

Mind the Gap: How to Lead Your Utility into the Next Generation of Savings

Kate Merson

Director, E Source



E Source

E Source Forum 2018

Can we do it?



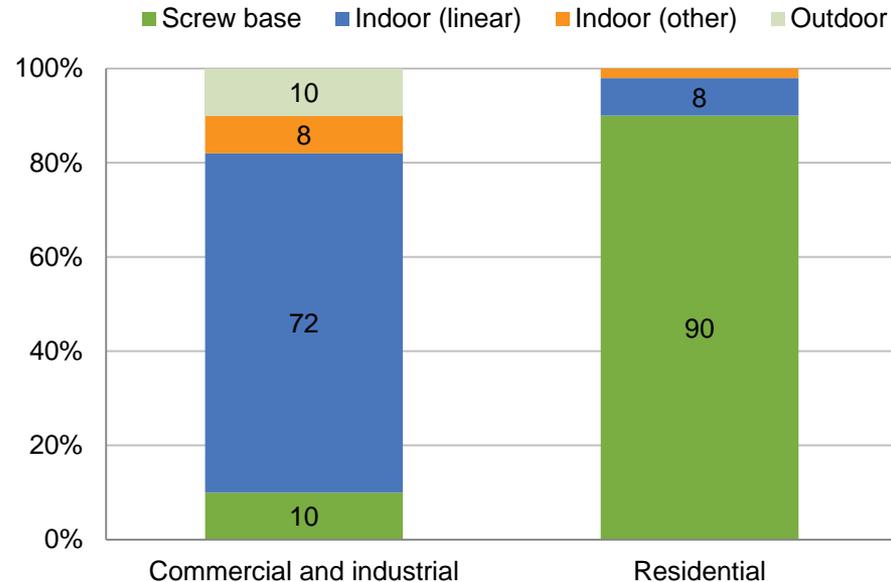
The line up today

- Kate Merson, E Source
- Claire Miziolek, Northeast Energy Efficiency Partnerships
- Jackie Ducharme, Xcel Energy
- Meghan Dewey, Pacific Gas and Electric Co.

EISA will have the greatest impact on residential programs

- General service lamp LEDs
- Approximately 70% of residential portfolio savings will be at risk for most
- Minimal impacts to commercial lighting

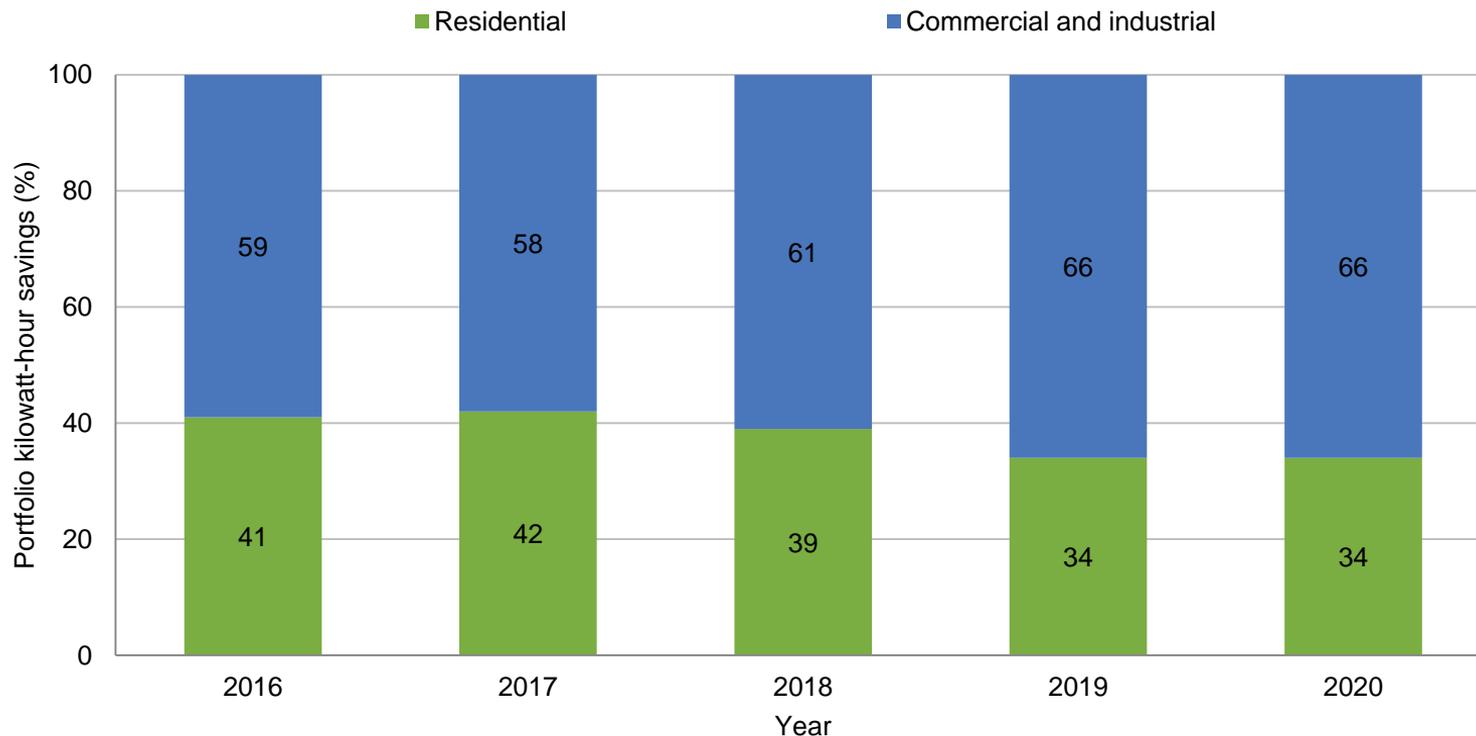
Distribution of US lighting inventory
Based on 2015 US lighting market characterization



Note: EISA = The Energy Independence and Security Act.

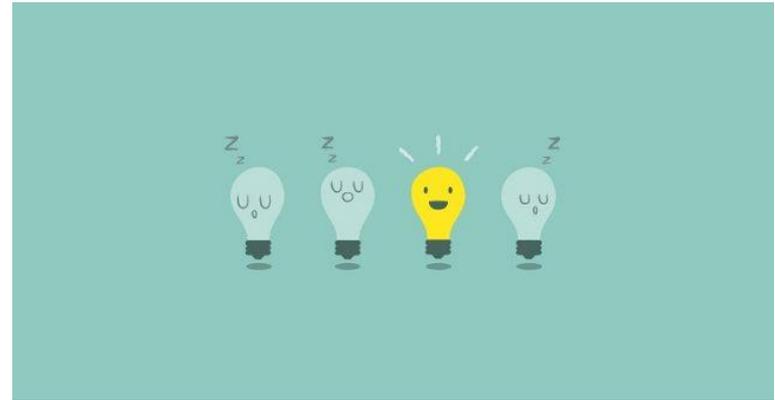
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Shift to commercial portfolio



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What do we do about it?!



WWESD?

Lighting opportunities remain

Residential	Commercial
Higher wattage lamps	TLED products
Specialty lamps	LED high-/low-bay
Smart LEDs	LED downlighting, linear ambient, directional
LEDs for niche applications	Troffer/retrofit kits
Outdoor lighting	Outdoor lighting
Hard to reach for general service lamps	Advanced lighting controls

Nonlighting trends we're seeing

Residential:

- **Behavioral programs**
- Serving the hard to reach
- **Connected homes**
- Targeted marketing/customer segmentation
- **Upstream and midstream**
- Prepay programs for demand-side management (DSM)
- Next-gen energy kits
- Emerging technologies
- Online marketplaces
- A fresh look a financing

Commercial:

- Strategic energy management
- Pay for performance
- Combined heat and power
- Shifting cost-effectiveness treatments
- Robust trade ally networks
- Rethinking small and midsize business customers
- Deeper retrofits
- HVAC and HVAC controls
- New motor technologies
- Market segmentation
- Connectivity and automation
- Localized/geotargeted DSM

Other:

- **Localized/geotargeted DSM**
- Revised cost-effectiveness tests
- Updating assumptions
- **Codes and standards support**

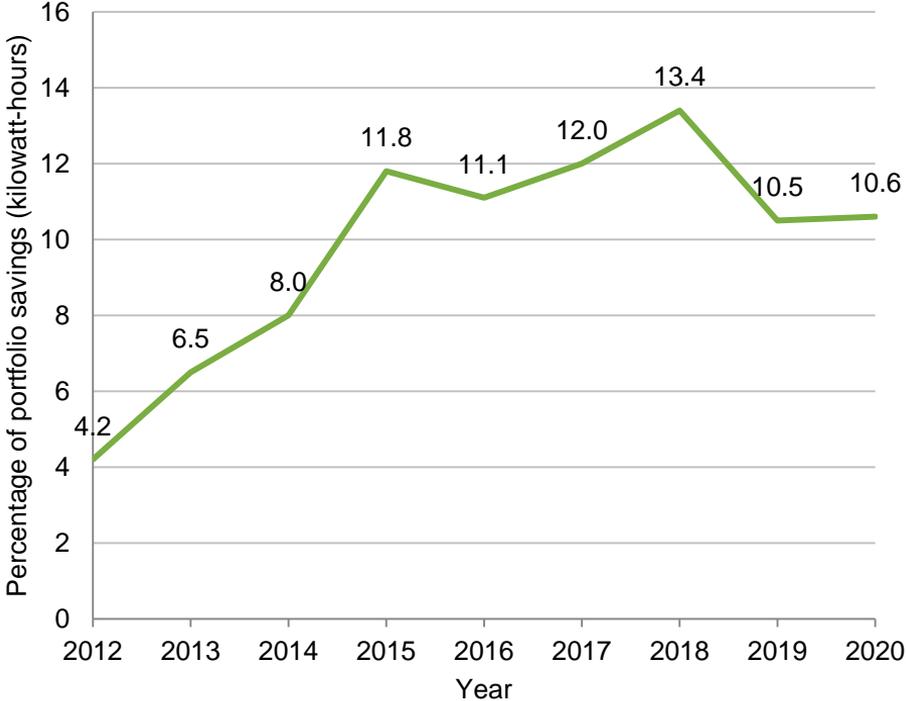
Top cost-effective programs in 2017

Program administrator	Program	\$ per kWh	kWh savings	Spending
Southern California Edison	Building Codes and Compliance Advocacy	\$0.00	860,131,392	\$1,264,179
Sacramento Municipal Utility District	Codes and Standards	\$0.00	70,000,000	\$207,346
ComEd	Business Energy Analyzer	\$0.02	53,000,000	\$847,000
Los Angeles Department of Water and Power (LADWP)	Process - Non-Res Pumps	\$0.02	49,529,464	\$795,437
AEP Ohio	Home Energy Report (Opower)	\$0.02	76,229,000	\$1,355,800
PPL Electric Utilities	Energy Efficiency Behavior & Education Program	\$0.02	40,467,000	\$844,000
Duquesne Light Co.	Residential Behavioral Savings	\$0.02	6,536,000	\$143,000
LADWP	Codes & Standards Program	\$0.02	175,265,456	\$4,180,893
PPL	Energy Efficiency Behavior & Education Program	\$0.02	34,326,000	\$844,000
ComEd	Home Energy Reports	\$0.02	461,880,000	\$11,405,000

Note: kWh = kilowatt-hour.

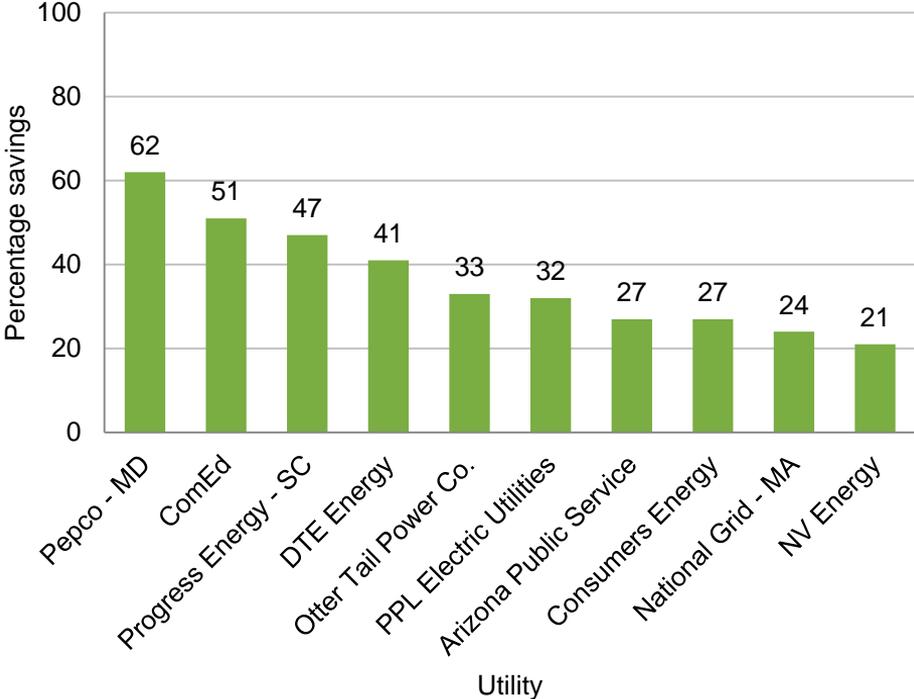
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Behavioral represents a big piece of pie



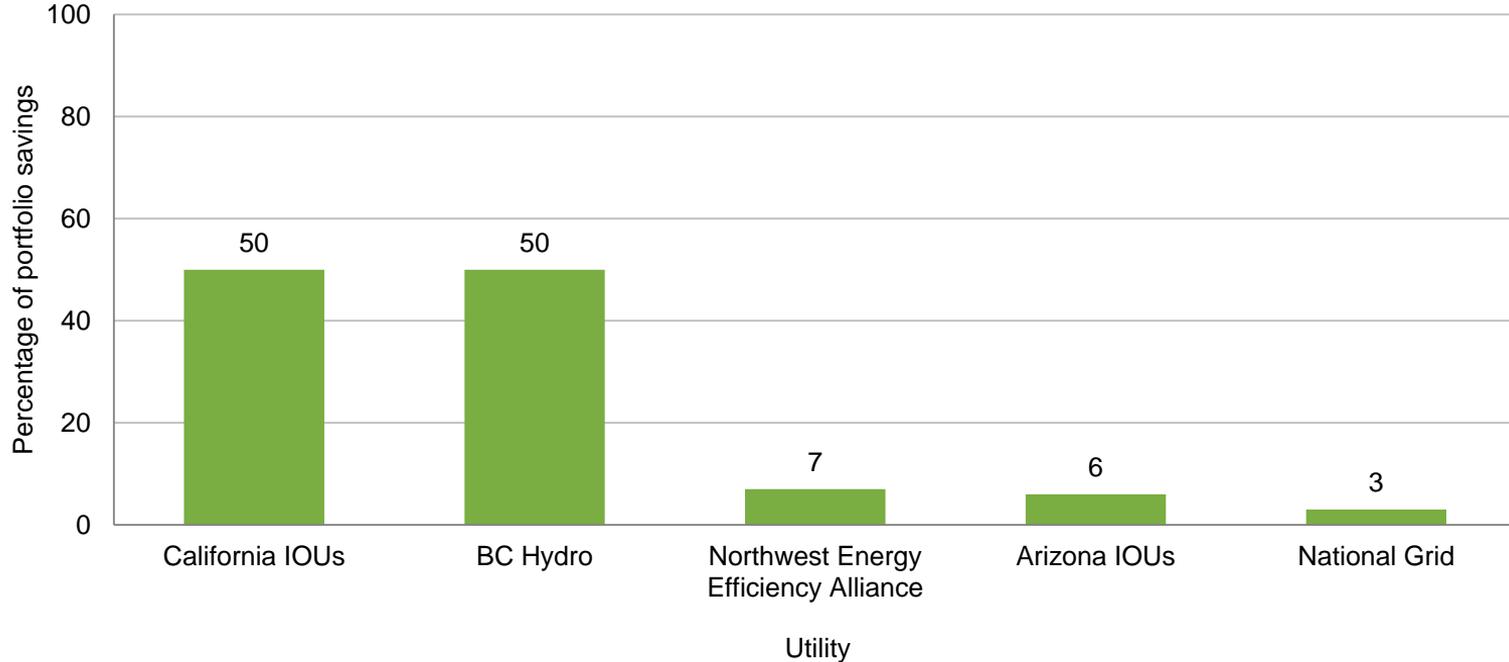
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Residential savings from home energy reports in 2016



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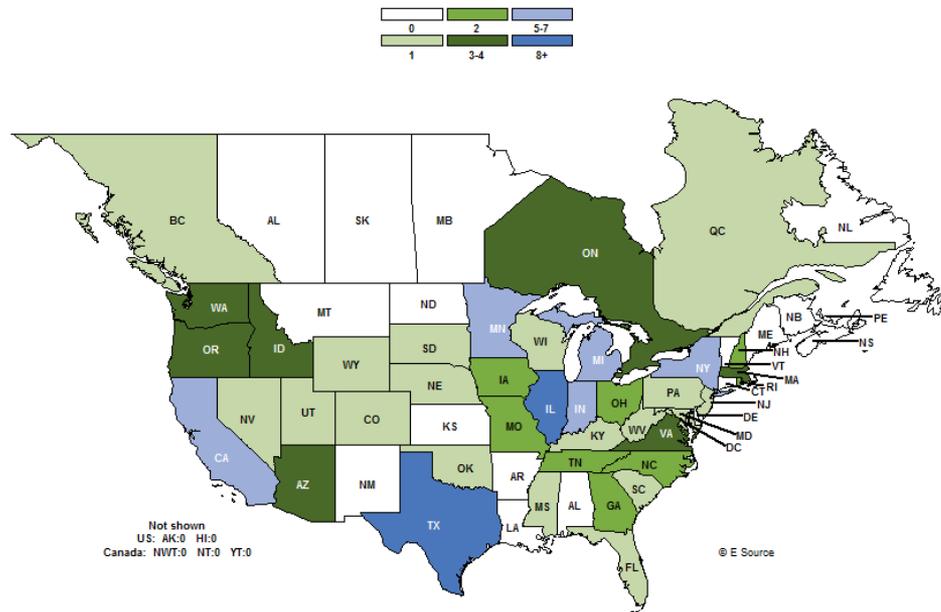
Big cost-effective savings from codes and standards programs



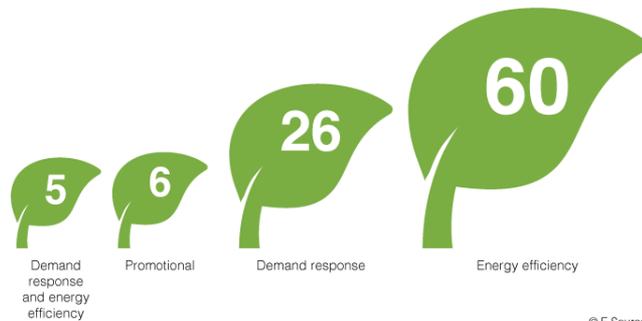
Note: IOU = investor-owned utility.

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Smart thermostats savings still variable but hold big promise



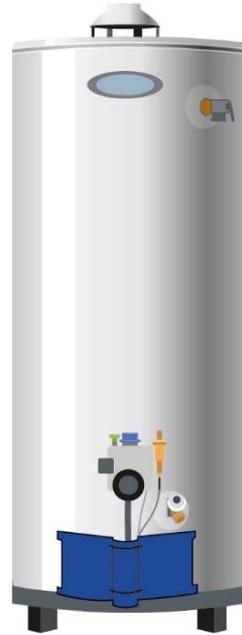
The E Source [Smart Thermostat Pilots and Programs](#) report lists utility smart thermostat programs and their features.



Lots of potential for midstream programs

Residential:

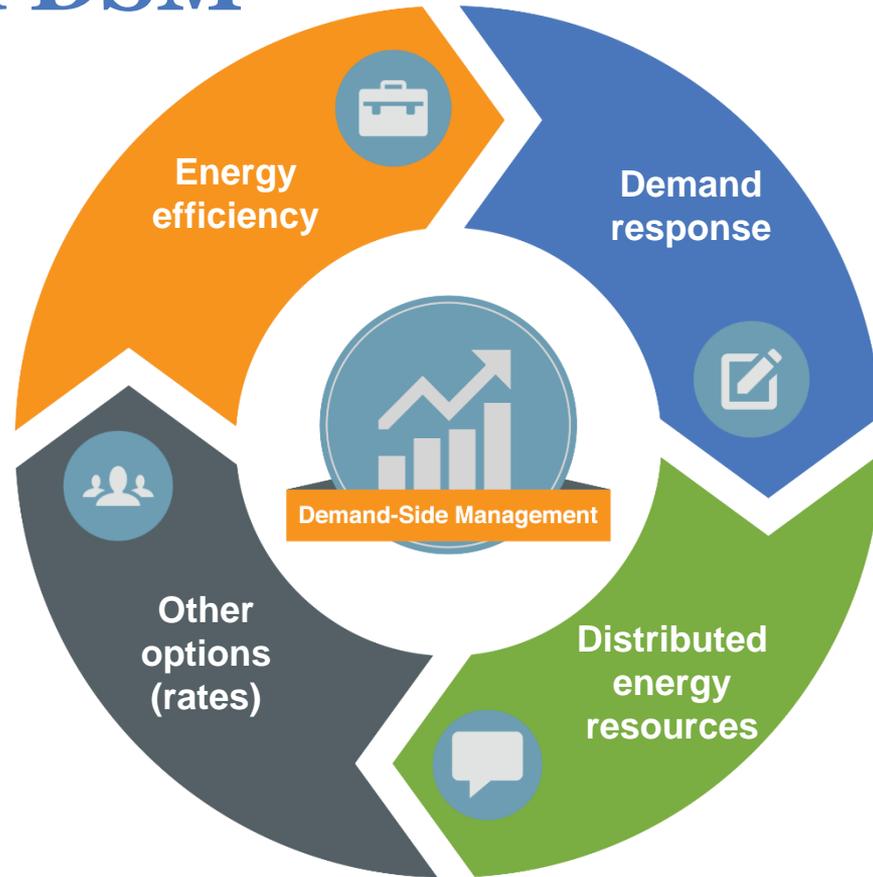
- Lighting
- HVAC
- Heat-pump water heater
- Consumer electronics (Energy Star Retail Products Platform)
- Household appliances



Commercial:

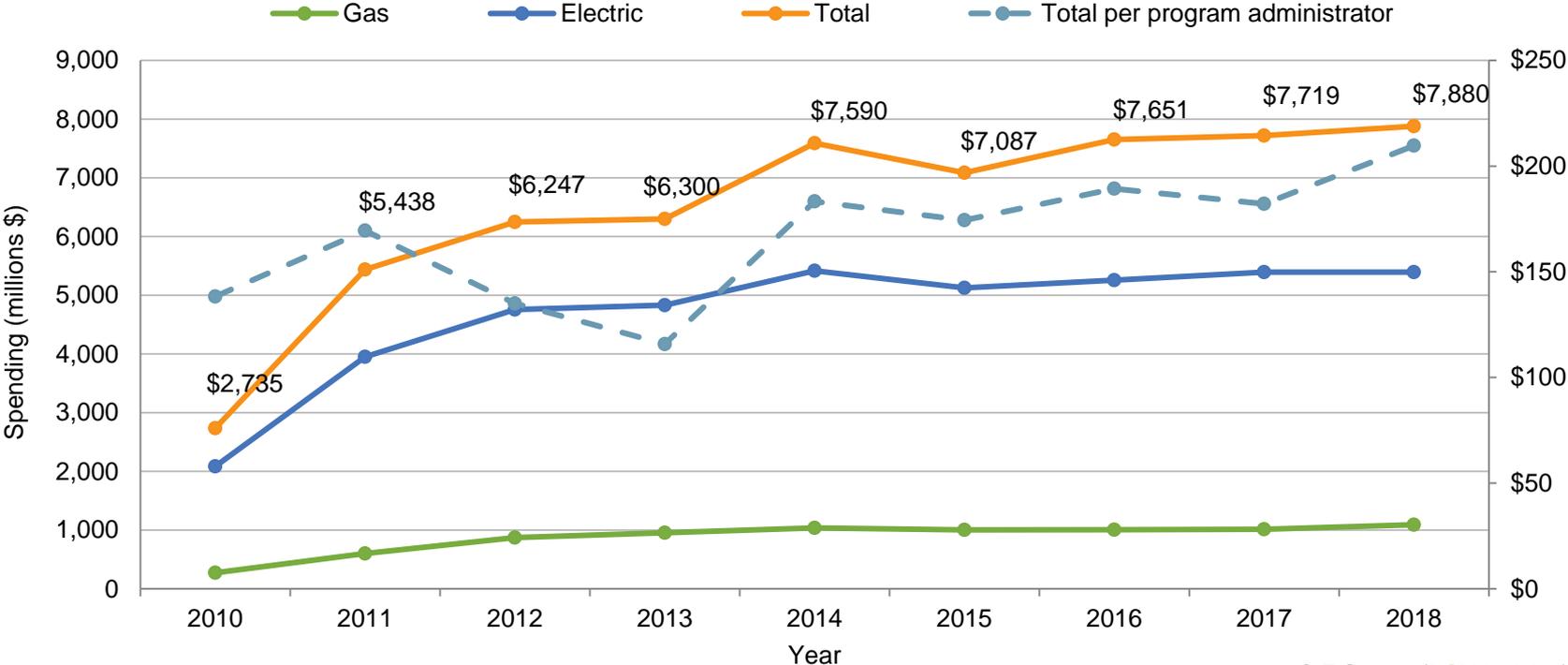
- Lighting
- HVAC
- Food service

Integrated DSM



DSM expenditures level out

Total planned demand-side management expenditures



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E Source next-generation case studies

National Grid

- Current portfolio = 40% lighting
- Future focus on nonwire alternatives, hard-to-reach customers, codes and standards, connected homes/businesses, and controls

Pacific Gas and Electric Co.

- Current portfolio = less than 20% lighting
- Future focus on codes and standards, pay for performance, operations and maintenance, conservation, controls and automation, midstream, iDSM, advanced metering infrastructure targeted outreach

Xcel Energy

- Current portfolio = 70% lighting
- Future commercial portfolio = lighting (including LEDs and controls), midstream
- Future residential portfolio Com Residential lighting for hard to reach

More next-gen materials*

- [Next Generation of Energy Savings Resource Center](#)
- [History of Lighting: How Technological Advances and Federal Regulations Shaped the Bulb](#)
- [DSM Programs for a Postlighting World](#)
- [C&I Technologies to Focus On After Lighting](#)
- [Emerging Technology Database](#)
- The US Department of Energy's [High Impact Technology HQ](#)

*Please note that some reports/tools are only available to certain E Source members.

For more information



Kate Merson

Director, Customer Energy Solutions, E Source

303-345-9145 kate_merson@esource.com

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