



Stakeholder MEETING

2017

Efficiency Programs 101

Presenter



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DLC

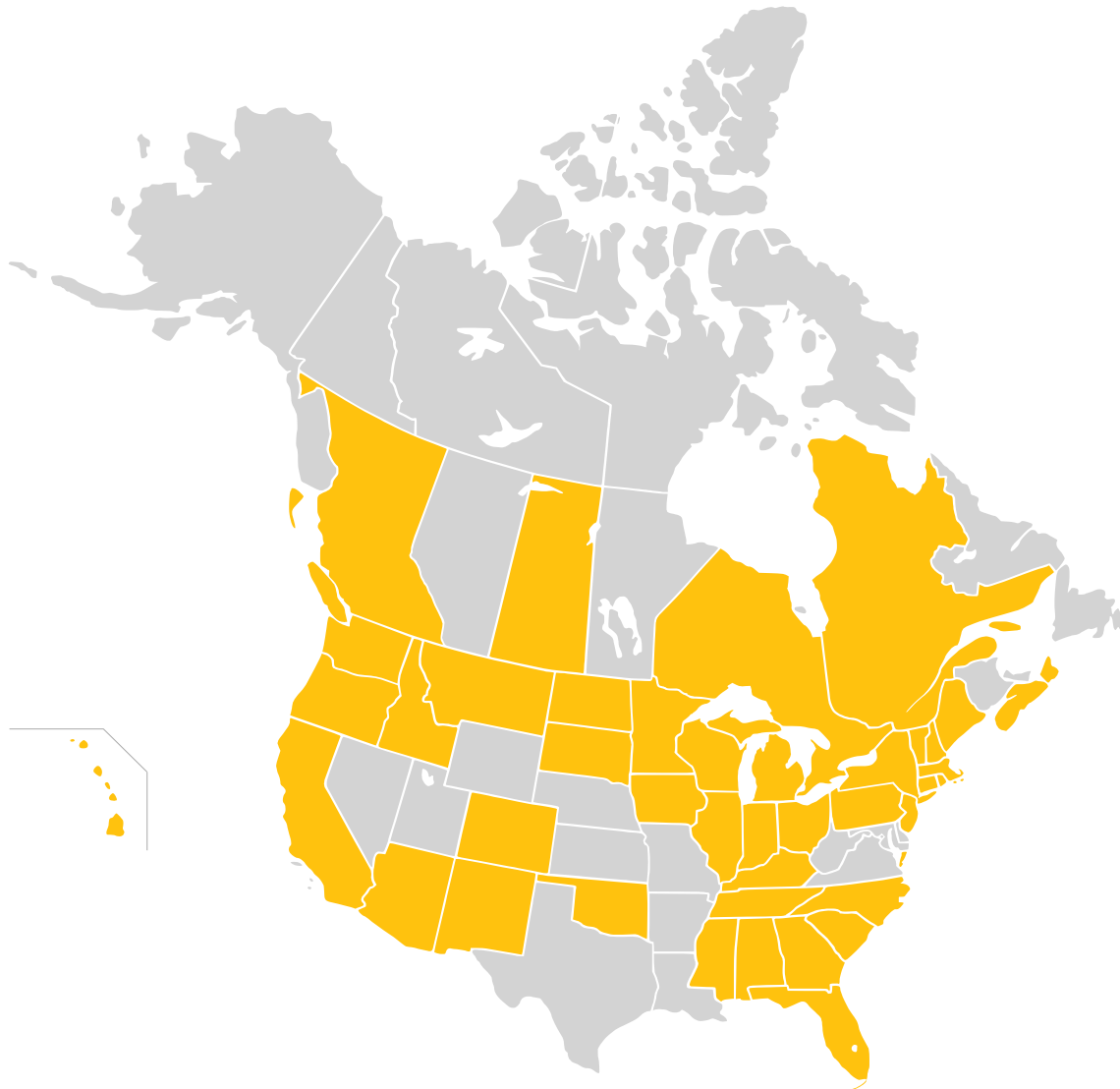
Agenda

- Role of DLC in programs
- Overview of EE Programs
- How EE programs work
- Evaluation of Programs
- Role of DLC in the Market
- Q&A



Bringing Efficiency to LightSM

The DLC[®] drives efficient lighting by defining quality, facilitating thought leadership, and delivering tools and resources to the lighting market through open dialogue and collaboration.



DLC is supported
by 82 Members
throughout the
U.S. and Canada.



Why Utilities Use DLC

Important for risk-averse EE programs

- Individual program lists are inconsistent and expensive
- Lower administrative cost
- Reduces the need to manage exceptions

DLC helps them:

- Validate savings & measure life
 - Testing and verification requirements
- Inform (More now with Tiers)
 - Program design, measure development
 - New offer development
- Project analysis
 - Limited assurance that products being applied in reasonable way
 - Performance values reported
 - Recognize that it's not perfect
- Inclusive and Equitable

Value to Utilities

Validate savings
and measure life

Avoids time/expense of internal
qualification product lists

Connection to other utilities
and industry stakeholders

Easy access to SSL
product information

Using DLC QPL data for program planning



Estimates and Incentives
(Specs and Database a good resource for this)



Utilities use data to justify their program assumptions and decisions

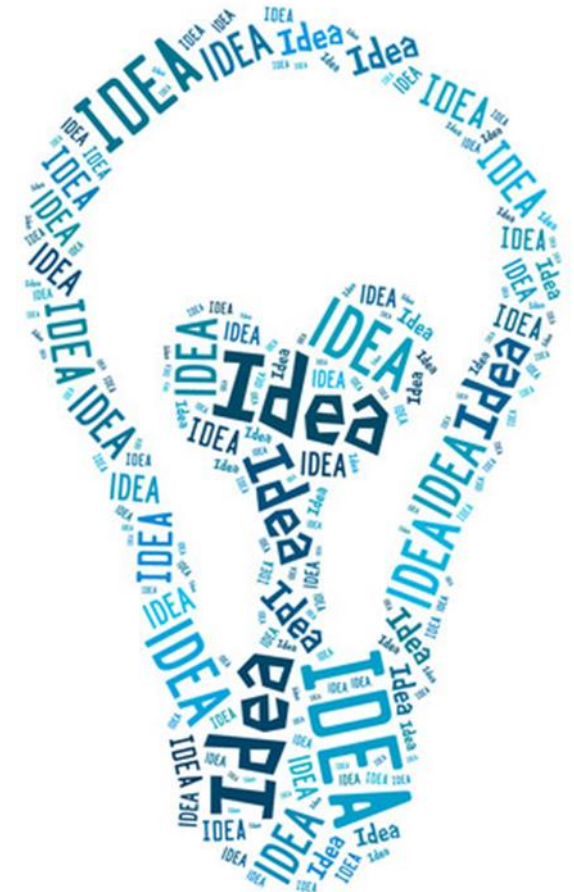
- Savings, targets, incentive budgets, measure incentives, etc.



Identify new program and measure opportunities

Utility Engagement

- Member and Technical Committee meetings
- Periodic Wish List Survey
- Technical Committee Participation
 - Shape which categories are prioritized
 - Set requirements
- Membership Input



Overview of EE Programs

Overview of EE programs

- EE Programs help utilities manage energy needs via Demand Side Management

Managing Energy Needs	Supply Side	Base Generation	Generation Plants Renewables
		Peaking Plants	Natural Gas Diesel
		Transmission & Distribution	Transportation Line Losses
		Specialty Markets	Purchase of “extra” available power
	Demand Side	Codes & Standards	Energy Codes Efficiency Standards
		Energy Conservation	Behavioral Programs Community Based
		Energy Efficiency	Rebate Programs
		Demand Response	Time of Use rates Utility restrictions

EE program management

- Program Administration/Implementation: Internal or 3rd Party
- DLC data used for:

Determining Savings

- kW (peak demand)
- kWh (energy)

Ensuring program Cost-effectiveness

- Many have specific requirements
- Admin Costs and Measure life (lumen maintenance)

Balanced Program Portfolio

- Need a mix of measures
- Each utility has different priorities and DLC fills those needs

Regulatory requirements

- Utilities require approval from regulators
 - Requirements vary
- Energy efficiency is encouraged because it is far less expensive than adding generation capacity (avoided cost)
- Assigned goals for:
 - Electric and Gas savings
 - Emissions reduction
 - Market transformation
 - Other societal benefits



Every State & Program Is Different

- 26 States have EERS
- Many other utilities have voluntary programs
- Canadian programs have different requirements
- Various levels
 - Activity
 - Funding
 - Policy

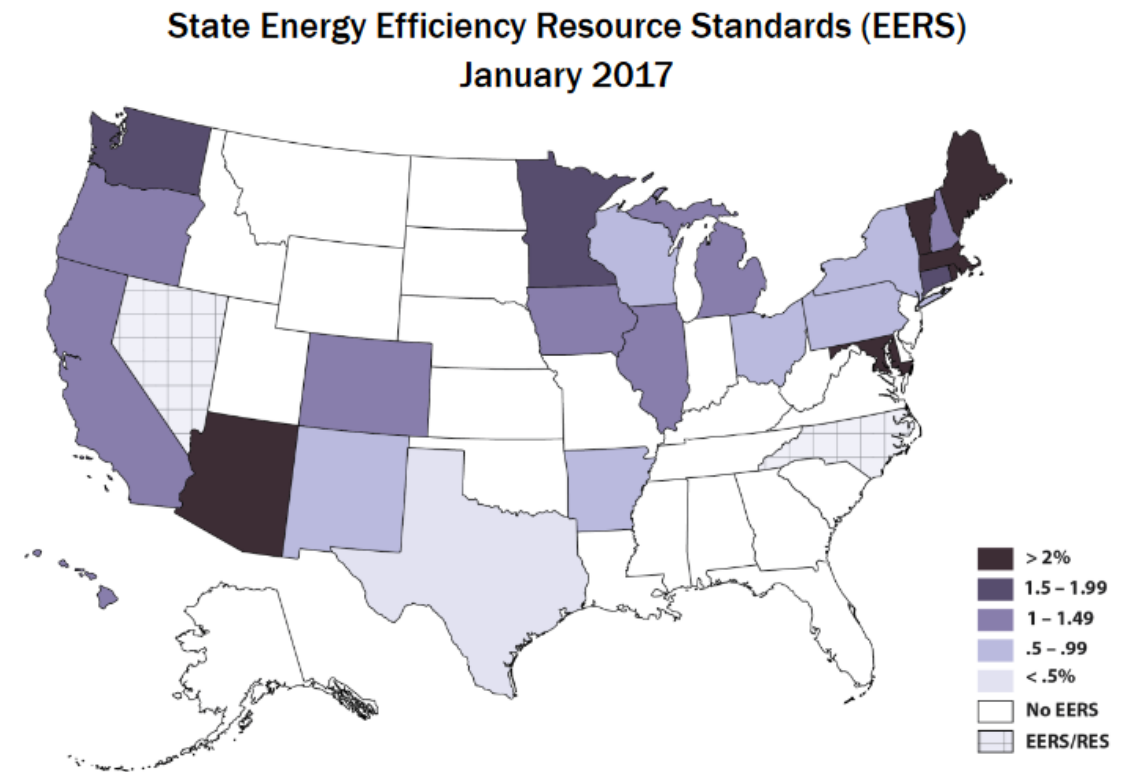


Figure 1. States with electric EERS policies in place (as of January 2017).

Funding from Ratepayers

Investor-owned utilities are regulated

- Usually at state level (public service commission)

Policy Varies from State to State

- Most require some kind of DSM program as part of rate setting
- Goal often set as % of electric sales
 - Allowed to recover program costs for verified savings

Program Management

- Program Administrator
 - Investor-owned Utility (IOU)
 - Municipal-owned Utility (Muni)
 - Electric Cooperative
 - Statewide or Regional
 - 3rd party Administrator
- Program Implementation
 - Internal Utility/Coop
 - Internal to Administrator
 - Implementation Contractor



Programs Vary

- Motivation (kW, kWh)
- Energy Cost
- Budget
- Policy/Requirements
- Market engagement
- Offers

Typical Program Offerings

- Prescriptive Incentive
- Custom Incentive
- New Construction
- Upstream/Midstream
- Direct Install
- Competitive Bid
- Self Direct
- Renewable



Prescriptive

- Product readily available (off the shelf)
- Often paid after purchase
 - Some programs require pre-approval to allocate funds
- Proof of purchase required with application
- Submit within specific timeframe (mail or online submission)
- Amounts may change annually (or more often)
- Funds subject to availability



Prescriptive Incentives/Rebates

- Typically 1-for-1 replacement
 - Incentive amount per unit:
 - Lamp, Fixture, Sensor
 - Watt or KWh reduced or controlled
 - Per square foot
 - Often have “deemed” energy savings & measure life
 - May use assumed hours and wattages based on averages
 - Some require pre-approval to reserve funds

Custom Incentives

- Outside of defined parameters/deemed measures
 - Calculated using actual conditions
 - Non 1-for-1 replacements
 - Emerging Technologies
 - Often \$/KW or \$/kWh
- More accurate
- Require Pre-approval, may require pre-inspection
- May have payback minimum/maximum defined
- May require additional documentation
- Some require measurement and verification before payment



New Construction

- Prescriptive or Custom
- May use deemed savings
- Baseline typically % better than code LPD
 - IECC or ASHRAE
- May include building modeling



Upstream/Midstream

- Markdown at time of purchase
 - Reduces the amount of capital needed by customer
- Paid “upstream” to manufacturer or “midstream” to distributor
 - Sales data reported to program
 - Increased participation
 - Market data
 - May have increased evaluation risk



Direct Install

- Products installed for end user at little or no cost
 - Typically non-wired LED
 - Low-flow showerheads/aerators, setback thermostats
- Targets hard to reach customers
 - Multifamily
 - Low Income
 - Small Business
- May partner with or incent contractors for installation



Program Verification of Savings

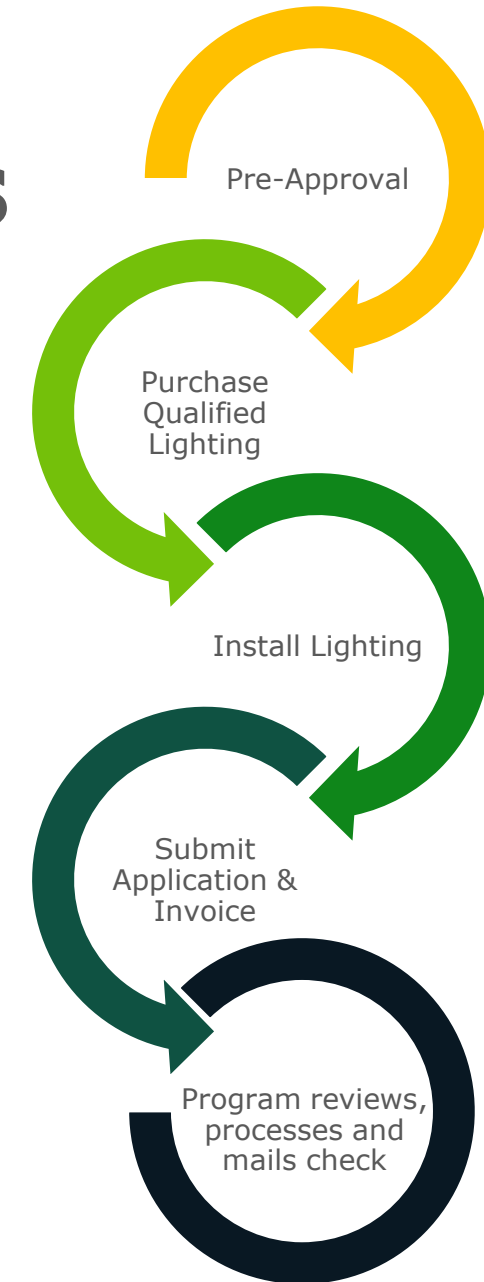
- Projects need energy savings review
- How savings is calculated:
 - Default wattage based on TRM/evaluation or Product-specific wattages
 - Adjustment factors
 - Estimated useful life
 - Default hours assumptions
 - Vary by business type
 - Non-peak for exterior
- Often require pre- and/or post-inspections



How EE Programs Work

Prescriptive Rebate Process

- Check if funding available
- Purchase pre-qualified product lists
 - DLC, CEE, ENERGY STAR®
 - Most are easily searchable
 - Program specific lists
- Install lighting equipment
- Submit application form
- Include proof of purchase & documentation
 - Invoice, spec sheets



Avoid Processing Delays

- Fill out forms completely
 - Model number, DLC Product ID, Quantities
 - Customer and site information
- Attach itemized invoices
 - Make sure quantities, date of purchase and pricing are shown
 - Attach additional documentation if necessary
- Some programs require spec sheets
- Submit within timeframe allowance



Why use Prescriptive program?

Simplicity

- Predetermined savings
 - No calculations needed
 - Known incentive amounts
 - Include in proposals
- Less risk
- Relatively easy paperwork
- Faster processing of rebates

Possible Drawbacks

- Based on assumptions/less accurate
- Have to stay within the lines
- May be leaving savings on the table
 - May get more \$ from custom
 - Design constrained by 1-for-1 replacement

When to use Custom Programs

- Policy varies by program
- Project outside of prescriptive application, size or equipment requirement
 - Large or complex project
 - Incentive or quantity exceeds limits
 - Non 1-for-1 replacements
 - Redesign, relocate luminaires
 - Reducing lamp or luminaire quantity for appropriate lighting
 - Multiple systems affected by project
- Great savings opportunity from using actual conditions
 - Need details, documentation, and patience



Custom Incentives

- Contact program prior to proposal
- Critical to show program influence
- Funding reservation
- Program pre-approval usually required
- Savings calculation review
 - Iron out discrepancies (wattage, methodology)
- Get clarification on requirements
 - Required forms, calculations, incentive adjustments
 - Funding may be adjusted or forfeited if not installed within timeframe



Non-Qualifying Products



What happens when a product isn't qualified?

- Some programs close the door; DLC/ES only
- Some allow if a professional Lighting Designer is involved
- Some programs will use LM-79/Lighting Facts or other alternative path, but this evaluation increases program cost
- Some programs don't care (LED anything)

Advice: talk to the utility!

- May have flexibility around emerging products, new categories, etc.

Evaluation

- Objective third party to evaluate performance
 - Ensures transparency and credibility
 - Verifies accuracy of calculations, assumptions
 - Adjustments to deemed savings and/or measure life
 - Determines how much project influenced by program (attribution)
 - The less influence, the less savings can be claimed for following program years
 - May come back with positive or negative adjustment



Role of DLC in the Market

Role of DLC in the Market

- Product differentiation
 - Sets minimum thresholds for performance
 - Validated performance
 - Tiers to differentiate very high efficacy
- Vehicle to connect members to manufacturers
 - Collaboration
 - Spec development
 - Meetings



DLC QPLs

- Product performance information
 - Convenient list of luminaire level data
 - Validation of product info
 - Starting place to narrow selection
- Categories for most common product types
- Enables eligibility for some energy efficiency program incentives



DLC Provides

Necessary tool to:

- Foster program admin efficiencies and savings verification
- Facilitate new or innovative program design or measures
 - Helps push the efficacy envelope
- Facilitates industry interaction, understanding and involvement
- Create a consistent and level playing field with common rules and nomenclature

Path of engagement that enables:

- Engagement with specific Utility programs in the planning and design process
- Engage in shaping the broader national direction of EE Programs

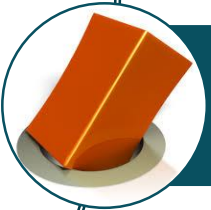
What DLC is NOT



Does not cover every product category



Does not replace lighting professionals



Does not guarantee best product for a given application



Does not guarantee qualification for programs

Q&A

Thank You!



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