Healthcare Sector Meet-Up

Wednesday, July 10th, 2019

10:30 AM – 12:30 PM

Regency Ballroom B

Agenda

10:30 AM Welcome and Introductions

10:45 AM Roundtable Discussions

11:15 AM Key Takeaways

11:20 AM 2018-19 Sector Priorities & Accomplishments

11:30 AM National Lab Presentations

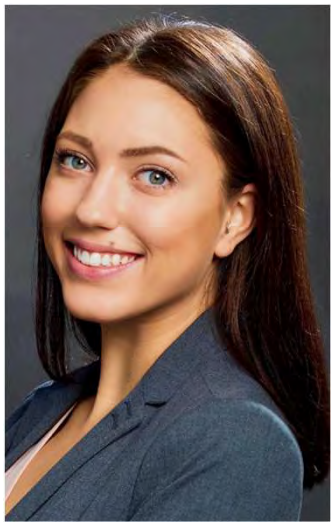
- Shanti Pless, NREL
- Caroline Hazard, ORNL

12:00 PM Open Discussion & 2019-20 Priorities

Welcome & Introductions

Nate Allen
DOE
Healthcare
Lead

Allison Kirby
RE Tech
Advisors
Healthcare
Subject Matter
Expert



Megan Krest
RE Tech
Advisors
Healthcare
Account Manager

Ice Breaker – 5 Minutes

What has been the biggest change you have seen in the past year related to energy efficiency in the Healthcare sector?

Round 1

TABLE 1	TABLE 2	TABLE 3
Internal Engagement	Funding Strategies	Water Efficiency

Key Takeaways

- **Priority #1** - Strengthening internal engagement: developing a supportive culture for energy efficiency throughout healthcare systems & communication strategies for obtaining high-level buy-in for energy efficiency projects

- **Priority #2** - Researching and highlighting funding strategies for energy and infrastructure projects

- **Priority #3** - Making the case for the water efficiency

Programmatic Updates

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#1 - Strengthening internal engagement

- UNMC: Campus Engagement and Workforce Development to Achieve Net Zero Goals
- Gundersen Health System: Targeting Energy Efficiency with Low-Energy Design and Renewables at Sparta Clinic
- Engagement Social Media Series →

#2 - Funding Strategies

- RILA financial literacy resources
- Healthcare Energy Financing Primer

RILA

Welcome to the Financial Literacy for Retail Curriculum.
Within this unit are two courses: Finance 101 and Finance 201.

You can complete one or both modules - or just visit the parts of each course that you need.

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 provides some tips for success and business acumen you can use when creating proposals. This course is well suited for retail energy and sustainability professionals.

Finance 201: Innovative and Alternative Options for Retail Energy & Sustainability Professionals
This course explains the different internal and external financing options available for energy and/or sustainability projects. This course is well suited for retail energy professionals, retail finance professionals, and energy and sustainability professionals across sectors.

Developed in collaboration wi

Finance 101

Healthcare Energy Financing

The healthcare sector accounts for over 4.1 billion square feet of floor space in the United States and spends over $5 billion annually on energy. Energy costs can consume 1-3 percent of a typical healthcare facility's operating budget, which often represents an estimated . The sector has been a market leader in the adoption of innovative internal funding strategies for energy projects, and other common financing solutions for energy efficiency and renewable energy include leases, loans, and energy savings performance contracts (ESPCs).

SEE CASE STUDIES

CONNECT WITH PROVIDERS

Better Buildings

This material is based upon w Energy (EERE), under Award N

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INTRODUCTION

This primer serves as an introduction to critical issues in energy finance for healthcare facilities. It provides case studies, market data, and other resources to help leaders in the sector take advantage of innovative financing strategies. The primer is part of the Better Buildings Financing Navigator, an online tool that helps public and private sector organizations find financing solutions for energy efficiency and renewable energy projects.

COMMON BARRIERS TO ENERGY FINANCING

COMPETING BUDGET PRIORITIES
Many healthcare facilities have a range of competing priorities—including their core mission of treating patients—that all seek funding from operating and capital budgets.

HIGH HURDLE RATES
Healthcare facilities may require a high minimum rate of return on certain investments (including energy improvements) because they could also deploy the capital into other high-return investments.

LEADERSHIP RESISTANCE
Healthcare executives tend to be risk-averse as many facilities must operate continuously with uninterrupted electrical power and building systems. Concern over impacting the ability to provide medical services may cause resistance to pursuing energy projects that are perceived as risky or low-priority.

OPERATIONAL CHALLENGES
Healthcare facilities that must operate continuously may face limitations on which projects are feasible to implement or challenges to installing equipment.

LIMITED STAFF BANDWIDTH
Limited staff capacity and/or lack of financial or technical expertise in energy efficiency and renewable energy may prevent healthcare organizations from exploring potential projects.

COMMON FINANCING SOLUTIONS

INTERNAL FUNDING
Many healthcare facilities have established internal funding strategies such as capital budget allocations or green revolving funds to implement projects without accessing third-party capital. Read more.

#3 – Water Efficiency

- Healthcare Water Efficiency and Program Management Toolkit
- DaVita: Top Water Users Program

New Goals

- Water
  - University of Nebraska Medical Center (UNMC) = 20%
- Waste Pilot
  - UW Health
- Re-commitments
  - UW Health = 34% by 2027

CleanMed 2019 Session Panel

Evolution of Microgrid and Battery Storage to Produce Reliable Power More Efficiently

Kaiser Permanente presented their Richmond Medical Center's renewable microgrid system combines a solar photovoltaic (PV) structure with a battery storage unit to provide 365,000 kWh of clean energy annually and reduce peak energy demand, providing life safety backup power to the critical care load at the facility.

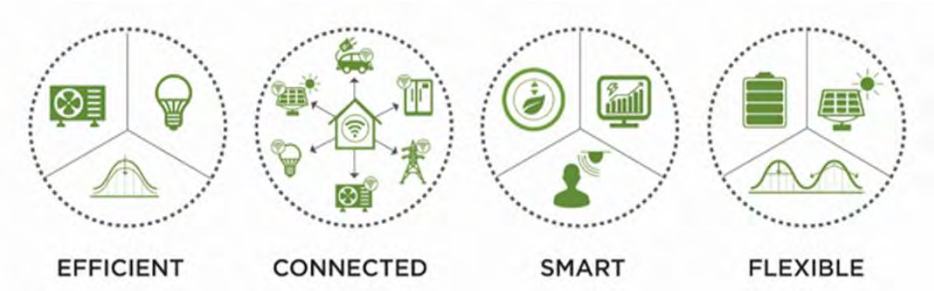
Join us!

Better Buildings Alliance *Renewables Integration* Team

Buildings-to-Grid Working Group

FOCUS AREAS:

- Strategic integration of renewables
- Energy storage
- Building load flexibility
- Grid coordination



- **Bimonthly, 1-hour conference calls**
- **Kick-off meeting in early August**
- **Also looking for participants for two studies:**
  - **Portfolio analysis:** understand potential for load flexibility (optimized demand management)
  - **Field study:** implementing building load flexibility solutions

Interested? *Email us!*

Rois Langner: Rois.Langner@NREL.gov

Selam Haile: Selam.Haile@NREL.gov

Shanti Pless

National Renewable Energy Laboratory

U.S. DEPARTMENT OF ENERGY

Caroline Hazard

CHH Consulting

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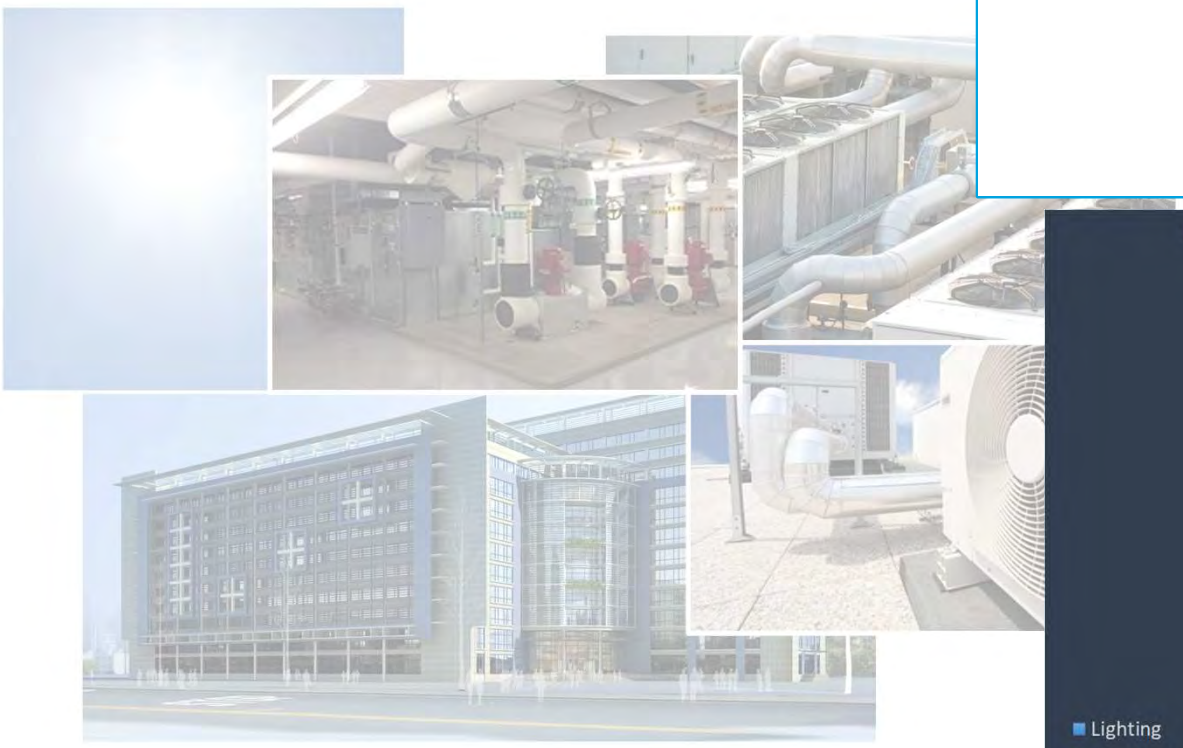
Achieving Energy Savings and Thermal Impacts with Building Envelope Technologies

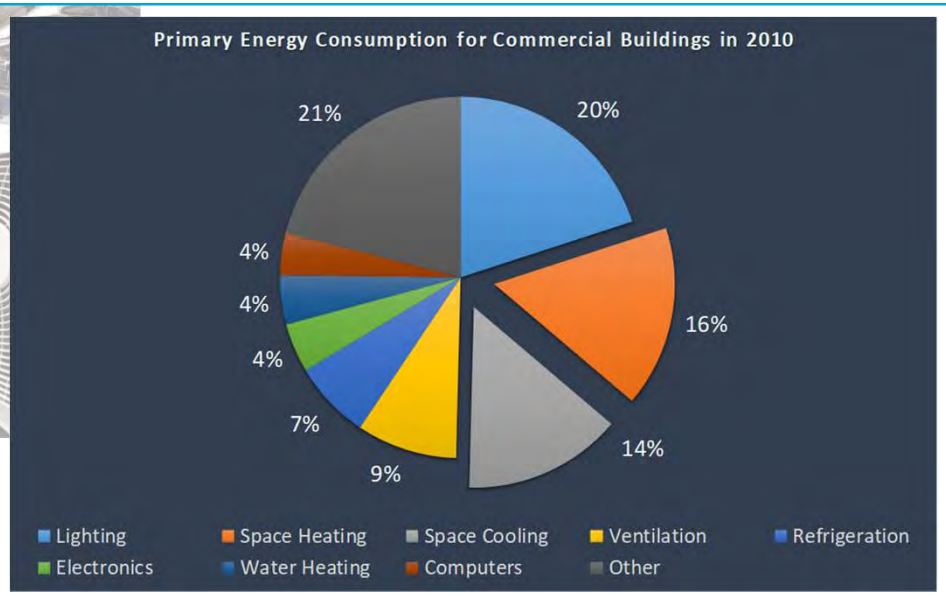
Healthcare Meet-up

July 10, 2019

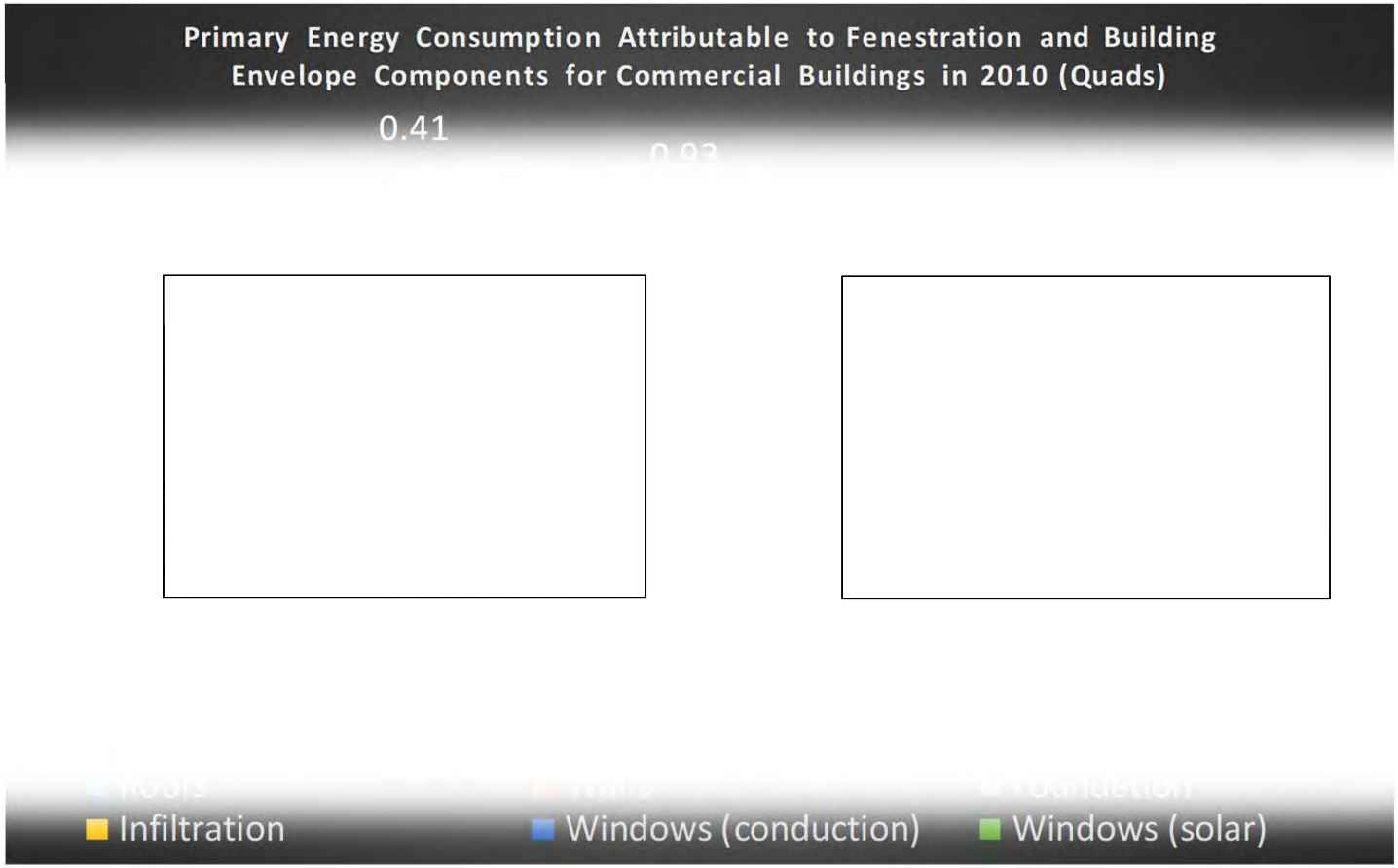
Better Building Summit

Building Envelope Market Potential





Building Envelope: 5.81 Quads



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Barriers Identified for Envelope Technologies

- **Cost:** uncertainties, high first costs, ROI hurdles
- **Supply issues**: product fragility, availability, volume
- **Installation issues:** workforce training, complex systems, quality control
- **Decision culture:** resistance to new products, risk averse, code minimum culture
- **Information gap:** real world case studies, data on long-term performance, communicating effectively

Better Buildings Alliance: Leadership to Deploy Advanced Technologies

- Commercial Real Estate
- Food Service, Retail, and Grocery
- Healthcare
- Hospitality
- Higher Education

TECHNOLOGY SOLUTIONS TEAMS

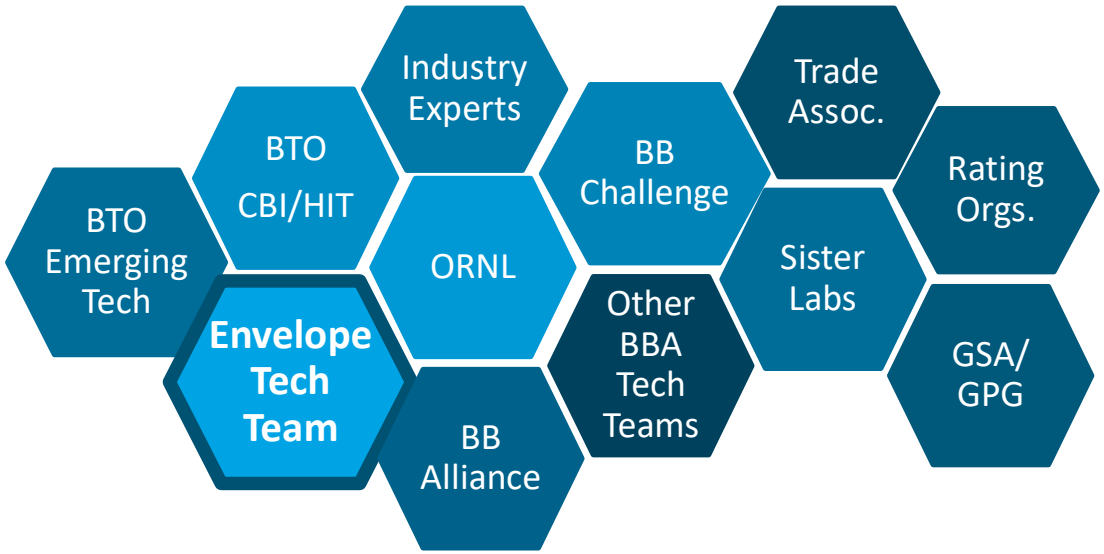
- Lighting & Electrical
- Space Conditioning
- Plug & Process Loads
- Refrigeration
- Energy Management Information Systems
- Renewables Integration
- Building Envelope

MARKET SOLUTIONS TEAMS

- Energy Efficiency Project Financing
- Leasing and Tenant Build-Out
- Energy Data Access
- High Performance Property Valuation and Mortgages

To join, contact Melissa Lapsa at lapsamv@ornl.gov

A Unique and Diverse Team



- Demonstration of high performance envelope technologies and solutions
- Comprised of Better Buildings Partners and representatives from the design community, including A&E firms

Seeking Your Input…
How to Advance Envelope Projects?

Could a **National Campaign for High Performance Building Enclosure Technologies and Systems** motivate greater investment and adoption of envelope technologies to improve a building's energy and comfort performance?

What should be acknowledged for recognition?

Specific Technologies?

Whole Building System?

Can data (easily) be gathered to demonstrate achievement?

Will recognition of demonstrated savings and performance motivate action?

Target Whole Building Performance with Specific Measurable Envelope Targets

Potential Challenge:

- Demonstrate EUI reduction of X% using advanced building envelope technologies
- Demonstrate X% better than current ASHRAE 90.1/IECC code.

Potential Campaign Support Resources

- A simplified calculation tool for an envelope credential
- National targets for envelope credentials, modified for building type, size, and climate zone
- Pathway guidance envelope measures and packages of measures
- Case studies and benefit information

Specific Recognition Category:
Recognize organizations for demonstrated application of Building Enclosure Commissioning (BECx)

- Document realized targets with an enclosure metric

Target Specific Envelope Components or Packages of Components

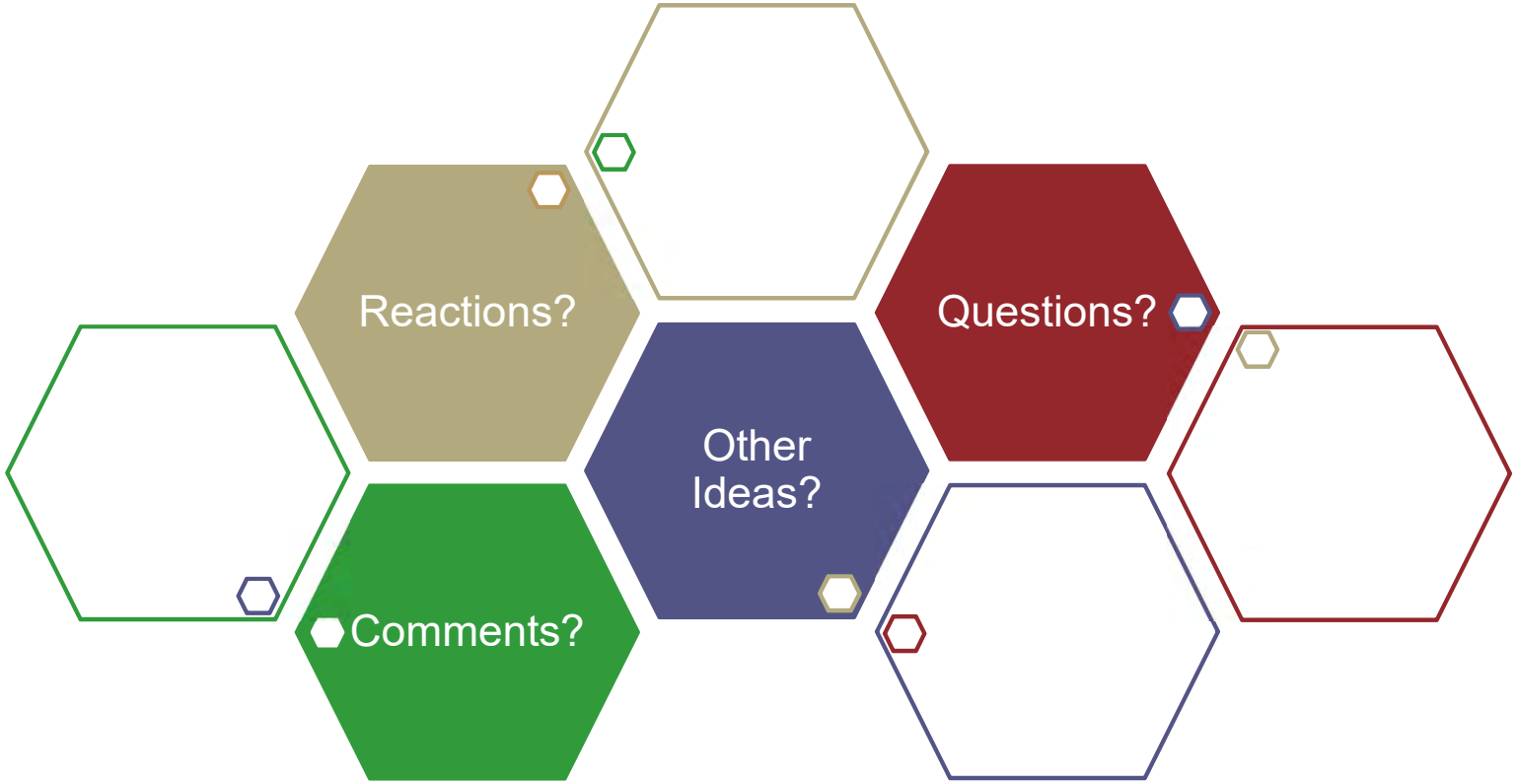
Potential Challenge:

Utilize Demonstrate envelope performance increase (in terms of equivalent R-vale/airtightness) X% using specific envelope measures or packages of measures.

Potential Campaign Support Resources

- Packages of solutions (specifications) for select measures → Link to transactional moments of owning/operating a building
  - Moisture remediation, roof repair/replacement, remodels/façade upgrades, etc.
- Templates and process guidance for equipment selection, installation, and operations and maintenance
- Case studies and benefit information
- Product and service provider lists

Discussion



Join Us Around the Summit

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2019 Summit

- **Today, Lunch:** Networking on Envelope Technologies Table Topic
- **Thursday, 9am**: Pushing the Building Envelope – The Impact of Cutting Edge Technologies
  - Dr. Mahabir Bhandari, ORNL
  - Jessica Abralind, Arlington County
  - Wendell Brase, Univ. of CA, Irvine
- **Throughout Conference:** Ask-an-Expert Sessions
  - Dr. Mahabir Bhandari, ORNL

To join, contact Melissa Lapsa at lapsamv@ornl.gov

Open Discussion

- 2019-2020 Sector Priorities
  - Net Zero/Renewables
  - Policy/Data
  - Water
  - Engagement/Workforce
  - Financing

Thank You

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