

# RTEM + Tenants: Energy Management for Leased Spaces

This webinar, presented by ASHRAE NYC and BE-Ex, will provide an overview of the NYSERDA program, including the tenant engagement requirements and available incentives to support technology deployment and consulting services. The webinar will feature a real life case study of the benefits of energy management, including a detailed look at tenant engagement initiatives to lower energy costs and comply with local laws.

**Moderator:**

**Michael Daschle, Vice President of Operations, Brookfield Properties**

**Speakers:**

**Thomas Yeh, RTEM Advisor, NYSERDA**

**Dana Schneider, Senior Vice President, Director of Energy and Sustainability, Empire State Realty Trust**

**February 17, 2022 | 12 to 1pm | 1 AIA LU**  
**Building Energy Exchange | [be-exchange.org](https://be-exchange.org)**



New York  
Chapter

**be  
ex**

building  
energy  
exchange



**NYSERDA**

# **RTEM + Tenants**

**Promote Owners and Tenants Collaboration**

# Why Engaging Tenants in Energy Efficiency?

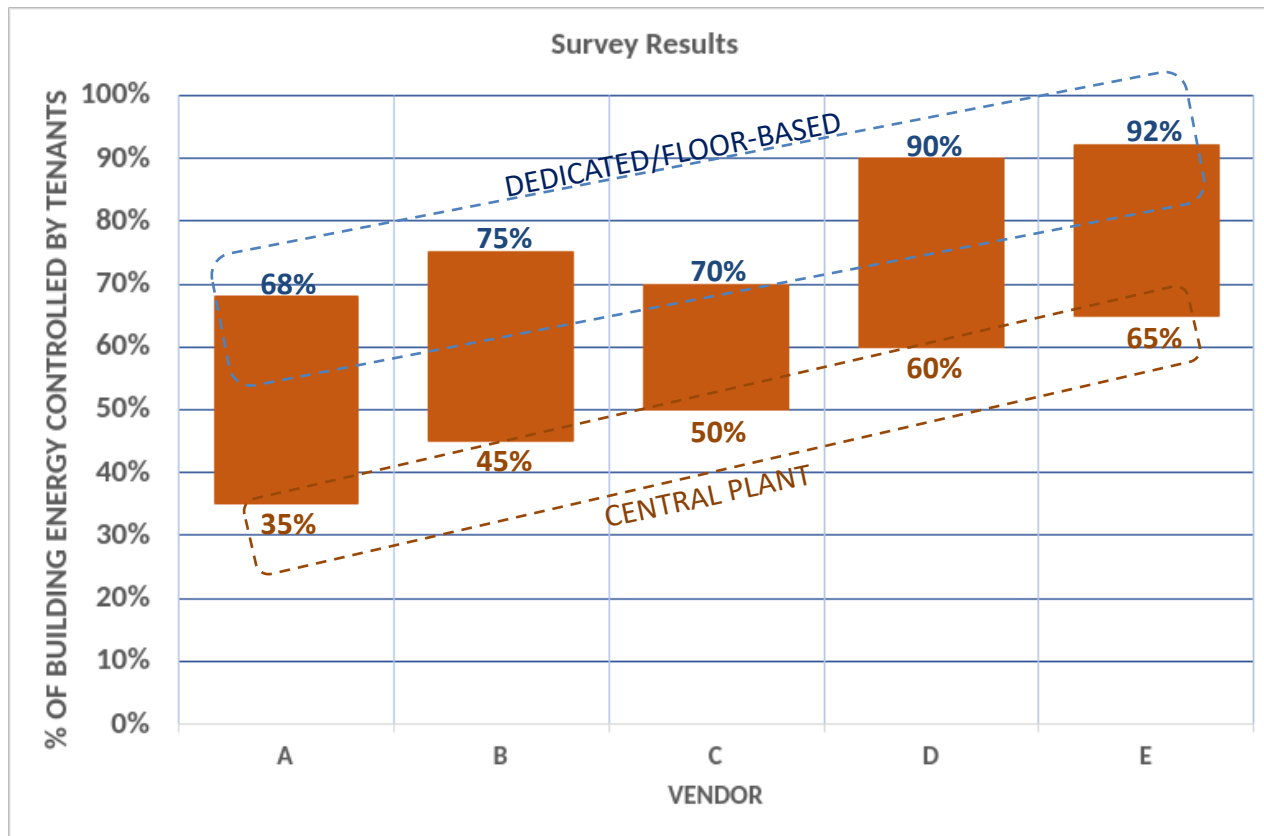
- Tenants' participation is crucial to unlocking all the savings potential and achieving lasting energy and emissions reductions
  - Tenant loads are a critical opportunity to comply with NYC local laws
  - Responsive to Tenants with corporate ESG Initiatives
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- Split Incentives can be a barrier to cooperate on upgrades
  - Constrained by insufficient insight, expertise and resources

The RTEM + Tenants Program aims to support the collaboration of a Building's Owners and Tenants to save and decarbonize energy usage





# Tenants' Control over Energy Consumption



To all intents and purposes, it is 100%!

# **NYSERDA Assistance:**

## **Cost Sharing 33%**

- Turnkey RTEM system
- 1-3 years of RTEM service
- Cap \$400,000 per building
- Portfolio cap of 10% total incentive pool (\$2.5MM)

# **NYSERDA Assistance:**

## **Qualified Vendors**

- Vetted for Threshold Capabilities
- Responsible for all Deliverables
- Receive RTEM Incentives Directly
- Participate in Ongoing QA/QC

# **NYSERDA Assistance:**

## **Resources**

- Success Stories
- Guides
- Ask RTEEM (Almost Anything)
- Knowledge Center (Coming Soon)

# If You've Never Heard of RTEM...

NYSERDA uses Real Time Energy Management (RTEM) as a name to describe the integration of **hardware, software, cloud computing, and ongoing services** to gain visibility into the live environment and operations of energy-consuming and energy-producing equipment/plant

## RTEM System

- Starts at baseload energy equipment and BAS integration
- Expands to whole-building utility meters, sub-meters, tenant equipment, and IoT field devices

## RTEM Service

- Leverages cloud-based analytics and human technical experts to identify and prioritize energy conservation measures
- Provides continuous commissioning and ECM recommendations for persistent savings





# RTEM + Tenants Incentive Scope

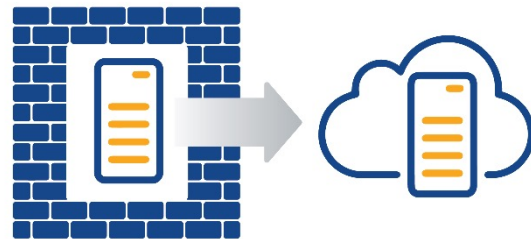
## Required **Whole Building Systems** Real-Time Monitoring:

- Interval metering of 75% of a building's total consumption of utility-supplied energy
  - All applicable building-level utility meters (e.g., electric, natural gas, steam, water)
- Power Quality Meter to monitor grid power quality
- Whole building level occupant (entering minus exiting) counting (e.g., main lobby)
- Disaggregation and visualization of energy consuming loads by end use, either by analytics or direct monitoring
- Real-time submetering of 75% or more of leased tenant spaces by square footage, with two tenants receiving services



## Additionally, **Incentive Available** to Enable Tenant Spaces to Participate:

- Disaggregated electricity consumption into major end-uses
  - Direct metering of equipment
  - Integration of air quality sensors, temperature sensors, and control devices
  - Occupancy counting by floor/space (e.g., elevator lobby)
  - Integration with Tenant Engagement App
- 
- Innovative IoT, sensors, and user interfaces can be included if integrated with the RTEM System



# Why is RTEM helpful - Visibility

Leverage the RTEM approach creating a healthy, comfortable, and sustainable environment for the tenants

- **Tracking / Benchmarking** performance over time allows for confidence that your space is achieving efficient operations without degrading comfort
- **Fault Detection and Diagnostics** detect and prioritize anomalies and wasteful conditions for resolution
- **Real-time Occupancy Monitoring** optimize equipment/plant scheduling to minimize consumption while satisfying lease conditions



# Why is RTEM helpful – Showcasing Wellness

- Optimize air change rate and air flow to ensure sufficient fresh air for occupancy while minimizing unnecessary treatment and conditioning of outside air
- Monitor filter pressure drop for as-needed replacement maintaining filter performance and avoid unnecessary cost
- Integrating air quality sensors to monitor air pollutants such as carbon dioxide, monoxide, ozone, particulate matter, ensuring filters, germicidal measures, air changes and air flows satisfy requirements



Wellness, comfort, & productivity



Occupant behavior change



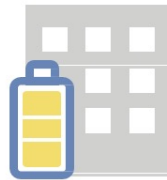
Attract and retain tenants

# Why is RTEM helpful - Sustainable and Efficient

- Monitoring building equipment performance ensures occupant comfort while avoiding operational stray
- Optimizing the scheduling and use of building equipment and plants to reduce energy waste and protects equipment life
- Insights on when building uses energy by end-uses is needed to inform strategies for reducing demand charges and avoid on-peak consumption
- Forecasting load shapes identifying grid-responsive measures to supports grid resiliency



Reduce energy waste



Avoid on-peak  
consumption and  
demand charges



Ongoing  
Commissioning



NYSERDA

# Engaging Tenants about Energy is a Journey!



# Get Started

Visit

[WWW.NYSERDA.NY.GOV/ALL-PROGRAMS/REAL-TIME-ENERGY-MANAGEMENT](http://WWW.NYSERDA.NY.GOV/ALL-PROGRAMS/REAL-TIME-ENERGY-MANAGEMENT)

Email

[RTEM@NYSERDA.NY.GOV](mailto:RTEM@NYSERDA.NY.GOV)

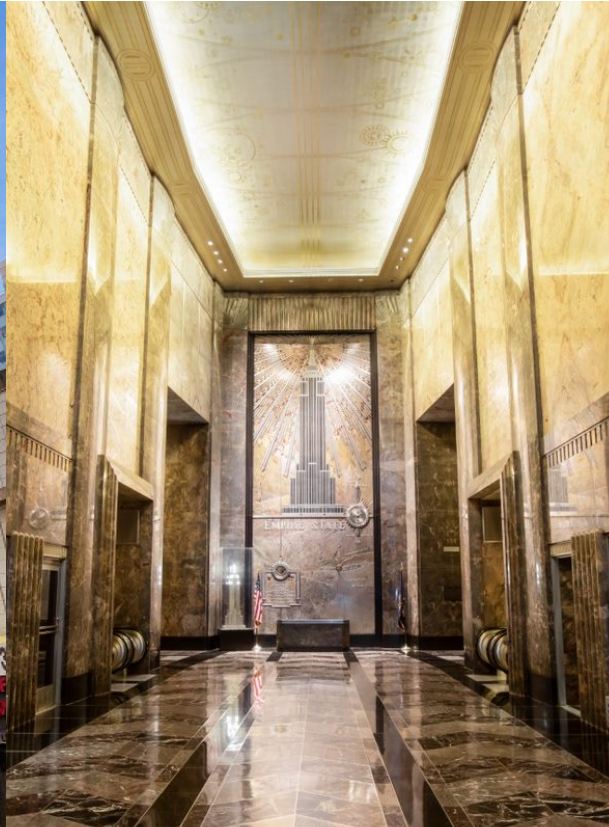




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# Empire State Realty Trust

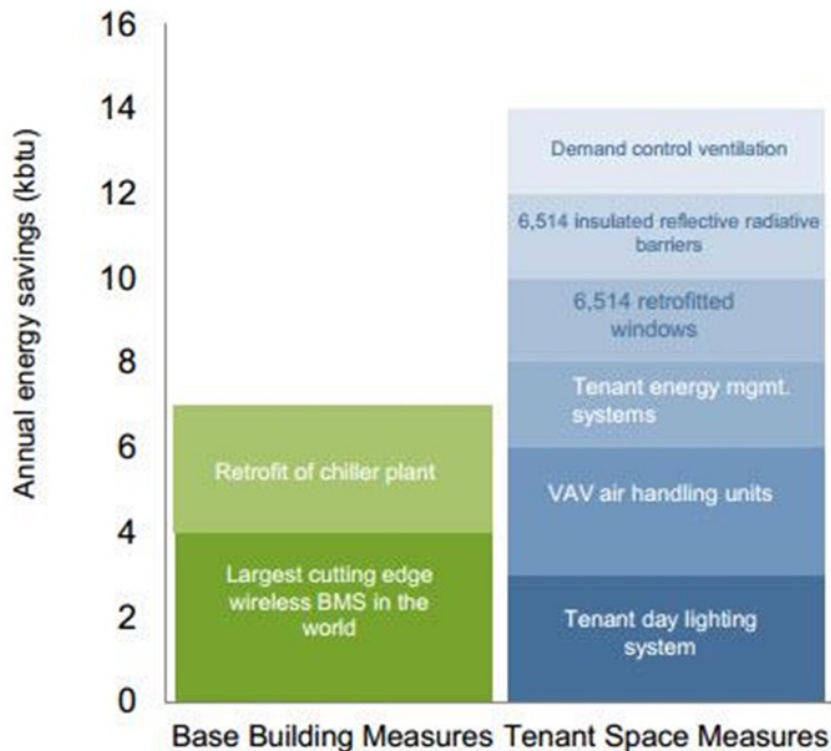
# About Empire State Realty Trust



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- Groundbreaking ten-year retrofit of Empire State Building (ESB) reduced energy use by 40% and greenhouse gas emissions by 54%.
- These sustainability investments with proven ROI have attracted tenants like LinkedIn, Shutterstock and Coty.
- ESRT targets net-zero carbon emissions for ESB by 2030 and portfolio wide by 2035.
- Reaching these targets requires active tenant engagement, collaboration, and lease requirements

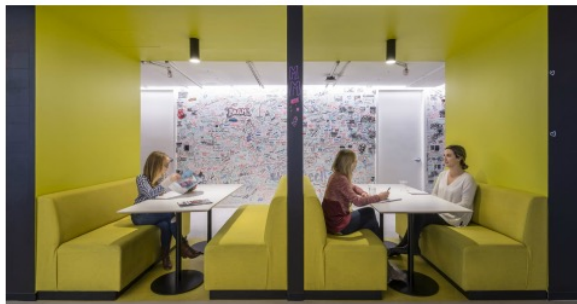
# Measuring the Impact of Tenant Energy Efficiency Measures



# Tenant Success Stories



## ULI Tenant Energy Optimization Program



By installing high-efficiency lighting and plug load controls, LinkedIn has reduced its energy consumption by over 30% at its Empire State Building office space in New York City.

[Read this case study](#)



NYSERDA implemented this process in its own office to showcase the value of incorporating energy efficiency into design and construction. In doing so, the agency identified measures to reduce its energy consumption by nearly 40%.

[Read this case study](#)

[tenantenergy.uli.org](https://tenantenergy.uli.org)

**EMPIRE STATE**  
REALTY TRUST

# RTEM + Tenants: Challenges

- Qualified service providers
- Proven technologies
- Innovation lags need



# How ESRT Will Benefit from RTEM + Tenants

- Incentive offsets cost of research and development
- Ability to evaluate new technologies
- We cannot optimize our buildings without the tenants
- Focus on tenant energy management



# discuss.

send questions via Zoom Q+A

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thank you.



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