in process documentation, contacts and trainings assist with fostering maximum results

Ongoing Best Practices

- Vendor Code of Conduct that incorporates ESG
 - Environmental
 - Human rights
 - Working conditions
 - Occupational health & safety
 - Business ethics
- Leverage national vendor relationships to identify ESG opportunities
 - Example: Lighting vendor identifies LED retrofit opportunities

Engage vendors on ESG

- Include supplier diversity and sustainability goals/language in RFPs
- Recommend they certify as minority/women/veteran-owned business
- Join local/national supplier diversity organizations
- Development Design Standards
 - Prioritize LEED credits that include supplier diversity and sustainability
 - Require GCs to use national vendors (who have already been screened for ESG)
 - Work with cities to identify local priorities

If you have any questions, please contact Jill Ziegler

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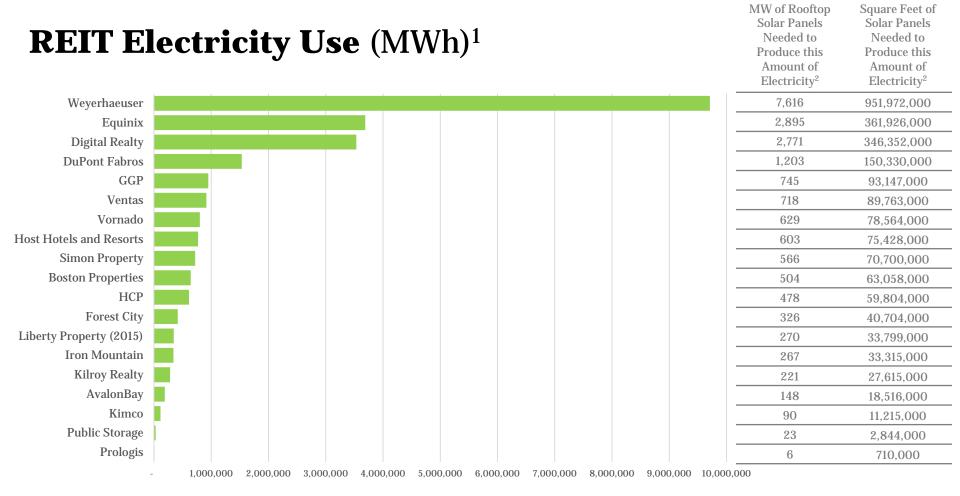
Options for offsite renewable energy contracts

Kevin Hagen, Iron Mountain Aaron Binkley, Digital Realty

January 2018

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Nareit 1. Publicly reported electricity consumption for reporting year 2016 unless otherwise noted. 2. At 1,250 kWh/kW, 125,000 SF per MW

Avenues for Sourcing Renewable Electricity

	Utility Green Energy Programs	Commodity Electricity Supplier Offerings	Off-site utility- scale Generation	Behind-the-Meter Solutions	Aggregated Off- Site Projects	Commodity RECs
Common Name	Green Tariff	Commodity Block, Power Hedge	Virtual PPA, Contract for Differences	PPAs, REIT-owned projects	Community Solar	National RECs, Unbundled RECs
Locations	Regulated electricity markets	De-regulated electricity markets	National, but top grid regions include: ERCOT, MISO, PJM	Property-specific	Massachusetts, Minnesota	National
Scale	Individual meter(s): Usually enroll based on 50% or 100% of meter	Individual meter(s): Can be tailored up to 100% of block, limited by % of site's load that is hedged	Portfolio-scale: Entire portfolio or multiple buildings	Individual meter(s): Fraction of building's load, may also be capped by net metering regs	Individual meter(s): Program-specific caps apply, up to perhaps ~5 MW	Unlimited flexibility on scale, no min or max procurement
Key Risks	No control over utility programs; Utilities may stagnate in increasing renewable energy in fuel mix; sites become less attractive to "green- preferred" clients	Needs to be replaced with more impactful projects to meet client demand and NGO expectations	Long term energy purchase contracts (7- 15 yr); End of Production Tax Credit may raise prices; Need to be able to aggregate client demand at sites	Reduction of Investment Tax Credit (30% → 10%) and declining rebates may raise costs	Reduction of Investment Tax Credit (30% → 10%) and declining rebates may raise costs	Long term investment of capital; Requires tax credit appetite; Reduction of Investment Tax Credit $(30\% \rightarrow 10\%)$ and declining rebates may raise costs
Environmen tal Claims	Varies based on utility program, adequate for Scope 2 CO2 emissions reporting	Varies based on block structure, adequate for Scope 2 CO2 emissions reporting	Strong, adequate for Scope 2 CO2 emissions reporting	If you get a utility subsidy you may not be able to count it toward Scope 2 CO2 reductions	If program gets utility subsidies you may not be able to count it toward Scope 2 CO2 reductions	Claim adequate for Scope 2 CO2 emissions reporting

What is a Virtual PPA

Commonly names: Virtual PPA, Contract for Differences, Fixed-for-Floating Swap

Definition: A virtual PPA is a form of price hedge. A company (e.g., a "Buyer") enters into a contract to pay a wind/solar project (Seller) on an agreed fixed PPA price. The Seller sells the generated power into the local wholesale market on a merchant basis as it is produced.

Financial Settlement: The solar/wind project pays the company if the electricity is sold into the market above the agreed contract price, and the company pays the project the difference if the electricity falls below the agreed price.

Environmental Attributes: The Buyer receives the RECs produced by the project.

Benefits: Buyer claims environmental attributes from large-scale renewable project. Long term, fixed price electricity price hedge that is not property or suppliers-specific. Ability to secure renewable claims for projects that cannot self-generate large amounts of renewable electricity.

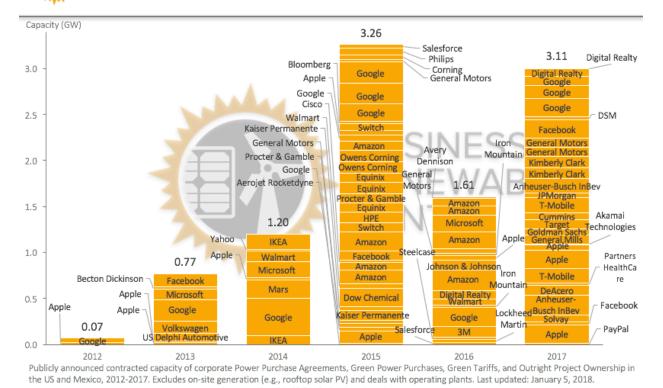
Key Risk: "CFO Test" – "*Will I ever have to explain why we missed earnings because of this deal?*" Translation - Power sold in the wholesale market at a price below the PPA rate and Buyer pays the difference.

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Corporate Renewable Deals



Corporate Renewable Deals



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For more information, please visit http://www.businessrenewables.org/ or contact BRC@RMI.org

Common Considerations

- What is your 'mandate' to act on renewables?
- Do you have a renewable energy goal, a carbon goal, or something else?
- How much of your load do you want to address?
 - What amount of energy can you can hedge?
- How important is "Farm to Table" for you and your stakeholders?
 - Do renewables need to be sourced locally/regionally?

The Real Deal

• Have a Cattle Prod (or two)

- Customer demand: "One of the four key location criteria for us is access to renewable energy."
- Greenpeace gave us an "F" in 2014 for lack of renewable energy sourcing
- Get (Free) Help
 - We worked with a buyer's agent, (i.e., a broker) to identify promising renewable energy projects
 - Broker's fee (typ. ~1.5-2%) is paid by Project Developer on a "success fee" basis
 - The success fee model gets you a lot of no-obligation expertise while you figure things out

• Trust but Verify (and Verify, And Verify Again)

- Our RFP identified ~100 projects throughout the PJM grid region
- We shortlisted on price, location, commercial operations date (COD), and fewest contingencies
- We conducted in-person interviews of the top projects, and we found that:
 - Projects with no contingencies can have contingencies
 - Prices and terms are *highly* negotiable
 - Project developer demeanor matters

Zombies – Your New Best Friend

• Projects that weren't on the shortlist got re-priced by the developer a month or two after the RFP process moved forward and became attractive



The Real Deal

- Politics Your New Source for Grey Hair
 - Solar Int'l Trade Case, Federal Tax Reform result in CPs (Conditions Precedent) and provide an excuse for developers to re-price deals and delay CODs
- Get Ready for a Re-Trade
 - Developers may "re-trade" the project offered during the RFP process
- Have Friends in High Places
 - Expect your Executive team to have strong philosophical feelings about "hedges"
 - Due to nominal contract values and long tenures you may end up in front of your Board of Directors
- Have Even More Friends Low Places (joking!)
 - Accounting: There will be questions, and they can be addressed (accrual vs derivative accounting)
 - Legal: Plan to hire outside counsel with vPPA expertise, at \$20-50k
 - Tax: They will be fine, but they'll need to make sure you're not going to tank REIT status
 - Finance/Treasury: Guidance on issuing a parent guaranty or posting a letter of credit

Recognize Your Limits

- Performance of long term power market hedges are built on assumption after assumption after
- Don't lose the forest for the trees
- Gossip
 - Talk to others who have done a deal!



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Kevin Hagen Director Corporate Responsibility WE PROTECT WHAT YOU VALUE MOST

AECORDS STORAGE DIGITAL SOLUTIONS

ACTIVACIANTAIN

@KevinHagen







OUR PURPOSE

To be the trusted guardian of the assets most important to our customers, securing their past, current and future value.

Our Services

- Information Management
- Secure Storage
 - Documents, Tapes
 - Assets, Art, Film, Music
- Digital Transformation
 - Data Centers & Cloud Services
- Secure Destruction
 - Shredding, IT Assets







+ \$3.8B Sales + 25,000 employees + 1400 Secure Facilities + 50 Countries + 85 Million Sq ft + 220,000 customers Serving 94% of FORTUNE 500 S&P 500 REIT (NYSE: IRM)





Sustainable Business Strategy is about using Environment, Social, Governance (ESG) impacts as a driver to inspire new thinking about what we do and how we do it.

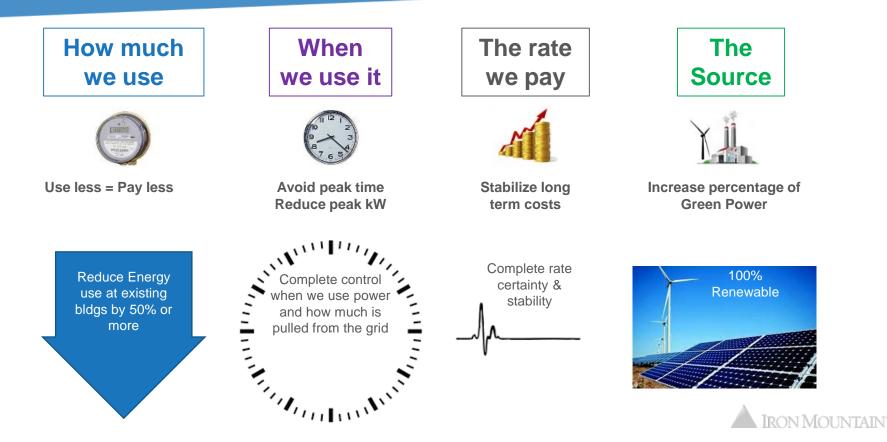
We're building a metrics driven process based on global frameworks, stakeholder engagement and transparent pubic reporting that is delivering better outcomes for our business, our customers, our communities and the planet.

Dow Jones Sustainability Indices

In Collaboration with RobecoSAM 🐽



Energy Strategy



Renewable Energy Progress

- Achieved +40% renewable electricity in 2017 (up from <1% in 2015)
- 100% renewable for Data Center operations

2015

2016

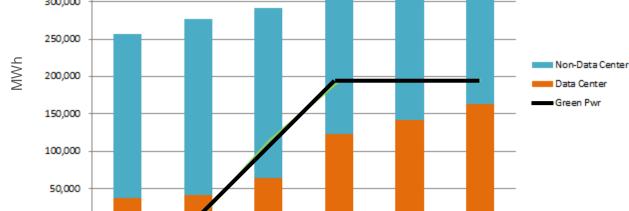
Chart is prior to IO Data Center acquisition (Jan 2018) 350,000 300,000 250,000 MWh 200,000

2017

2018

2019

2020





On-Site Solar

- We currently have 5.6MW installed at 14 sites
- Active pipeline of over 10MW of new projects



Livermore, CA 369 kW







Sacramento, CA 213 kW



Off-site Projects

- Virtual Power Purchase Agreements (vPPA)
 - 2 Wind Deals @ 25MW each
- Direct Green Power Purchasing
 - 4 wind & solar purchase deals over 8MWavg









Sustainability is a Team Sport

CORPORATE RENEWABLE ENERGY BUYERS' PRINCIPLES: INCREASING ACCESS TO RENEWABLE ENERGY

REBA





A ROCKY MOUNTAIN INSTITUTE INITIATIVE







Schneider Electric

altenex

DEFENSE FUND

Finding the ways that work



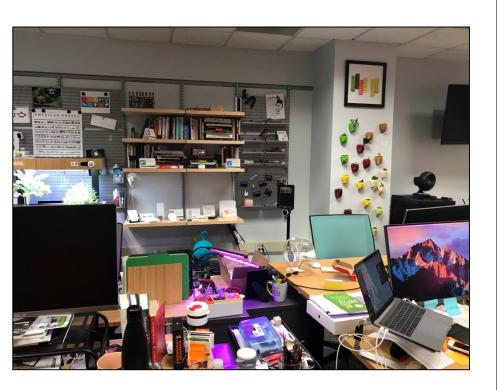
WORLD Resources Institute

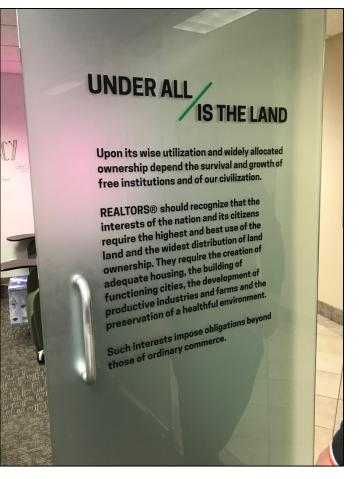


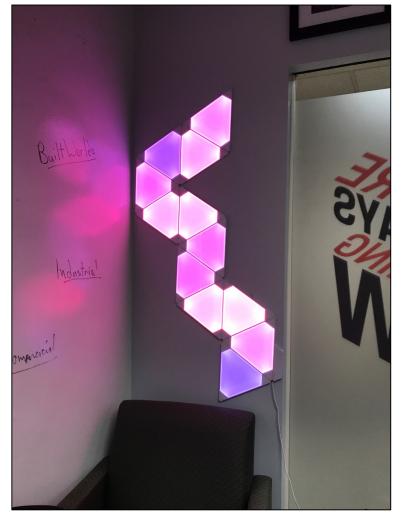


Innovation Labs

Inspiration







Kilroy Innovation Lab

At Kilroy Realty Corporation we are actively seeking emerging technologies and ideas that measurably improve the environmental performance of our real estate assets. The Kilroy Innovation Lab will pilot these innovations in order to improve our portfolio's performance and rapidly transform the larger commercial real estate market.

BACKGROUND

Kilroy Realty Corporation has been on the forefront of sustainability in commercial real estate for over seven decades, and has been recognized as the North American Leader on sustainability in the office sector for the last four straight years by GRESB. We are one of only three American real estate companies to be listed on the Dow Jones Sustainability World Index. One of the major drivers of our continued sustainability performance is our willingness to embrace emerging technologies that improve the environmental performance of our existing and new assets. Launched in 2017, the Kilroy Innovation lab formalizes the process for the implementation of sustainability pilots to provide credibility for successful technologies.





AILOOT SUSTAINABILITY





AREAS OF INTEREST

Kilroy Innovation Labs is particularly interested in the following types of projects:

- a. Energy // Reducing our energy consumption is the primary objective of our existing building environmental programs, and we design our new development projects with energy efficiency as a primary goal. We are focused on emerging technologies whose primary impact is on the base building and whose efficacy is not dependent on tenant behavior change. Lighting, window film, HVAC upgrades, and controls have all been areas in which we have previously piloted new solutions and in which we expect to pilot more.
- b. Water // Water is another main focus of our sustainability programs, especially in California, which has experienced severe droughts in recent years. We have implemented and are interested in additional domestic water projects, typically via extremely low flow and flush plumbing fixtures. Reducing exterior water use, often through smart irrigation controllers, drip irrigation and high efficiency nozzles, is also an area in which we have done several pilots. We also have interest in cooling tower projects.
- c. Waste // Reducing the amount of waste we send to landfills is another important component of our programs. We have aggressively rolled out composting programs in over 60% of our portfolio, and have piloted recycling other waste streams. We are interested in projects that allow

us to reduce our waste to landfill performance that do not burden our tenants or janitors.

- d. Health // We have placed an increasing importance on health because we believe that the wellbeing of the people that interact with our buildings is critical, and that our buildings have the ability to either promote or diminish human health and productivity. In 2017, we received both WELL and Fitwel certifications, and are interested in technologies to help us monitor the health performance of our assets. We are particularly interested in technologies that have a positive impact on both health and energy.
- e. Biodiversity // Recognizing Increased external interest in biodiversity, we launched our biodiversity programs in 2016. All new landscapes in both the existing and development portfolios are required to include at least two plant types, which otherwise meet our reduced water requirements, that are considered pollinators by The Pollinator Partnership (www. pollinator.org). Also, any beehives discovered in undesirable locations are to be relocated either on or offsite in partnership with local beekeeping organizations rather than destroyed. Finally, we have begun installing beehives on the roofs of our buildings. We are interested in ideas to boost and measure the biodiversity impact of our properties.

f. Financial Structures // Sometimes, the barrier to adoption of an efficiency technology in the commercial real estate industry is not the technology. Therefore, we have piloted unique financial structures to make the implementation of certain technologies more attractive. For example, we are one of the first Real Estate investment Trusts (REITs) to use an innovative financial structure for solar and battery installations and hope that our structure will serve as a model for other REITs to follow to spur solar and battery adoption in our industry. Please note that this area does not extend to financing structures.

- g. Sustainability Reporting // in 2017, we became the first publicly traded company to align our 10-K with SASB and we are always interested in learning additional best practices regarding sustainability disclosure.
- h. Supply Chain // We launched our Supply Chain program in 2017 with the implementation of a code of conduct that extends to vendors and other third parties, and an analysis of our critical vendors. We are interested in learning about best practices related to ensuring environmental stewardship in our supply chain.



KILBOY SUSTAINABILIT

REPRESENTATIVE PAST PROJECTS

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ENERGY

- AspenAir
- Blue Box
- Carbon Lighthouse
- Cypress Envirosystems
- Enovity Retrocommissioning
- Gridium
- IceCold
- LOBOS
- MACH
- Permafrost
- Protecall
- Rainforest Automation Eagle
- SmartCool Controls
- BuildingIQ

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BIODIVERSITY

 Beehive Installation



FINANCIAL REPORTING - SASE

WATER

Gr)

HEALTH

Fitwel

WELL

Green Janitor

Education

Program

1.1 gpf toilets

Hybrid waterless

GoMeter

urinals

ZeroBleed

MEASUREMENT & VERIFICATION

For projects whose purpose is generating financial savings, the Kilroy Innovation Lab places a strong emphasis on a robust Measurement & Verification process to confirm that savings have been realized. While we prefer a full IPMVP Option C protocol be implemented, we are also comfortable with trending consumption patterns via data loggers for 30 days prior to an intervention, 30 days during an intervention, and 30 days after an intervention. We can also use our load profile analytics to do Measurement & Verification work depending on the project.

PARTNERS



We partner with organizations that also want to accelerate the adoption of clean technology in the built environment. The Kilroy innovation Lab is excited that the Los Angeles Cleantech incubator

(LACI) has come onboard as our first partner. LACI will be identifying efficiency projects in its pipeline that are appropriate for our asset types, and we will be working together to ensure smooth deployments and verifiable results. This will allow for rapid scale both in the Kilroy Realty Corporation portfolio and the larger commercial real estate community.

UTILITY COLLABORATION

We have a long history of collaborating with our utilities on emerging technology pilots. Technologies that are appropriate for our asset type (office, life science and multifamily) that are part of a utility emerging technology program are particularly welcome. We are also favorable towards technologies that have been vetted by our utilities and, for example, receive rebates for their implementation.

FUTURE ENGAGEMENT

We recognize that our square footage has been and will continue to be fertile ground for testing out the technologies that have the potential to transform commercial real estate. The Kilroy innovation Lab is always looking for new emerging technologies to pilot.

Our ideal pilots have the following features:

- No upfront cost
- 2. Minimally invasive
- 3. Meets our insurance requirements
- UL listed if a hardware component is involved.
- 5. Robust Measurement & Verification process
- Primarily within a base building scope
- Simple payback of 3 years or less for projects that generate savings
- 8. Focused on one of the following areas:
- a. Energy f. Financial
- b. Water
 - c. Waste g. Sustainability

Structures

- d. Health Reporting
- e. Biodiversity h. Supply Chain

CONTACT

Companies interested in partnering on a Kilroy Innovation Lab pilot should contact Sara Neff (sneff@kilroyreaity.com) with a description of how their technology meets the criteria outlined here.



