



The Tenant's Triumph: How to Improve Energy Signatures of Leased Facilities

17. August. 2018



**Tenancy
Agreement**



a project of



Sustainable Food
Trade Association
organic leaders for sustainability

Commit. Act. Impact.

Our industry can and must
respond to climate change.

Make a commitment to climate in one or more areas!



**Integrate carbon farming
into the agricultural
supply chains**



**Increase energy
efficiency**



**Reduce food-
waste in the
supply chain**



**Remove commodity-
driven deforestation
from supply chains**



**Responsible
engagement in
climate policy**



**Reduce the
climate impact of
packaging**



**Commit to 100%
renewable power**



**Reduce short-lived
climate pollutant
emissions**



**Reduce climate
impacts of
transportation**



More companies are taking action to reverse climate change than ever before. They're tackling this global challenge not only because it's essential to the future of our planet but also because doing so offers tremendous opportunities for growth, job creation, and prosperity.

Companies can help reverse climate change by making a commitment to one or more of these initiatives.

WHY TAKE ACTION?

Climate change is both the greatest threat our planet has ever faced

MAKE A COMMITMENT

SIGNUP FOR UPDATES



How many companies have committed?

Justin's



gaia
HERBS

291

Companies
Committing to Action

1091

Commitments



Community
FOOD CO OP



REBBL

seventh
generation



Independent
Natural Food
Retailers
Association



MegaFood
Fresh From Farm To Tablet™

nutiva
NURTURE VITALITY™



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Nature's Path
New Hope Network
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Stonyfield
Straus Family
Creamery
Studio Fab
Tacoma Park Silver
Spring Co-op
Traditional Medicinals
Trayak

Our Speakers



Moderator: **Lisa Spicka**
Associate Director
Sustainable Food Trade
Association, SFTA



Emily McLaughlin
Senior Associate, Market
Engagement
IMT



Mark Robbins
President
MHR Development

The Tenant's Triumph: How to Improve Energy Signatures of Leased Facilities

About the Institute for Market Transformation

Mission

**Catalyze
widespread
and sustained
demand for
high-
performing
buildings**



Vision

**A world in which buildings
are efficiently and positively
transforming our physical,
social, and economic
wellbeing**



Behavior Change vs. Technology

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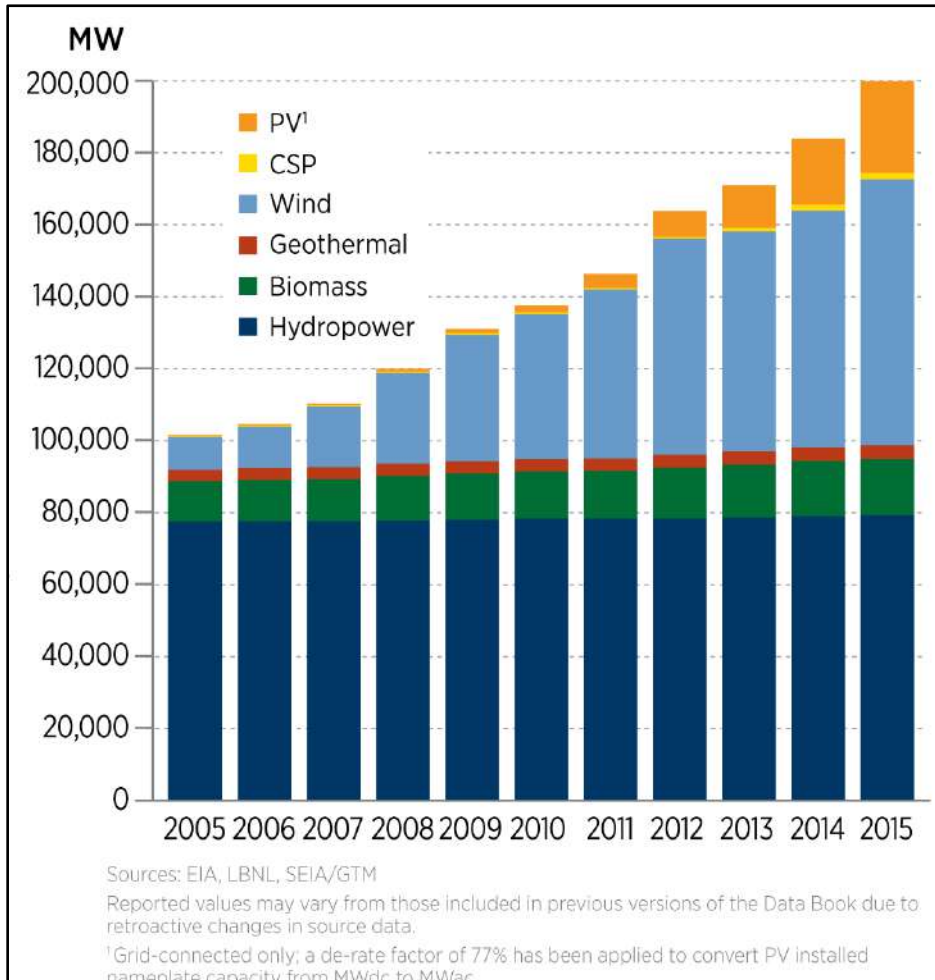
"I want you to find a bold and innovative way to do everything exactly the same way it's been done for 25 years."

Vs.



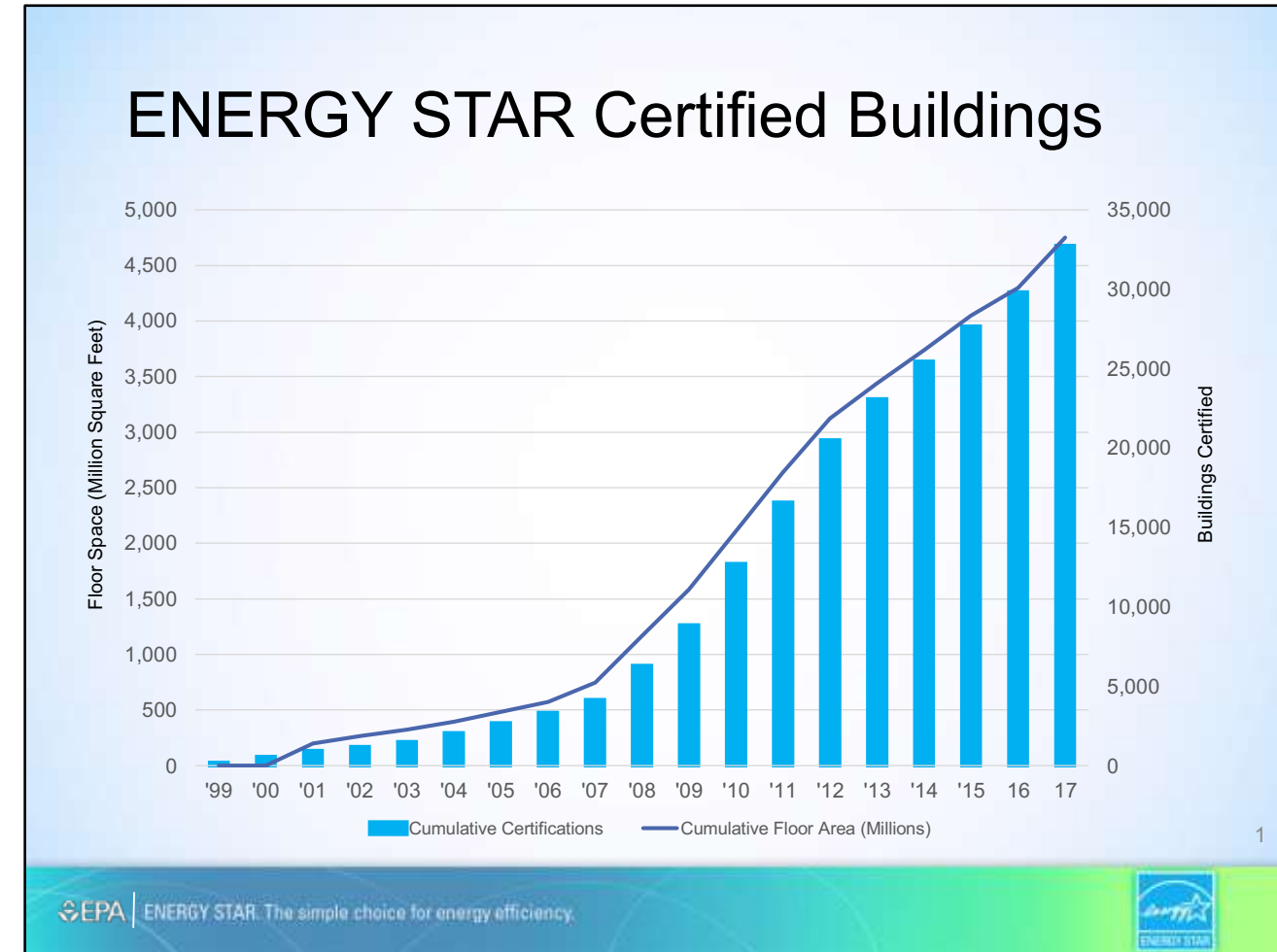
Intersection of Energy Efficiency and Renewables

Renewable Energy



Source: [DOE](#)

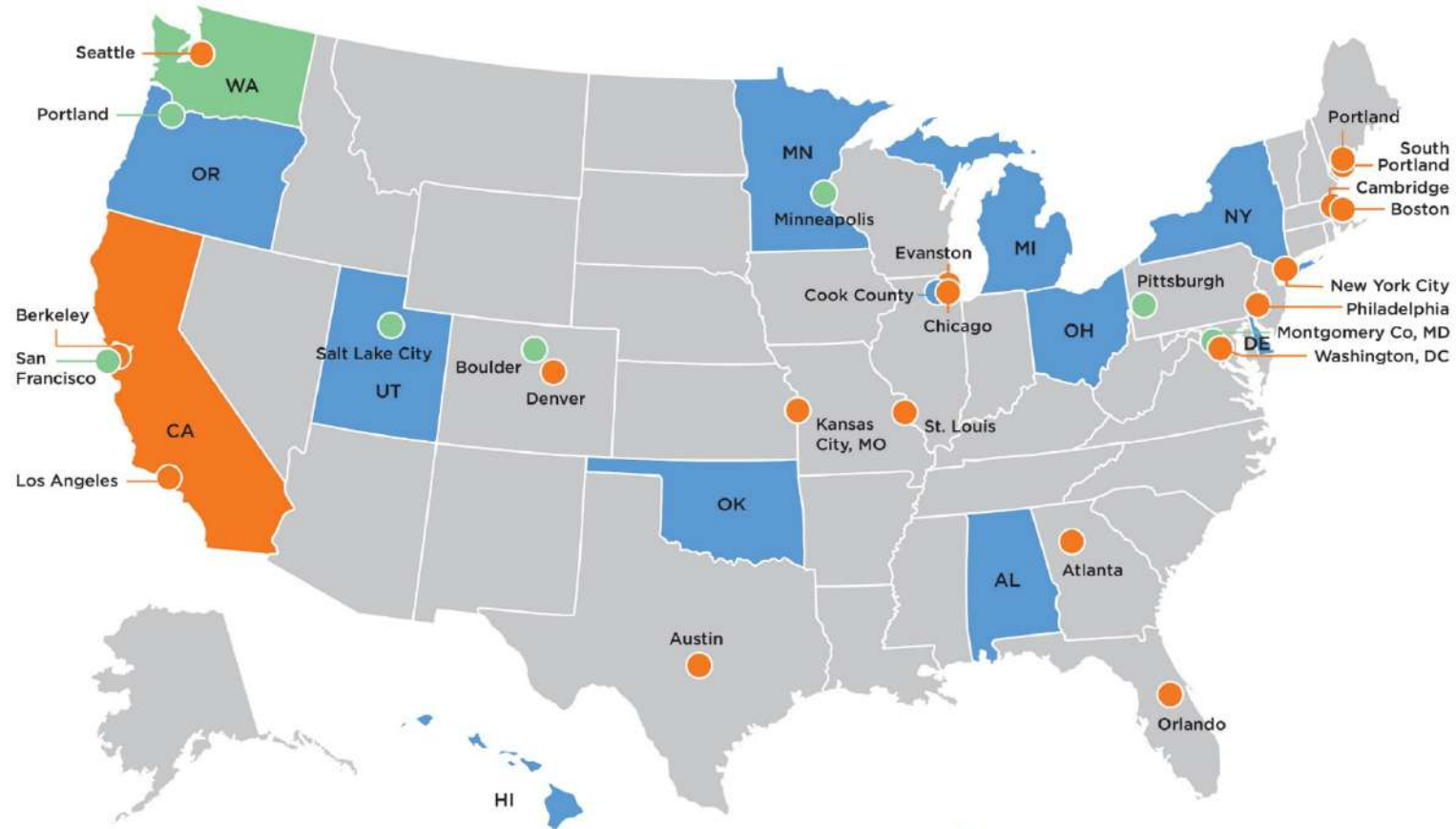
Energy Efficiency



Source: EPA

Data Transparency Across the United States

U.S. Building Benchmarking and Transparency Policies



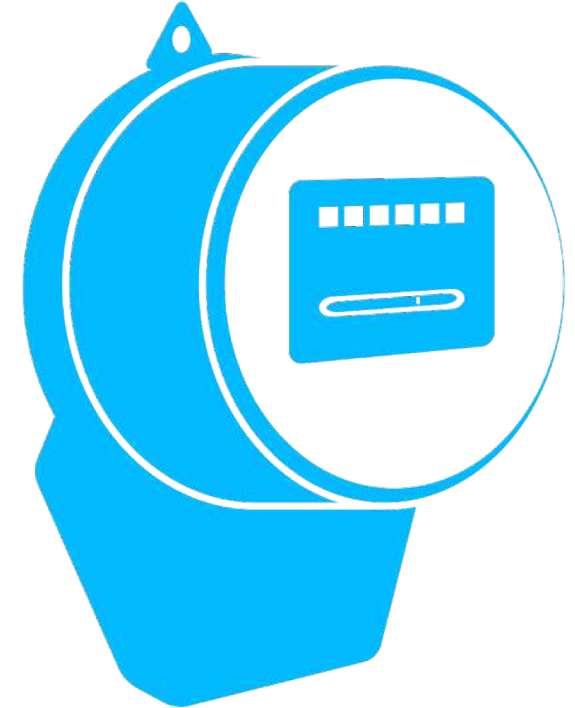
- Public, commercial, and multifamily building benchmarking policy adopted
- Public and commercial building benchmarking policy adopted
- Public buildings benchmarked



Landlord-Tenant Engagement Strategies

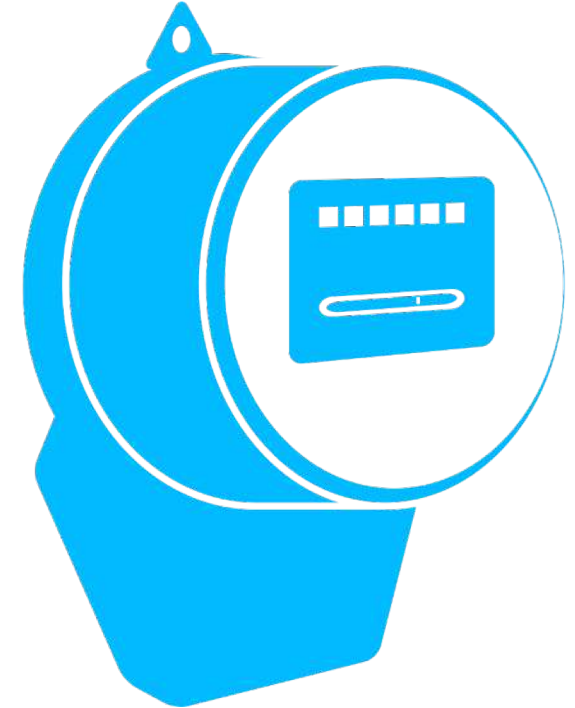
Measuring Your Energy Usage: Metering Options

- **Sub-metered building with multiple tenants**
- **Master metered building with multiple tenants**
 - Tenants pay percentage of total buildings' energy consumption, or landlord sets periodic fee for utility usage
 - Landlord is the utility customer and installed hardware to separately meter each tenant's energy and water usage



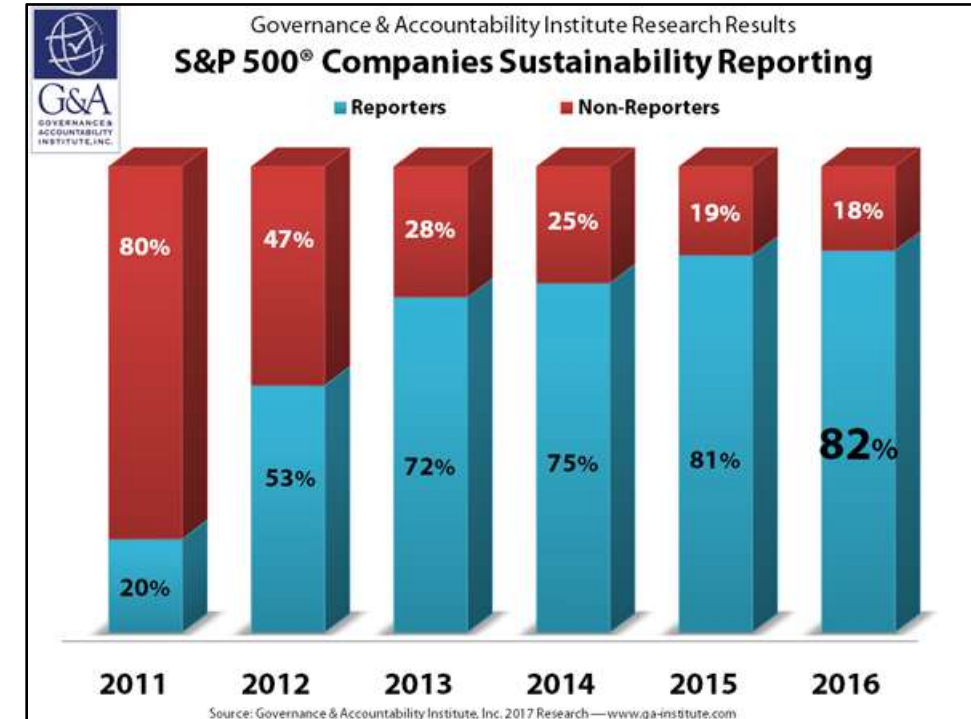
Measuring Your Energy Usage: Metering Options

- **Direct utility customer**
 - Tenant pays utility directly, landlord has no interaction with tenant's utility bill, payment, or transactions
- **Off the grid/NZE**
 - Not feasible in most jurisdictions, very costly and complicated



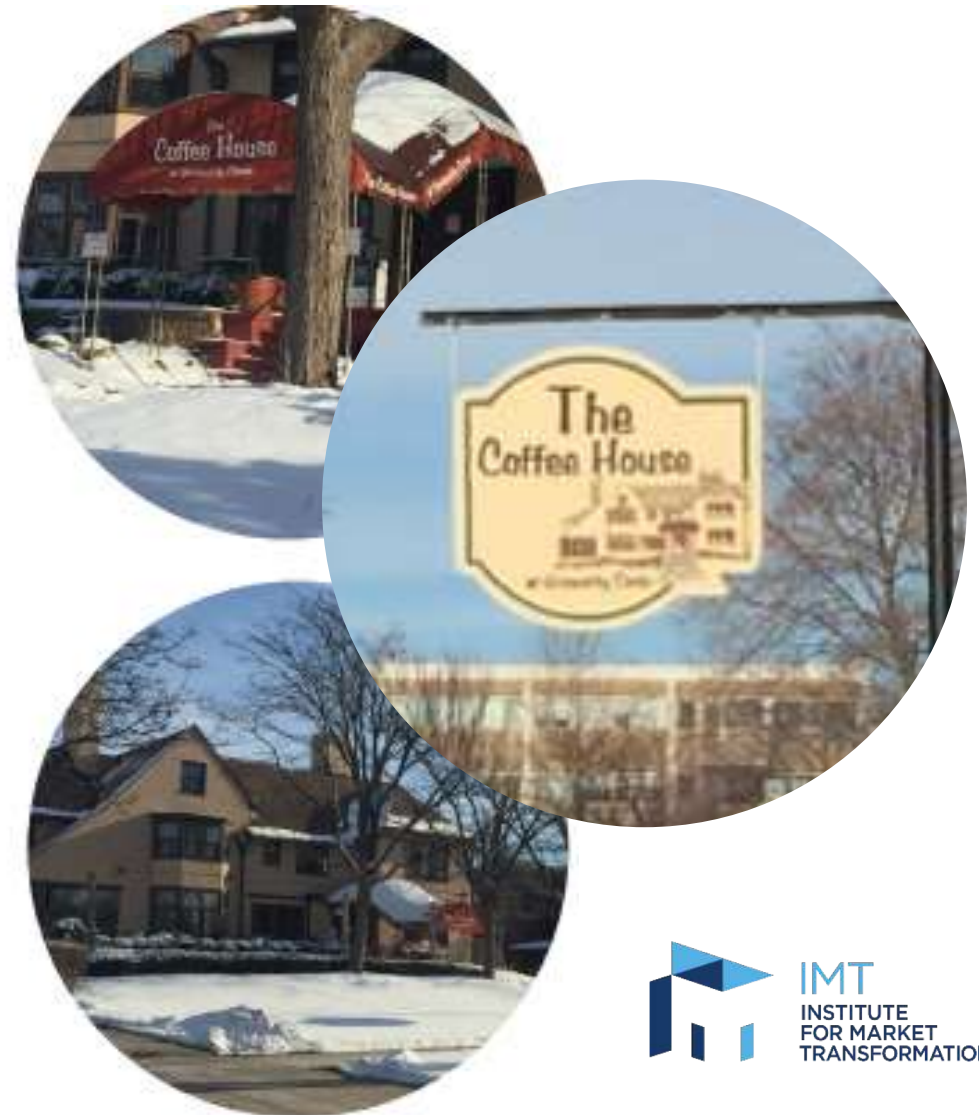
Tenant Engagement Opportunities

- **Submeter vs. master meter**
 - Maximize your savings
- **Efficient Tenant build outs**
 - Use LEED, ENERGY STAR, WELL, Fitwel
- **Maintain efficient operations**
 - Employee education for all departments
- **Increased communication and transparency**
 - Energy use transparency
- **Green/high performance/energy aligned lease**
 - Engage your real estate team



Brewing Up a Plan to Percolate Energy Savings

- Energy audit uncovered **\$2,950** in annual savings (**16%**) with a **2.9 year** payback.
- University Landlord and Tenant agreed to share utility data
- Coffee House was incorporate into campus-wide sustainability plan
- Coffee House and University included clause to ensure that both parties were doing their part to ensure the most sustainable operations.
- Coffee House will upgrade lighting with LEDs, timers and dimers



Landlord-Tenant Energy Partnership (LTEP)

National IMT-led initiative designed to work with landlords and tenants to propel energy and sustainability initiatives forward, overcome the split incentive, and increase communication and cross collaboration.

Engagement

- Test and scale market approaches
- Convene private market leaders
- Test approaches through pilot projects



Tools

- Participant toolkit
- Central information hub and password protected community site
- Industry leader recognition
- Utility incentive program advice



Spotlight on Recognition Programs

How recognition programs can foster tenant engagement

2018's Green Lease Leaders



GREEN LEASE LEADERS

CREATING SUSTAINABLE LANDLORD-TENANT RELATIONSHIPS



Tenant Engagement



Uses a leasing playbook to communicate with tenants about sustainability and energy efficiency



The green lease is rolled out to new tenants via conversations with the property management team and a sustainability welcome package

Health & Wellness



2000 Tower Oaks Blvd, Rockville, MD

- \$180,000 Steel electromagnetic shield as reduce electric and magnetic field radiation.
- Oriented to maximize daylight
- Includes 25,000 SF fitness center

Uses lease clauses to meet Fitwel and LEED standards

Receives positive feedback from tenants by prioritizing health and wellness standards



Innovation in Leasing



MORGAN CREEK
VENTURES

Boulder Commons, Boulder, CO

- Landlord must offset energy use with RECs if over common area energy budget
- Annual retro-commissioning costs are passed on to the tenant
- Solar PV system is expected to save 750,000 kWh/yr or \$150,000

Landlord and Tenant use the lease to meet building-wide net-zero energy (NZE) goals

Tenants are required to stay within an energy budget – if over, tenant must offset overage with RECs



ENERGY STAR Tenant Spaces



- ***Energy Efficiency Improvement Act of 2015***
 - EPA directed to develop recognition for efficient commercial tenant spaces
- **Charter applicants had to meet five criteria:**
 1. Estimate energy use
 2. Meter energy use
 3. Light efficiently
 4. Use efficient equipment
 5. Share data
- **On June 12, EPA announced recognition for almost 50 Charter Tenant spaces**

I'm nowhere near recognition... now what?

- **Use the reference guides and scorecards as your goal setting template**
 - [Greenleaseleaders.com](https://www.greenleaseleaders.com)
 - [ENERGY STAR Tenant Spaces](#)
- **Take a play from the leaders' book**
 - Designate a sustainability contact on both landlord and tenant side
- **Check to see if your landlord already achieved recognition**



I'm nowhere near recognition... now what?

- **Seek out continuing education opportunities**

- Climate Collaborative and other webinars
- Greenbuild 2018 panel – *Energy Efficiency and ENERGY STAR Tenant Spaces in Action: Harmonizing Landlord and Tenant Experiences to Maximize Savings*
- IMT's real estate broker education course





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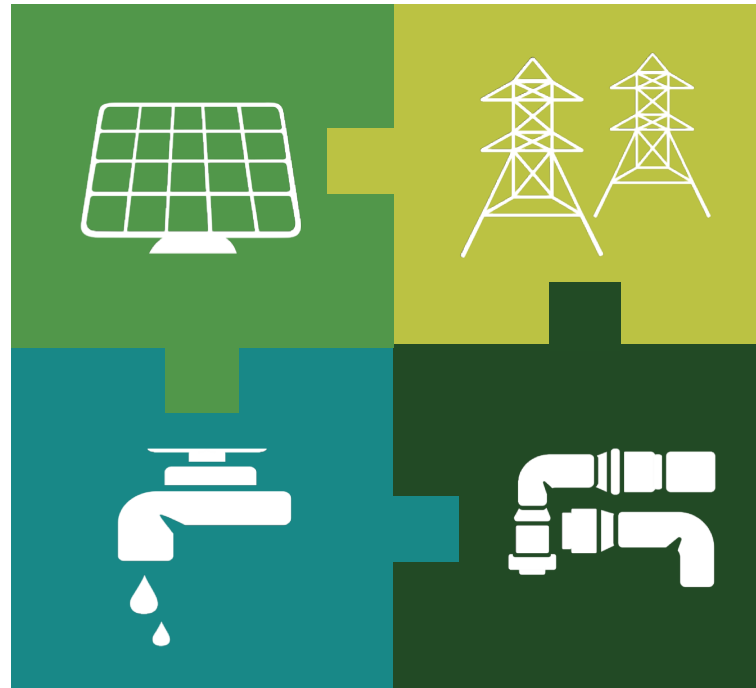
Improving Buildings for Economic and Environmental Sustainability



Comprehensive Approach to Sustainability

SOLAR

WATER CONSERVATION



ENERGY EFFICIENCY

NATURAL GAS



Tenant's Focus on Sustainability



Clean Energy

- Oil-Gas Conversions
- Solar PV & Solar Thermal
- Diurnal Cooling



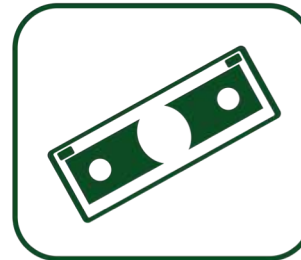
Resource Conservation

- Energy Efficiency
- Water Conservation
- Air Quality Enhancements
- HVLS Fans – Perceived Cooling



Green Fit Out (FF&E)

- Window Films
- Air Curtains
- No VOC Materials
- Demand / Occupant Controls



Funding & Incentives

- Power Purchase Agreements
- Utility Incentives & Environmental Credits
- PACE Financing



Tenant Project Abstracts



MANUFACTURING
Columbia
Manufacturing



NON-PROFIT
Bridgeport
Innovation Center



INSTITUTIONAL
Earthplace



**MULTIFAMILY /
HEALTHCARE**
SSND



Columbia Manufacturing



**200,000 kWh
Grid Power
Reduction**



**Process
Reengineering
(PRIME)**



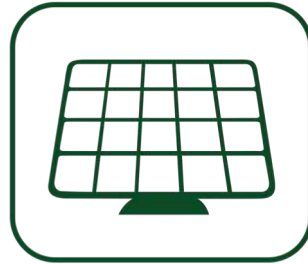
3 Year Payback

Working with MHR Development, Columbia Manufacturing completed a multi-measure energy retrofit and process optimization training (PRIME) to increase efficiency and reduce operating costs. This upgrade improved workforce productivity and increased employee comfort, while reducing annual energy costs by over \$32,000.

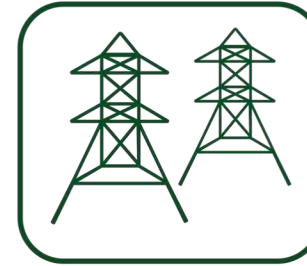
The energy retrofits included power factor correction, LED lighting, high efficiency electric motors, space heating controls, and a refurbished hot zone for the heat treating furnace.



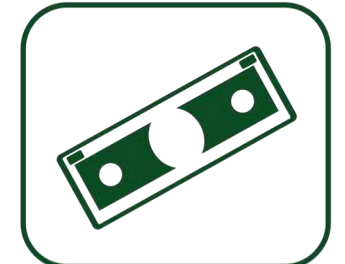
Bridgeport Innovation Center



**200,000
kWh / Year**



**75% Grid Power
Reduction**



**Operational
Savings:
\$63,447 / Year**

BIC introduced the concept of "MakerSpace" in Bridgeport to encourage creativity, teamwork, and entrepreneurialism. BIC recently completed a clean energy upgrade to reduce energy costs, improve occupant comfort, and reduce environmental impact. MHR provided project planning, program management, and structured financing for this project.

The scope included common and individual tenant space upgrades, EnergyStar LED lighting, conversion of antiquated oil boilers to high efficiency natural gas boilers, and a multi-building solar photovoltaic installation.



Earthplace – The Nature Discovery Center



**2.3 TONS OF
CARBON OFFSET
ANNUALLY**



**1,742 GALLONS
OF OIL REDUCED
ANNUALLY**



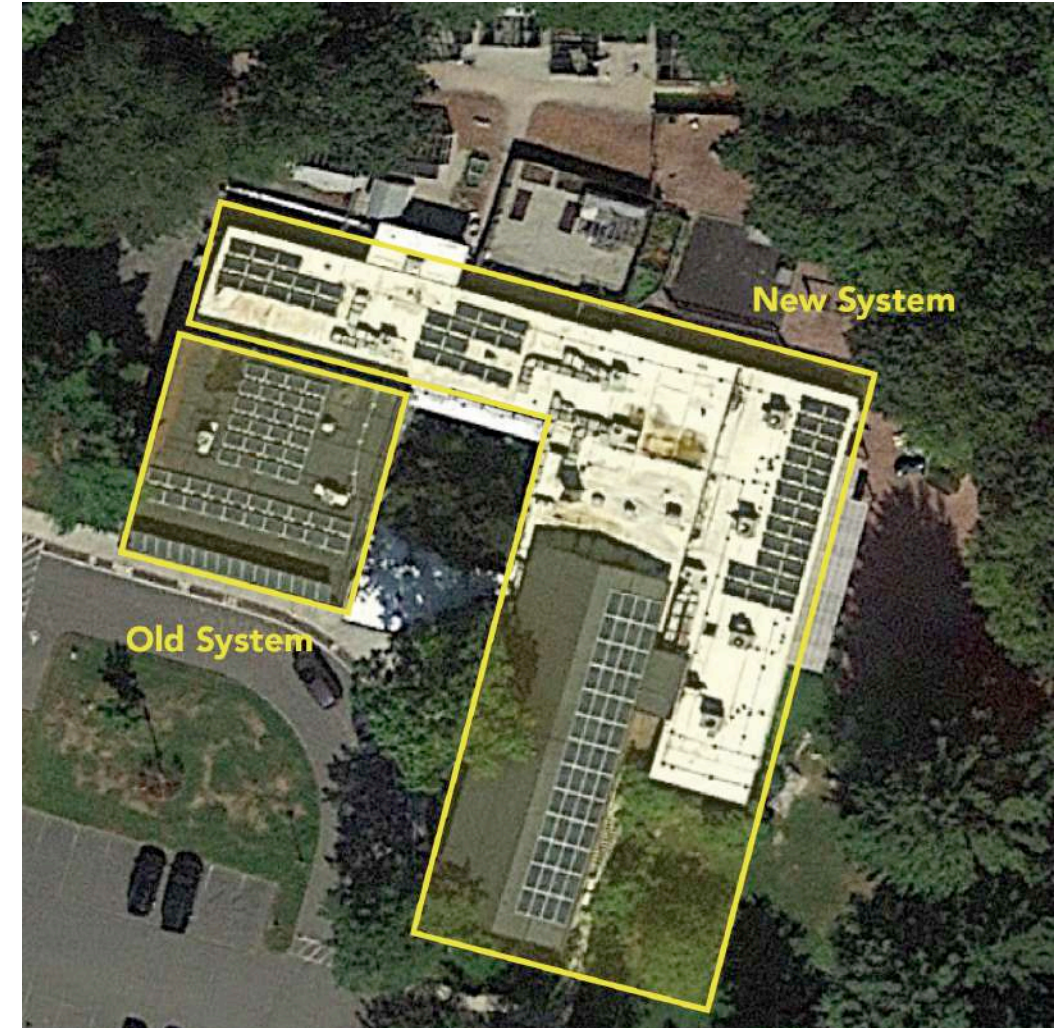
**103,223 kWh
REDUCTION
ANNUALLY**

Recent clean energy improvements at Earthplace will reduce long-term operating expenses while creating a healthier and more comfortable environment for building occupants.

Earthplace completed an ambitious energy retrofit to address: deferred maintenance, creation of new laboratory space, along with various mechanical, LED lighting, and building envelope improvements. The project also included a second roof-top solar system.

Collectively, these energy upgrades will reduce the facility's consumption of grid-supplied electricity by over 50%.

Earthplace – The Nature Discovery Center





School Sisters of Notre Dame



**1,020,000 LBS
OF CARBON
OFFSET
ANNUALLY**



**35%
GRID POWER
REDUCTION**



**50% OIL
REDUCTION**



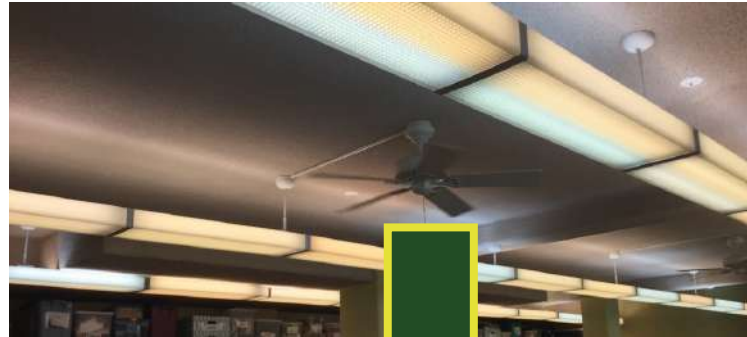
The School Sisters of Notre Dame (SSND) are members of an international congregation of religious women with campuses in 31 countries around the world. Acting on their commitment to environmental stewardship, SSND completed a comprehensive energy efficiency project at their 38-acre campus in Wilton, Connecticut - with the goal of reducing energy consumption by 45%.

LED Lighting (Interior & Exterior)

Energy Savings:
339,441 kWh / YR

Replaced fluorescent lights with LED

- Use about 60% less energy
- Last longer
- Light is directional
- Quieter
- Improved color temperature
- Increased lumens / watt
- Reduced heat output
- Mercury eliminated
- Reduced light pollution (DSC)



Variable Frequency Drives

Energy Savings:
12,027 kWh / YR

Installed Variable Frequency Drives (VFDs)

- More efficient
- Automatically modulates based on air temperatures



Kitchen Exhaust & Fresh Air Controls

Energy Savings:
7,396 kWh / YR

Kitchen Circulation Improvements:

- Easy-to-use touch pad control hood lights, fans, and programming
- Optical sensors
- Temperature sensors
- Air purge units prevent build up of grease and smoke
- Ability to modulate
- Easier controls
- Kitchen air make up hood works with exhaust hood for a highly efficient system



Refrigeration Controls

Energy Savings:
7,509 kWh / YR



Refrigeration Upgrades:

- Reduced time the evaporator runs by 35%
- Ability to modulate
- Refrigeration shuts off during loading and unloading
- Collects usage patterns data
- Alarms if temperature is out of normal range



Steam & DHW Pipe Insulation



Installation of Modulating Dual-Fuel Boilers



School Sisters of Notre Dame

Solar

Insulation
Lighting
HVAC
Water Conservation
Modulating Boilers
Refrigeration Controls

Weatherization





Measurement & Verification

Utility Management

- Redundant Metering
- Dashboards
- Demand Metering / Load Shedding
- Rate Tariff / Class Analysis

Equipment Optimization

- Verified Maintenance Plans
- Retro-commissioning
- Heat Recovery and Co-generation



Energy Efficiency vs. Generation

Conservation

- Plug Load Management
- Controls
- Water Conservation
- Window Films & Insulation
- Refrigeration & Exhaust Air Controls
- Commissioning
- Diurnal Cooling
- PRIME

Renewable Energy Generation

- Renewable Energy Generation
 - Solar
 - Geothermal
 - Wind
- Procurement of Energy
- Renewable Energy Credits



Years to Payback (ROI)

Measure	Payback Period (Years)
• LED Lighting with Controls	2 - 5
• Water Conservation – a double hit	3 - 6
• Window Films & Insulation	2 - 5
• Refrigeration & Exhaust Air Controls	4 - 7
• Commissioning	2 - 3



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