DLC SUMMIT 2026

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THE CALIFORNIA ENDOWMENT · LOS ANGELES, CA

Next Gen Buildings: Integrating Lighting and HVAC for Whole Building Savings

LLLC Retrofits with Integrated Thermostats

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LA DWP Los Angeles Department of Water & Power

DESIGNLIGHTS.ORG/2026DLCSUMMIT

PANEL

Meet the panel

Moderated by Levin Nock



Angela Pilant

Program Manager
Evergreen Energy Partners



Amy Stacy

Regional Vice President
Autani



Jerry Drew

CEO
Network Thermostats

PANELIST

Angela Pilant



Program Manager for NEEA LLLC Market Transformation,
Evergreen Energy Partners

Program Gap

Small and medium commercial customers often do not fit traditional whole-building controls approaches

Many customers have meaningful lighting and HVAC loads, but lack the controls infrastructure or staff resources associated with a full building management system.

Building Controls

- No BMS
- Often a single-zone rooftop unit
- Lighting and HVAC operate separately

Program Delivery

- Prescriptive lighting measures may not address HVAC operation
- Custom approaches can feel too complex for smaller sites

Customer Experience

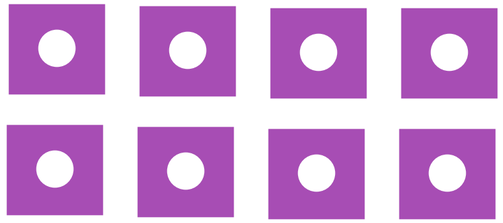
- Customers want a clear controls
- Upgrade that supports comfort, operations, and lower energy use

Question: Can a targeted LLLC-to-thermostat pilot create a simpler pathway to integrated efficiency?

The Integration Concept

Distributed LLLC occupancy information can help a connected thermostat respond to actual space use

Distributed LLLC Sensors



Fixture-level sensors see occupied and unoccupied areas across the space



Question: How do you verify system compatibility, SoO, programming and owner support

Example: NEEA Public Field Evaluation

Lighting-to-HVAC integration field evaluation in a 10,000 sq. ft. commercial office building

- LLLC system, Wi-Fi thermostat, and edge device
- Uses luminaire level occupancy information to help HVAC better reflect actual space use
- Publicly presented estimated annual energy savings: approximately 4–21%*

**Preliminary, site-specific estimate. Results are not intended as a universal savings claim.*



Why We Need Pilots

Many utilities need evidence on savings, delivery, and customer experience before building a broader offering

Customer and Building Fit

Which building types, HVAC configurations, and customer profiles are appropriate for early projects?

Controls and Programming

What sequence of operations and handoff process help savings persist after turnover?

Delivery Roles

Who installs, configures, and supports the connection across electrical, HVAC, and controls scopes?

Savings Evidence

What data supports a workpaper, TRM measure, or future structured incentive?

Question: Can a well-designed pilot show if this can be a reliable customer offer?

A Program Pathway

Pilots can build the evidence and delivery model for future measures

1: Targeted Pilots

- Select early-fit customers
- Use LLLC, Smart Thermostat and RTU configuration
- Document installation and commissioning

2: Evidence & Delivery

- Assess savings and comfort
- Clarify contractor and support roles
- Identify documentation needs for TRMs

3: Define Program Model

- Determine the right program path
- Custom, prescriptive, direct-install
- Set incentive and QA requirements

Goal: The pilot should produce guidance and evidence that makes future delivery happen for Customers, Trade Allies and the Utility, building on lighting controls investments that are already occurring in the market!

PANELIST

Amy Stacy

Regional Vice President, Autani



CASE STUDY · MORGAN HILL, CA

One platform for lighting and HVAC across a six-building campus

- Private K-12 campus: 25 classrooms, offices, gym, library and exterior lighting
- 35 standalone HVAC units, 108 lighting circuits with no controls
- Doors propped open while HVAC kept running
- Goal: one affordable system administrators can run without special training



6 BUILDINGS · 35 HVAC UNITS · 108 CIRCUITS
Controlled with EnergyCenter® by Autani

48%

Lighting energy reduction

31%

HVAC energy reduction

85%

PC and plug-load reduction

The biggest reduction came from plug loads, not lighting or HVAC

Source: Autani case study, Morgan Hill, CA private school campus

LESSONS LEARNED

What integrating lighting and HVAC taught us on a working campus

LESSON	WHAT HAPPENED AT THE SCHOOL	TAKEAWAY
Hidden load	PCs and plug loads kept running in empty rooms and after hours	Look past lighting and HVAC: plug loads dropped 85%
Operational behavior	HVAC kept running while gym and classroom doors were propped open	Door contacts set back HVAC and email staff after 60 seconds
Retrofit integration	35 standalone HVAC units and 108 circuits across six buildings	Existing systems brought under one platform, no wholesale replacement
Platform, not project	School later added exterior and parking lighting, gym measures and HVAC in another building	One platform grows with the campus and with Title 24

PANELIST

Jerry Drew

Founder / CEO, Network Thermostat



Utility Partners… We All Know

- Requirements for Load Reduction is Not Going Away
- SMB’s Need Incentives; Often Get Left Out
- Lightweight Lighting ⟷ Thermostat Integrations Are Here (BAS not required)



Are Utility Incentives Structured for SMBs?

- **Traditional Incentives**
  - Lighting Retrofits (sunsetting?)
  - Residential Wi-Fi Thermostats (sunsetting?)
  - Commercial Full BAS (BACNet) Implementations
- **New Incentives Needed for SMB**
  - Lighting + HVAC Integration without BAS is Real
  - Combined Savings is Greater Than Either Technology Alone
    - 20-30% Savings Commercial Thermostat-based HVAC Controls
    - *10-15% Additional Savings with Combined NLC & HVAC Control



** NEEA Report Coming – End of 2026*

94%

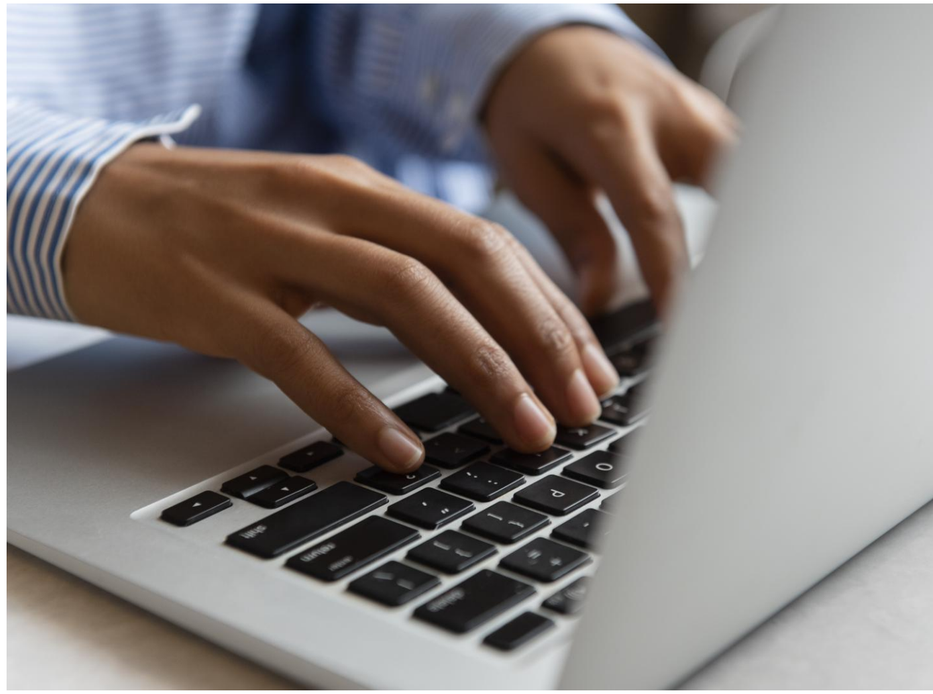
Commercial Buildings With Less Than 25,000 ft^2 (SMB)

An SMB Experience This Year (Our Customer)

“I filed two name redacted small-business rebate applications for a project at name redacted using the NetX Commercial Ecosystem thermostats, and positioned the networked controls as an EMS/DDC measure. IT WAS REJECTED.

I would have had the same result with the XX Commercial Thermostats and the YY Commercial Units due to their rejection comments.”

- Brad W., SMB Energy Manager



Rejection Reason #1

"The name redacted engineer reviewing it (name redacted) turned it down on two counts. First, he says the X7 doesn't qualify as EMS/DDC because it controls single zones rather than a whole building (multiple RTUs, chillers, VAVs, etc.), and their third-party reviewers won't approve it as EMS/DDC."

- Brad W., SMB Energy Manager

- This rational excludes these verticals from incentives:
  - Restaurants - Warehouse - Manufacturing
  - Strip Center Retail - Student Housing - Multi-Family
  - Small Office - Assisted Living



Rejection Reason #2

“Second, and the bigger issue, he says Wi-Fi thermostats were "deemed non-strategic by the PSC and utility," so the measure can’t be incentivized at all. The only thing they'd cover is DCV via CO2 sensors, but this building has no outside air to control, so that's a dead end for us.”

- Brad W., SMB Energy Manager



After 3 Months of Persistence...

“The measure was eventually accepted on reconsideration and reclassified as a BMS controls measure. It got there, but only after months of back and forth and a full reconsideration package.

That is really the heart of it. Even when the technology clearly fits, the process is long enough that most small building owners, and the contractors serving them, would have walked away well before the finish line. That is where the 94 percent get left out.”

- Brad W., SMB Energy Manager



Why Have Utilities Often Left HVAC Out of SMB Incentives?

* Difficult Calculation

- HVAC Equipment Efficiency
- HVAC Maintenance (Filters, Coil Cleaning, Refrigerant, etc.)
- Daily Use Hours Vary Greatly
- Building Insulation & Exposure
- Attention to Proper Scheduling
- And of course… Weather



* Constantly Changing Variables Makes it Hard for Utilities to Calculate True Savings without an M&V Team or ESCO.

Combined Lighting (Occ/LLLC) + HVAC Clarifies ROI

- **Savings are Usually 20-30% of HVAC Energy Consumption**
  - Typical Office, Restaurant, or Retail Environment
  - Nominal Savings for 24/7 Facilities
- **Building Automation System ROI (2– 3+ Years) Due to Expense of Deployment**
  - Expensive Hardware; Expensive Programming; Expensive Maintenance
  - Specialized Controls Contractors are Required
- **Commercial Intelligent Thermostat ROI (~1 Year) Due to Lower Deployment and Maintenance Cost**
  - Simple Installation; ‘Any’ Contractor
  - Same Savings Controls as BAS; Often More Savings



The SMB Lighting + HVAC Control ROI Drivers

- **Improved HVAC Schedule Control**
  - Saves **20-30%**
- **Lighting Occupancy Driven HVAC**
  - Saves Another **10-15%**
- **Combined Potential Energy Savings of 30-45%**
  - Schedules define **intent.**
  - Occupancy defines **reality.**



Combined Lighting (Occ/LLLC) + HVAC Integration Webinar

- Integrating Lighting and HVAC for SMBs
  - Breaking Down the Industry Silos
  - Lighting Occupancy Data ⟷ Thermostat
  - Graduated Soft Setback and Recovery
  - Time to Recover vs Temp Setpoint Only
- Schedules define intent
- Occupancy defines reality

EXPLORE FURTHER

Resources

DLC

- NLC-HVAC Integration Toolkit



AUTANI LITETRACE

- Videos on lighting-HVAC integration



NETWORK THERMOSTAT

- Webinar: NLC Integration with NetX Thermostats



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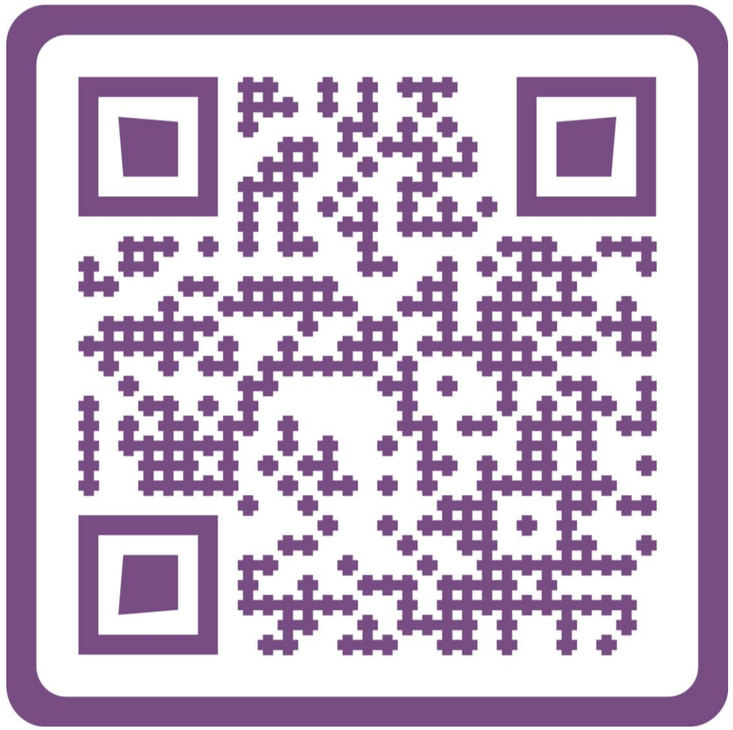

Small Group Discussion Questions

- What is one barrier you heard about?
- What is a solution to a barrier you heard about?
- How could my organization contribute to the solutions?
- What is one thing I need so that I can address the solution/barrier?