Healthcare Sector Meet-up

Wednesday August 22\textsuperscript{nd}, 2018
4:00pm – 5:30pm
AGENDA

4:00 PM – 4:05 PM Welcome and Introductions
4:05 PM – 4:10 PM Sector Overview and Partner Recognition
4:10 PM – 4:25 PM Program Engagement Opportunities
4:25 PM – 4:35 PM Sector Priorities and Highlights
4:35 PM – 4:50 PM Retail Industry Leaders Association’s Financial Literacy
4:50 PM – 5:20 PM Open Discussion and Brainstorm
5:20 PM – 5:25 PM Navigating the Better Buildings Summit
Welcome and Introductions

Nate Allen
Healthcare Sector Lead,
U.S. Department of Energy

Allison Nozza
Healthcare Account Manager,
RE Tech Advisors

Erin Hiatt
Director of Energy, Sustainability & Research
Retail Industry Leaders Association (RILA)

Linda Sandahl
Energy Policy & Economics Group Program Manager
Pacific Northwest National Laboratory (PNNL)
Sector Overview and Partner Recognition
Better Buildings Healthcare Sector

PARTNERS

- Abbott Northwestern Hospital
- Ascension
- Baptist Memorial Hospital Desoto
- Beaumont Health System
- Catholic Health Initiative
- CentraCare Health
- Cleveland Clinic Foundation
- DaVita
- Defense Health Agency
- Guam Memorial Hospital Authority
- Gundersen Health System
- Hackensack University Medical Center
- HealthSouth
- Kaiser Permanente
- Legacy Health
- Mayo Clinic
- Montefiore Medical Center
- NewYork-Presbyterian Hospital
- Oregon Health & Science University
- Summa Health System
- University of Maryland Medical Center
- University of Nebraska Medical Center
- UPMC: University of Pittsburgh Medical Center
- University of South Alabama Medical Center
- University of Utah Health Care
- UW Health
- Welltower

BOLDED partners are in the Better Buildings Challenge

42 UNIQUE SECTOR PARTNERS
9 CHALLENGE PARTNERS
33 ALLIANCE PARTNERS

490 MILLION SQUARE FEET

12 TRILLION BTU ENERGY SAVINGS SINCE 2011

$119 MILLION SAVED SINCE 2011
Thank you Healthcare Steering Committee Members!

- Richie Stever, University of Maryland Medical Center (Co-chair)
- Ken Hansen, University of Maryland Medical Center (Co-chair)
- Corey Zarecki, Gundersen Health System
- Edna Lorenz, Beaumont Health System
- Jon Utech, Cleveland Clinic Foundation
- Kyle Tafuri, Hackensack Meridian Health
- Mary Evers Statz, UW Health
- Pat Lydon, Legacy Health
- Shea Jameel, Welltower
Congratulations Goal Achievers!

- 3.2% average annual EUI improvement
- 22% EUI improvement from 2008 baseline

ASCENSION

- 24% EUI improvement from a 2013 baseline
- Re-pledged: 34% EUI improvement by 2027 from a 2013 baseline

UW Health
Program Engagement Opportunities
Smart Labs Accelerator (SLA) – Interested in healthcare participants

Goals

- Demonstrate best practice approaches
- Develop recommendations for post-Accelerator next steps
- Identify code-related barriers and develop recommendations for change
- Detail no-and low-cost energy saving practices
- Advance industry-driven guidance on metering and benchmarking
- Advance industry-driven guidance on metering and benchmarking

If all laboratory buildings in the country improved energy efficiency by 20%, annual energy savings could:

- Reduce 40 trillion BTUs
- Avoid $1 billion in cost

For more information:
https://betterbuildingsinitiative.energy.gov/accelerators/smart-labs
## SLA Goals & Timeline

<table>
<thead>
<tr>
<th>Participant Goal:</th>
<th>At least 20% energy reduction over portfolio of laboratory buildings in 10 years or less</th>
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<tbody>
<tr>
<td>Participant Sub-Goal:</td>
<td>At least 5% energy reduction in one laboratory by the end of the accelerator</td>
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<tr>
<td>Participant Commitments:</td>
<td>Submit data, develop a Smart Labs Program Roadmap</td>
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<td>DOE Commitments:</td>
<td>Develop a Smart Labs Program Toolkit, develop and conduct trainings, update Labs21 benchmarking tool</td>
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<td>Participant Engagement:</td>
<td>Monthly webinars, quarterly calls, special events</td>
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### Timeline:
- **Sept-16**: Announced
- **Mar-17**: Start Date
- **Dec-18**: Draft Roadmap
- **Jun-19**: Final Roadmap
- **Aug-19**: On-Demand Training
- **Feb-20**: End Date

### Phases:
- **Phase 1: Enroll Partners**
- **Phase 2: Refine Barriers and Solution Sets**
- **Phase 3: Implement Solution Sets**
- **Phase 4: Share Lessons Learned**

### Existing Partners
- University of California Irvine
- University of Illinois (Chicago)
- University of Minnesota
- University of New Hampshire
- Colorado University (Boulder)
- Los Alamos National Laboratory
- Pacific Northwest National Laboratory
- Lawrence Berkeley National Laboratory
- National Renewable Energy Laboratory
- The Association for Advancement of Sustainability in Higher Education*

### Recently Joined Partners
- USDA ARS – Edward T. Schafer Agricultural Research Center
- GSA – FDA Bothell Laboratory
- Wesleyan University
- Emory University
- University of California Irvine Health
- International Institute for Sustainable Laboratories*

*Affiliate partners
Lighting and Electrical Technology Research Team

- Team conference calls
  - Topics include lighting controls research, demonstration opportunities, campaign updates
  - End users can share goals or needs
  - Quarterly: next is September 13, 2018

- PNNL available for technical assistance

- Development of technical specifications
  - LED surgical light
  - Parking lots & structure lighting
  - High efficiency troffers

Through the Lighting and Electrical Technology Research Team, partners work together to reduce lighting energy use by sharing cost-effective solutions to interior and exterior lighting challenges and developing lighting specifications to build confidence and demand for higher efficiency technology.
Interior Lighting Campaign
Interior Lighting Campaign

Recognition and guidance initiative to help facility managers take advantage of savings opportunities from high efficiency interior lighting solutions

- **Get recognized**
  - Join the Campaign and get recognized for your achievements
  - Recognition to sites that demonstrate exemplary performance

- **Take advantage of high efficiency lighting resources and free technical assistance**
  - Lighting system applications supported: troffers, high bay, low bay, suspended linear, lighting controls

- **We’re on a roll!!**
  - So far, over 2.8 million existing troffers to high efficiency LED systems
Interior Lighting Campaign

**Tools and Resources**

- **Website**
  - www.interiorlightingcampaign.org
- **Specifications**
  - High Efficiency Troffer Specification
- **Utility Incentives**
  - Troffer Lighting Incentives Database
- **Calculation Tool**
  - Lighting Project Evaluator
    - 182 projects to date; 222 users to date
- **Reports**
  - Standard M&V Plan for Lighting Retrofits
Interior Lighting Campaign

Tools and Resources (continued)

- Fact Sheets
  - Better Buildings High Efficiency Troffer Lighting
  - Upgrading Troffers to LED
  - Wireless Occupancy Sensors Application Guide published by FEMP

- Case Studies and Demonstration Results
  - ILC Sites recognized for exemplary performance
  - GSA Green Proving Ground Demonstrations
  - DesignLights™ Consortium Demonstrations
Interior Lighting Campaign 2018 – Overall Results

- 2.8 million fixtures installed
- $68 million in savings
- 15 organizations recognized
- 54% average savings
Interior Lighting Campaign 2018

University of Utah - Health
- Highest Percentage of Annual Energy Savings for Lighting New Construction – Large Project
  - 113,000 kWh annual energy saved
  - 48% energy savings compared to code

Beaumont Health
- Exemplary Healthcare Site
  - 2.2 M kWh annual energy saved
  - 54% energy reduction compared to existing use
Lighting Research & Support
Lighting is the largest input into circadian system

Tunable lighting being evaluated by DOE in healthcare facilities

Lighting is largest electricity use in healthcare facilities
Evaluating Tunable LED Lighting in the Swedish Medical Behavioral Health Unit
MGM Solutions: 6000 Hours Per Month Wasted on Nurses Finding Lost Equipment

February 15, 2018

A NursingTimes.net survey polled 1000 nurses and found that at least one in three spent an hour or more per shift searching for medical equipment to use with their patients. This totals about 6000 hours wasted a month just searching for missing equipment. These findings suggest that nurses could be spending the equivalent of 40 hours per month searching for equipment and in 16% of cases, respondents said that they had given up the search after failing to find a piece of equipment. (1) MGM Solutions has developed reliable methods for tracking equipment that protect the financial investment of the institution as well as creating more staff efficiency. (2)

- Hospital chain in Midwest testing using sensors in light fixtures to track equipment carts
- PNNL has provided technical assistance related to the lighting and Internet of Things research
Next Steps

- Join the Lighting & Electrical Team
- Join the Interior Lighting Campaign
  - [www.interiorlightingcampaign.org](http://www.interiorlightingcampaign.org)
- Contact:
  - Linda Sandahl, Pacific Northwest National Laboratory
  - Email - [linda.sandahl@pnnl.gov](mailto:linda.sandahl@pnnl.gov)
Sector Priorities and Highlights
Improve water management and efficiency

- Discussed water efficiency challenges during multiple peer exchanges and provided resources
- University of Nebraska Medical Center - Official water partner!
- Developing water efficiency toolkit to include Pacific Northwest National Laboratory water management resources
- Making a Splash: Targeting Water Saving Measures for Maximum Impact session on Thursday 8:30 AM – 10:00 AM

Have an interesting story to tell?
Share your water-focused projects!
Build and educate workforce on energy and water efficient operations

- University of Maryland Medical Center speaking (UMMC) in *Building a Next Generation Workforce for Next Generation Buildings* Thursday 4 PM-5:30 PM
  - Skilled Trades Apprenticeship Implementation Model
  - Healthcare Facilities Today “Training, efficiency and cost savings: Fostering the next generation facilities professionals”

- Developing an Energy Management Policy Through Public-Private Partnership (Legacy Health)
Showcase and encourage internal engagement on sustainability

- Engaged with partners during check-in calls, facilitated peer exchanges, and communicated resources
- Incorporated element into various solutions
  - UW Health University Hospital Showcase Project (27% savings!)
- ASHE’s *Innovative Funding for Energy Efficiency & Facility Infrastructure Projects in Health Care* webinar on Wednesday, August 29 from 12pm-1pm CST
Overcoming financing challenges

  - Check out the blog post!
- Green Revolving Fund case study (Cleveland Clinic) and toolkit
Other Noteworthy Partner Reads

- Beat Blog:
  - New Healthcare Case Study Spotlights Green Revolving Funds
  - Establish a Sustainable Funding Cycle with the Green Revolving Funds Toolkit
  - UW Health Reaches, Exceeds Better Buildings Challenge Goal
Financial Literacy

Erin Hiatt
Director of Energy, Sustainability, and Research
Retail Industry Leaders Association (RILA)
Financial Literacy for Retail Curriculum

- Released June 2018
- Based on content from in-person workshops
- Created with support from DOE cooperative agreement
- Eligible for many continuing education programs
- Preapproved for USGBC and BOMI accreditations CEUs

www.retailcrc.org/training

Erin Hiatt  erin.hiatt@rila.org
Finance 101
Understanding the CFO and Translating Metrics for Retail Energy & Sustainability Professionals

This course highlights the importance of aligning energy initiatives with the company-wide aim of maximizing shareholder value, and how building effective relationships with the finance team is key to achieving sufficient funding for initiatives.

This course provides learners with the financial acumen needed to interact with their company’s finance team when trying to secure funds for energy projects.

By the end of this course, learners should be able to understand how to confidently approach the finance team with a well-articulated plan, and in the timing most appropriate to secure funding.

This course is about 60 minutes long.

Select each icon to learn more.

INTRODUCTION 3 MINS
WORKING WITH THE FINANCE TEAM 20 MINS
MEASURES OF SUCCESS 20 MINS
CASE STUDY 15 MINS
SUMMARY AND RESOURCES 2 MIN
Finance 201
Innovative and Alternative Options for Retail Energy & Sustainability Professionals

This course explains the different internal and external financing options available.

By the end of this course, learners should be able to identify which types of financing options are best suited to their project need(s), and how to articulate this match in order to secure funding.

This course is about 75 minutes long.

Select each icon to learn more.

- **INTRODUCTION**
  - 2 MINS

- **INTERNAL FINANCING**
  - 30 MINS

- **EXTERNAL FINANCING**
  - 35 MINS

- **SUMMARY AND RESOURCES**
  - 5 MINS

RETURN TO HOME
TOPIC 3: MEASURES OF SUCCESS

Quiz

Complete this short quiz to test your understanding of some key financial measurements.

Which of the following is a ratio to measure the benefit of the investment of capital?

- [ ] ROI
- [ ] Hurdle rate
- [ ] IRR
- [ ] Benefit-to-cost

[Confirm]

Which of the following is the minimum rate of return that a project must earn in order to be funded?

- [ ] ROI
- [ ] Hurdle rate
- [ ] IRR
- [ ] Benefit-to-cost

[Confirm]
Internal Rate of Return (IRR)

Select each topic below.

DEFINITION

ANALYSIS

- This calculation is an iterative process of inputting interest rates to test which one equals an NPV of zero (and is most easily found using a computing function like the IRR function in Excel).
- Your project’s IRR should equal or be greater than the hurdle rate/discount rate. This measure shows how your project compares to other project proposals. Companies will likely pursue projects with the highest positive difference between IRR and hurdle rate/discount rate.
- When it comes to comparing projects of different sizes, you want to be able to show how much greater your IRR is compared to the hurdle rate/discount rate.

EXAMPLE

Return to Measures of Success
Next Steps

Regardless of the financing option you may be considering, always remember to reach out to your finance team and find out how you can craft a proposal that meets all the needs and values of the organization.

**Assessment and Certificate**
You now have the option to take a final graded assessment to gauge your understanding of the content, and to generate a completion certificate. This may allow you to apply for continuing education units (CEUs) with an accrediting organization.

*Select the down arrow to continue.*
Open floor discussion and brainstorm

- How can DOE help you overcome your workforce challenges?
- What internal and/or external funding methods have you used or are interested in?
- How are you presenting efficiency/renewable projects to your C-suite?
- Are you integrating on-site and off-site renewables?
- What’s the latest technology trend?
- Are you measuring and managing laboratory energy consumption?
- Have you set a water goal? Why or why not? Are you benchmarking your water consumption?
- How do you engage with architects, engineers, and construction contractors on efficiency for new facilities?
- What are the hot button topics related to energy efficiency and sustainability for healthcare?
Recommended Thursday Summit Sessions

- **8:30 AM- 10:00 AM**
  - Energy is Everyone’s Job: Harnessing the Human Power of your Organization
  - Water’s Impact on Energy Cost and Consumption
  - Ready to Save Energy: Using DOE’s Free 50001 Ready Tool

- **10:30 AM – 12:00 PM**
  - Making the Business Case for Resilience Projects
  - Work Smarter: EMIS, Commissioning Case Studies, and the SEA Campaign
  - Sustainable Water/Wastewater Infrastructure: "Selling" Your Facility Upgrades

- **2:00 PM – 3:30 PM**
  - Cooling Tower Water Management Best Practices
  - Learning What Works: Energy Data Management

- **4:00 PM – 5:30 PM**
  - Water Reuse: Successful Outcomes and Innovative Strategies
  - Building a Next Generation Workforce for Next Generation Buildings – UMMC’s Richie Stever
Technical experts are available to answer questions and discuss energy performance trends in technology, process, data, and tools.

**WHEN**: Tuesday - Thursday, 10:00 AM – 4:00 PM*

**WHERE**: Exhibit Hall C (at the Trade Show entrance)

Experts on space conditioning, plug & process loads, building envelope, and much more

*Check the program for a complete schedule!
THURSDAY NIGHT! Sector Networking Event

~5:30pm
Azure Rooftop Lounge
2017 E 9th Street
Cleveland, OH 44115
Thank you!

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