

2019



April 1 - 3 • St. Louis, MO

STAKEHOLDER MEETING



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Energy Monitoring Discussion



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Energy Solutions



V4.0 Focus Areas

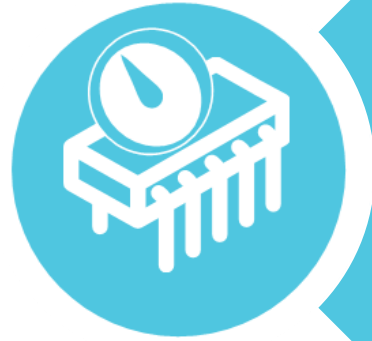


Interoperability

- The capability of lighting and/or building systems or components to connect to one another
- Unlocks new energy savings by connecting different systems



V4.0 Focus Areas

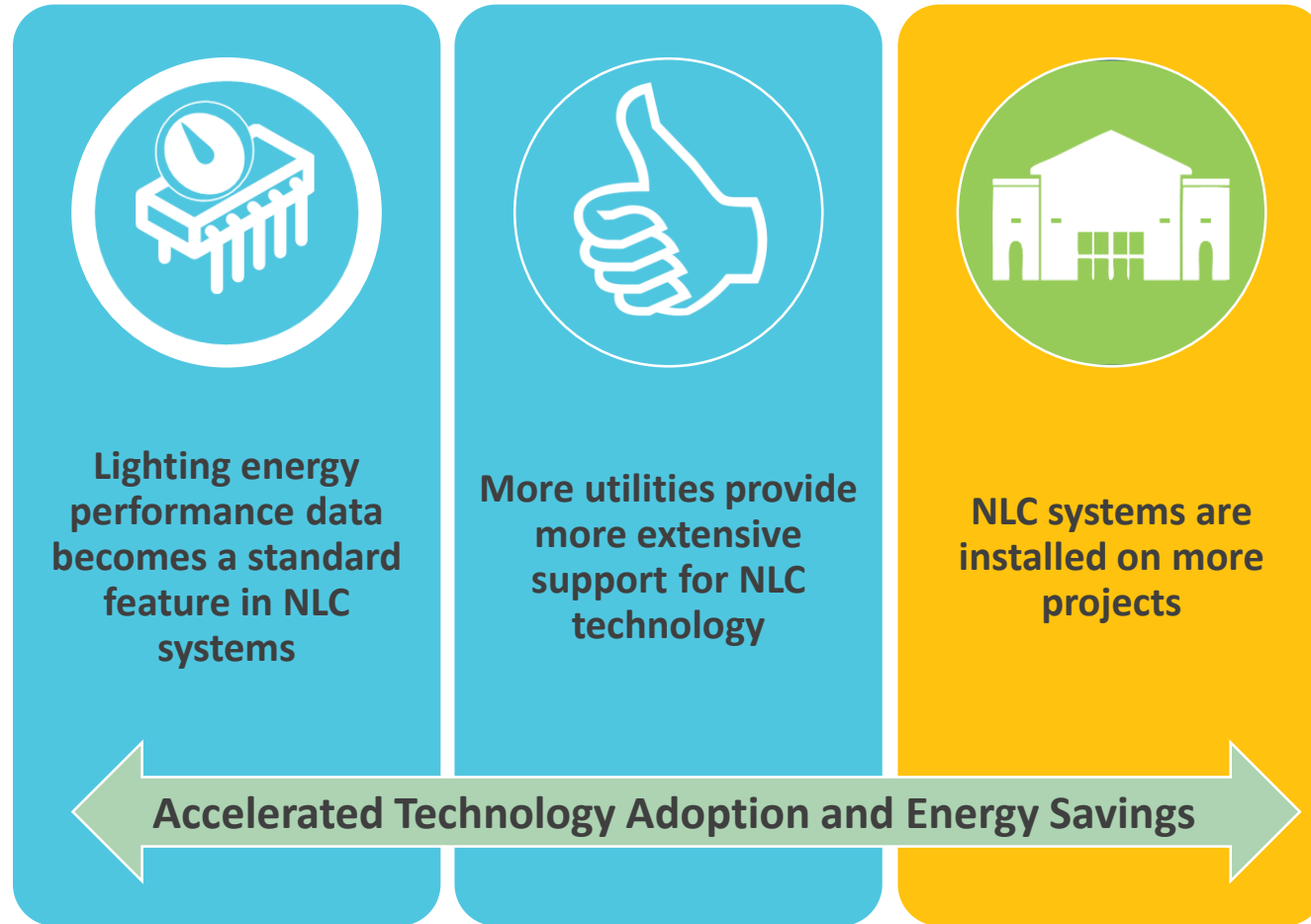


Energy Monitoring

- The capability of a system to measure and report the energy consumption
- Strengthens the value for utilities and customers



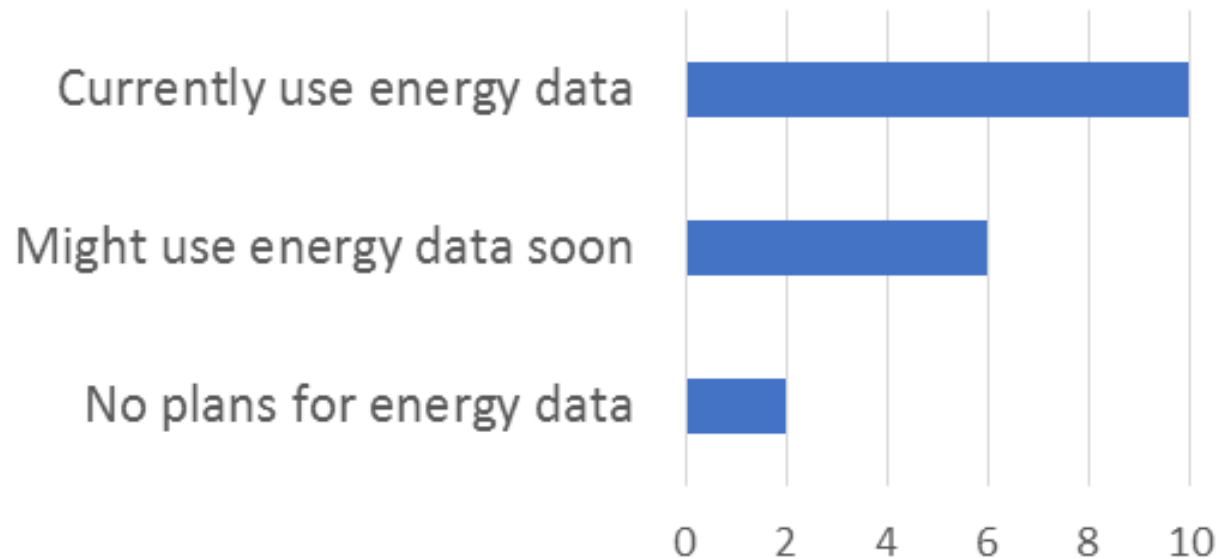
Desired Outcomes





Energy Data Utility Program Poll 2/2019

Incentive Programs Using Energy Data
(of 18 respondents)



Energy Monitoring Plan

June 2018 V3

- Energy Monitoring is **Reported**.

June 2019 V4

- Energy Monitoring with data report is **Required**
- Accuracy is self-reported, unless the accuracy depends on manual input
- Option to reapply under V3 with 1-year grace period.

June 2020 V5

- Energy Monitoring Capability is **Required**
- Methods requiring manual input are not accepted, unless a new ANSI standard specifies the accuracy
- ANSI Standards for Accuracy and Data Model will be required after they become available





Summary of Comments Received

1. Different requirement/timeline for Room-level systems, and/or for systems with numerical manual input?
2. Incentive programs need 15-minute numerical interval data with headings
 1. “Event-based” not clearly defined, not scalable, not usable by incentive programs
 2. Graphical charts are not usable
 3. pick kWh or Wh
3. Just require “accurate data”, not 15 minute intervals



Updated Energy Monitoring Definition

- Automated energy measurement versus numerical manual input (both qualify this year, type is reported)
- Output data is ~~either~~ regularly spaced ~~or state-change events. If~~ ~~regularly spaced~~, 15 minutes or less.
- Timestamped output data record via .CSV file and/or API.



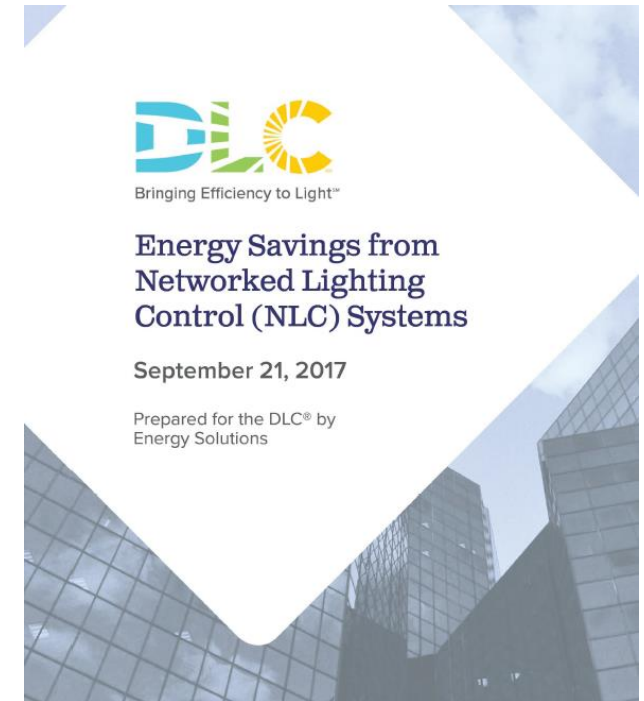
Topics to address

1. In the absence of a current Interior standard for energy monitoring data, what are the minimum technical details that DLC should specify?
2. Should the energy monitoring requirements differ for Exterior vs. Interior?
3. Should the energy monitoring requirements be different for Room-level systems? If so, how to define?



Topic 1: Data Guidelines

Topic	Data Element	Definition	Note
Site	NLC Manufacturer	The manufacturer of the NLC system	
	NLC Product	The name of the NLC system	
	Building/Business Type	The main business function pertaining to the portion of the building where the NLC system is installed	Select from ASHRAE 90.1-2016 Table 9.5.1
Baseline for NLC		The energy consumption condition without NLC enabled.	
	Maximum Rated Power without Controls, in Watts	The maximum possible power consumption of the lighting system without any control strategy in effect. If a luminaire retrofit has occurred, this value is equal to the maximum rated power of the new luminaire(s).	Luminaire or zone level if feasible; else site level.
Energy	Reporting Interval, in minutes	The frequency an energy measurement is reported	15 minutes or less
	Timestamp	Date and time of each energy measurement	Unix time or RFC 3339 time
	Energy data	The actual energy reading that is reported	<u>Wh</u> or kWh?
	Nominal Accuracy	% accuracy of the energy data	
	Headings		
	For each field	Each type of data element is identified by a heading.	





Topic 2: Interior vs. Exterior

- NEMA ANSI c136 and c137



Topic 3: Room-Level Systems

- Different requirement/timeline?
- If so, rationale?
- How to define a system that qualifies?