



Virtually Proven: Technology-based Solutions for Remote Energy Management

October 14, 2021

ENERGY STAR Learn From the Best
Webinar Series



Partner of the Year Award

- ✓ Excellence in Energy Management
 - Robust energy management practices & program
 - Address all areas of the ENERGY STAR Guidelines for Energy Management
 - Help define best practices
- ✓ Leverage ENERGY STAR tools
- ✓ Excellent internal & external communications
- ✓ Active in the Partner community
- ✓ Strong energy performance
- ✓ Awarded annually



[Energystar.gov/awards](https://energystar.gov/awards)

Applications are now open and due on December 7th!

Today's webinar

- Features ENERGY STAR Partners sharing their experience using technologies for remote energy management during the pandemic
- Technologies used range from video calls to video goggles and many uses such as allowing for remote energy assessments to be conducted, providing training for staff without experts having to travel on-site, and allowing more team members to participate in problem solving of energy management issues
- Speakers will discuss how they've used technologies in offices buildings, multifamily properties, and in industrial facilities, but the concepts can be applied to other property types

Today's Speakers



- **Jeff Stewart**, Senior Energy Consultant at Sustainable Investment Group



- **Mat Lindquist**, Principal Engineer at RE Tech Advisors



- **Jeff Kamenski**, Technology Leader for Georgia-Pacific's Corporate Engineering Group

**WEBINAR: VIRTUALLY PROVEN:
TECHNOLOGY-BASED
SOLUTIONS FOR REMOTE
ENERGY MANAGEMENT**



INTRODUCTION

Jeff Stewart

Associate Director of Energy – Existing Buildings
ENERGY STAR Team Lead

PE, BCxP, LEED AP ID+C, O+M



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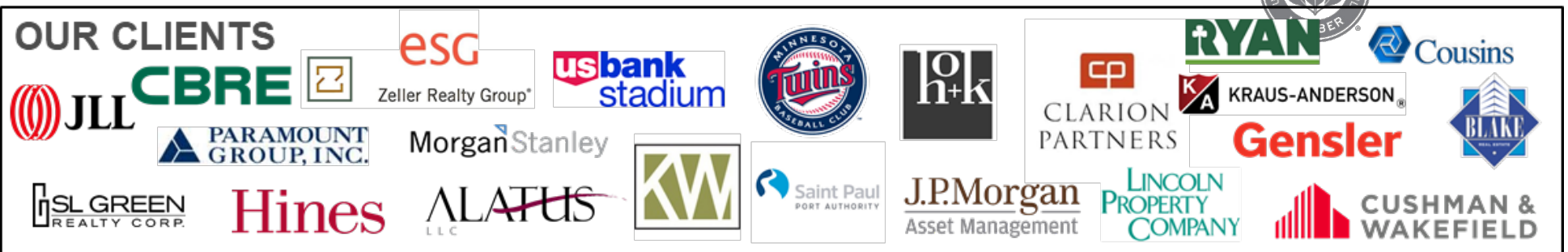
Atlanta, GA | Boulder, CO | Los Angeles, CA | Minneapolis, MN | New York, NY | San Francisco, CA

Consulting

- LEED Consulting (BD+C, ID+C, O+M)
- WELL Consulting
- Fitwel Consulting
- Gap Analysis & Feasibility Studies
- Corporate Sustainability Reporting
- ESG Reporting (GRESB, GRI, CDP, TCFD, SASB)
- Exam Prep (LEED Green Associate, AP, WELL AP)
- Waste Audits
- Specialty Services (see website for details)

Engineering Services

- Energy Modeling
- Commissioning (Cx)
- Retro-Commissioning (RCx)
- ENERGY STAR and City Ordinance Benchmarking & PE Sign-off
- ASHRAE Level I-II Energy Audits
- Indoor Air Quality Testing
- Daylight Modeling
- Local Law Compliance

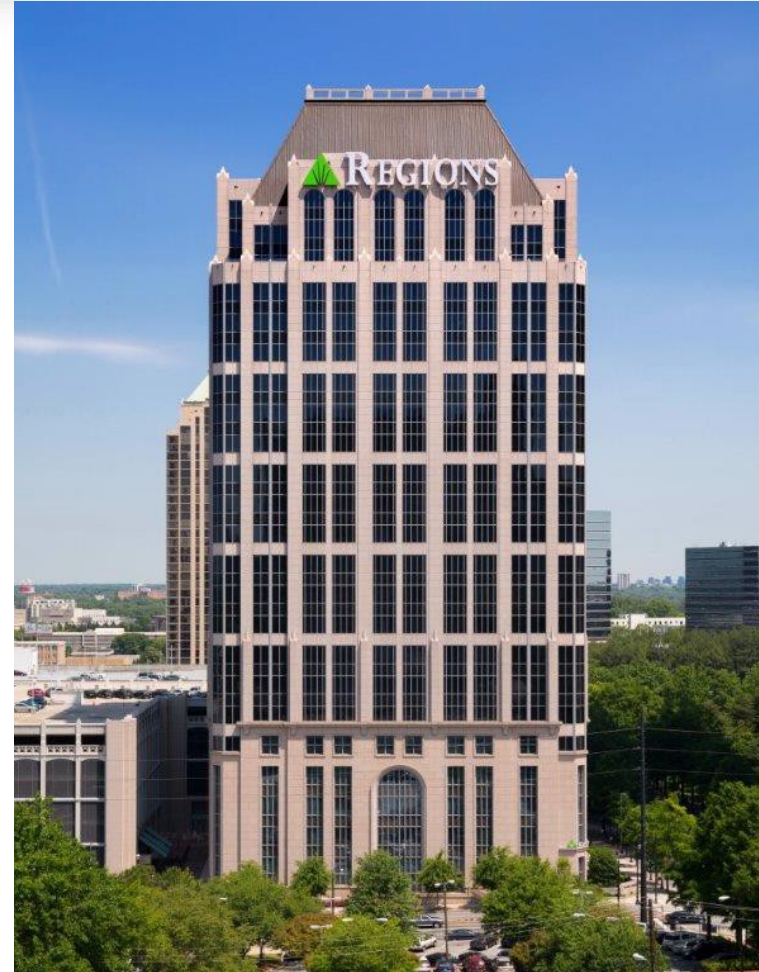


PRE-PANDEMIC WALKTHROUGH PROCESS

- Conduct a walkthrough at the eligible property on a sampling of floors and space types
- Take indoor air quality measurements including temperature, relative humidity, light levels, and fresh air volume serving the sampled floors. Energy meter locations were also reviewed.
- Any measurements found to be outside of normal ranges were brought to the attention of the property team to address during the walkthrough
- Any issues requiring further correction after the walkthrough were followed up on prior to submittal

PRE-PANDEMIC WALKTHROUGH PROCESS

- Regions Plaza – Atlanta, GA
- Office Building. Spaces measured included office areas, conference/training rooms, break rooms, and reception areas.



PRE-PANDEMIC WALKTHROUGH PROCESS

- Uncommon Fort Collins– Fort Collins, CO
- Multifamily property. Spaces measured included multiple residential units, the leasing office, and amenity areas.



CHALLENGES TO PERFORMING WALKTHROUGHS DURING A PANDEMIC



- Restricted travel out of state/country
- Lower onsite occupant counts
- Owners/Managers restricting building access to outside parties
- Tenants restricting access to their spaces/floors
- Providing negative COVID-19 test result within small timeframe
 - Finding locations that can provide COVID-19 testing

ONSITE WALKTHROUGH AND VERIFICATION



- When not feasible for SIG to go onsite, we shipped our testing equipment directly to the property.
- A video conference call was held with the property manager and chief engineer to go through each piece of equipment and its uses. This was conducted using WebEx, Microsoft Teams, and GotoMeeting.
- SIG sent testing forms for the onsite teams to complete, and the protocol was discussed during the video call.
- SIG also conducted video calls where the Chief Engineer shared screens to display the Building Automation System

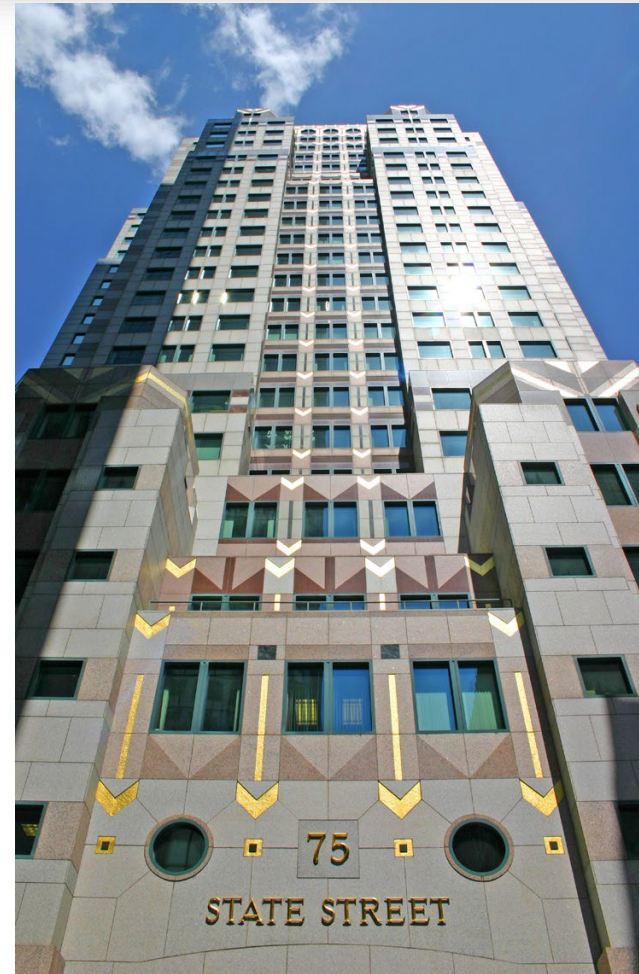
PANDEMIC WALKTHROUGH PROCESS

- 999 Peachtree – Atlanta, GA
- Engineering team was provided with testing equipment and guided on how to use.
- Engineer shared screen of BAS during video call



PANDEMIC WALKTHROUGH PROCESS

- 75 State Street—
Boston, MA
- SIG conducted onsite
walkthrough
- Multiple floors
walked where
allowed following
temperature checks
and verification of
recent negative
tests.



PANDEMIC WALKTHROUGH PROCESS

- 6195 Lusk—
San Diego, CA, GA
- Testing equipment was mailed directly to the building
- Property team conducted onsite testing after a video call to go through the protocol.



CHALLENGES



- Packages with testing equipment not arriving at proper destination or lost
- Different person conducting testing and walkthrough than original with.
- Measurements outside of normal ranges that required additional investigation

SUCCESSSES



- Properties were still able to diagnose IAQ issues where found during the testing process.
- During follow up discussions, some properties discussed additional energy efficiency measures to implement based on testing results.
- SIG will continue to conduct onsite walkthroughs if feasible as part of our service, but we will offer this method of verification if not feasible to get onsite.

THANK YOU

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ENERGY STAR Team Lead

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Best Practices for EiB Deployment

- Property needs a **maintenance team** available
- Property needs a **BAS service contractor**
- An **engaged** and **responsive** team is critical
- Ability to **quickly implement** fixes identified with **EiB**



RE Tech commissioned the entire controls system of a new **315,000 square foot** expo center using **EiB** early in the pandemic. It worked extremely well.

- Project started in 2019
- RE Tech joined the project team during the design phase at the owner's request
- Expected completion by the end of 2020
- Functional testing June through November 2020

- EiB facilitated faster more productive testing sessions
- Allowed for commissioning to continue despite travel obstacles
- Effectively identified issues and communicate them to project team and owner
- Video documentation available to show owner and project team
- Lesson learned: Full remote commissioning was hard, a hybrid approach works better and combines the best of both worlds

EiB has been used to ensure a quality installation of a property's new chillers, in the absence of standard commissioning.

- Site was remote, RE Tech had longstanding relationship with client
 - Client had engaged a manufacturer and local mechanical contractor to replace the chillers
 - This is an emergency replacement project
- EiB allowed us to review the installation on a continuous basis
 - Problems were identified and corrected prior to system and piping installation. If they had been left uncorrected, they would have permanently impacted operations and performance
 - Piping issues
 - Poor control sensor location
 - Access issues

EiB has been used to connect with two properties to virtually verify their application for ENERGY STAR® certification.

- Logistics client needed to benchmark 2,800+ industrial and distribution warehouses
- Properties in the top 25% among peers were identified for ENERGY STAR® certification

- Professional Engineer (PE) held a virtual walk of the space with the property's engineer directing the property engineer to inspect equipment, systems, and features of the building
- Measurements were taken to confirm indoor air quality, thermal environmental conditions, and illumination
- Gathered data was confirmed with EiB immediately

In conjunction with a **BX9** Review, **EiB** was able to verify a number of leaking chilled water, hot water, and steam valves, failed temperature sensors, and non-functional dampers

- BX9 is a remote analytics process
- EiB has been used to support implementation of corrective actions and troubleshooting
- Third part verified corrections for management

- Used to pinpoint specific corrective action when symptoms have multiple possible causes
 - Leaking valve vs leaking damper
 - Controls issue vs mechanical issue
- Verify corrective actions have been properly implemented
 - Control valves/ dampers opening per sequence
 - Steam trap repair
- Avoid costly travel and develop relationship and trust with property team

Upcoming ENERGY STAR Award Winner Webinars

November 9 @ 1PM EST **Dive into water and waste savings strategies from BOMA's W2 Challenge Champions**

December 9 @ 1 PM EST **Working Together to Save Energy: Employee Engagement Strategies**

Register here:

https://www.energystar.gov/buildings/training/learn_best

Upcoming Industrial webinars

Wed, Nov 17th 12-1 PM EST

Paper and Petroleum

Speakers:

- Georgia Pacific's Brewton, Alabama containerboard mill
- Marathon Petroleum Corporation's Robinson, Illinois Refinery

[Register here](#)

December 9 @ 1 PM EST

Bakeries

Speakers:

- Weston Foods' ACE Gaffney, South Carolina
- Winnipeg, Canada commercial bakeries



Questions?

