

**DOCKETED**

<b>Docket Number:</b>	17-AAER-07
<b>Project Title:</b>	General Service Lamps
<b>TN #:</b>	224610
<b>Document Title:</b>	Presentation - CA IOU Comments on CEC Draft Staff Report - Analysis of General Service Lamps (Expanded Scope)
<b>Description:</b>	By Energy Solutions - General Service Lamps (Expanded Scope Measure)
<b>Filer:</b>	Patrick Saxton
<b>Organization:</b>	California Investor Owned Utilities
<b>Submitter Role:</b>	Public
<b>Submission Date:</b>	8/28/2018 6:24:34 AM
<b>Docketed Date:</b>	8/28/2018

# General Service Lamps (Expanded Scope Measure)

California Energy Commission Staff Workshop

Developed for the California IOUs  
by Energy Solutions

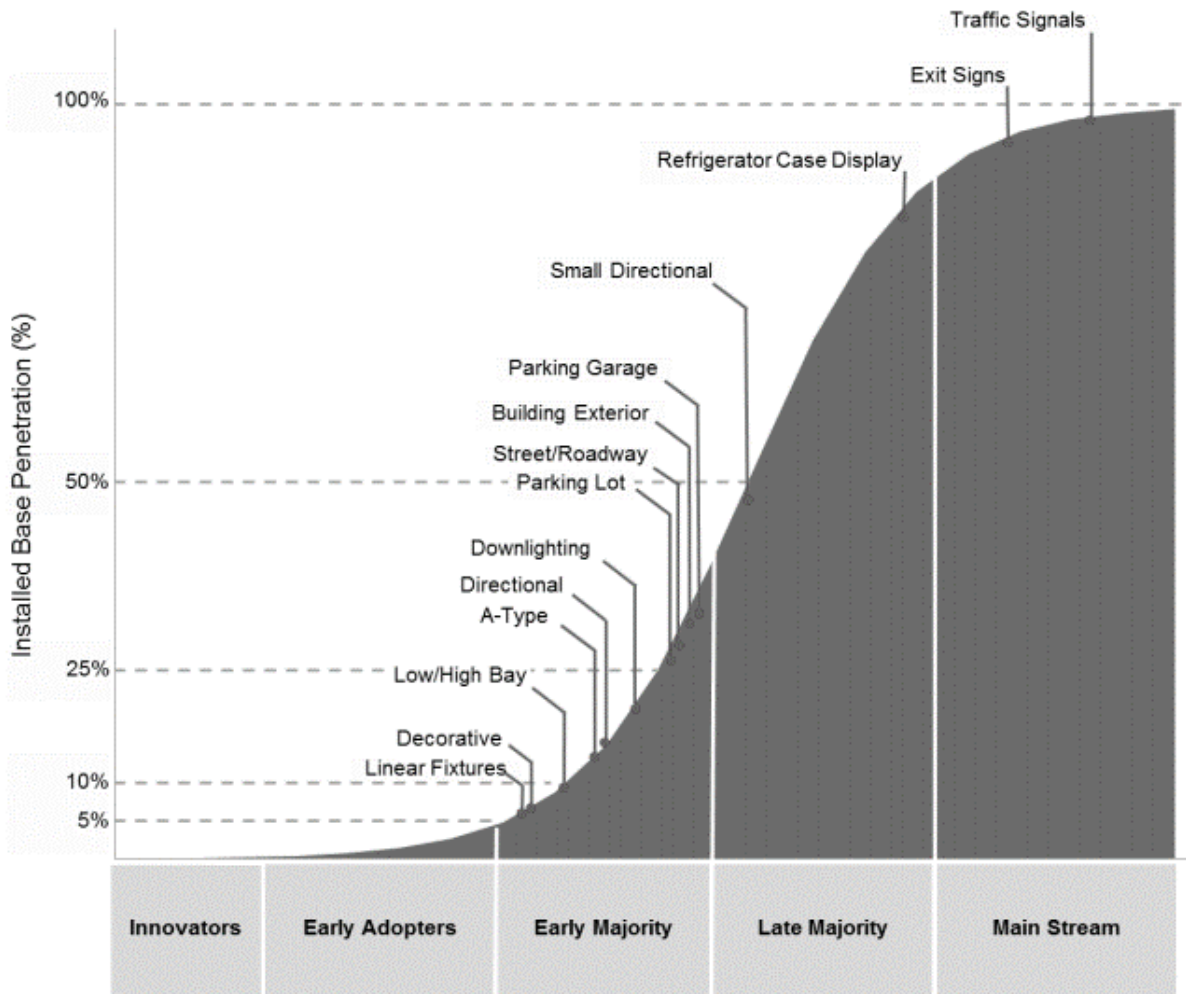
August 28, 2018



# Objectives

- 1) Why this measure matters to ratepayers
  - There are massive savings compared to other measures
  - The measure is extremely cost-effective
  
- 2) Why timing matters for this measure
  - Additional savings with an earlier effective date
  - Reduce uncertainty – ultimately improving compliance
  
- 3) Statewide CASE Team Recommendations
  - Adopt all proposals as soon as possible
  - Consider an earlier effective date

# Background



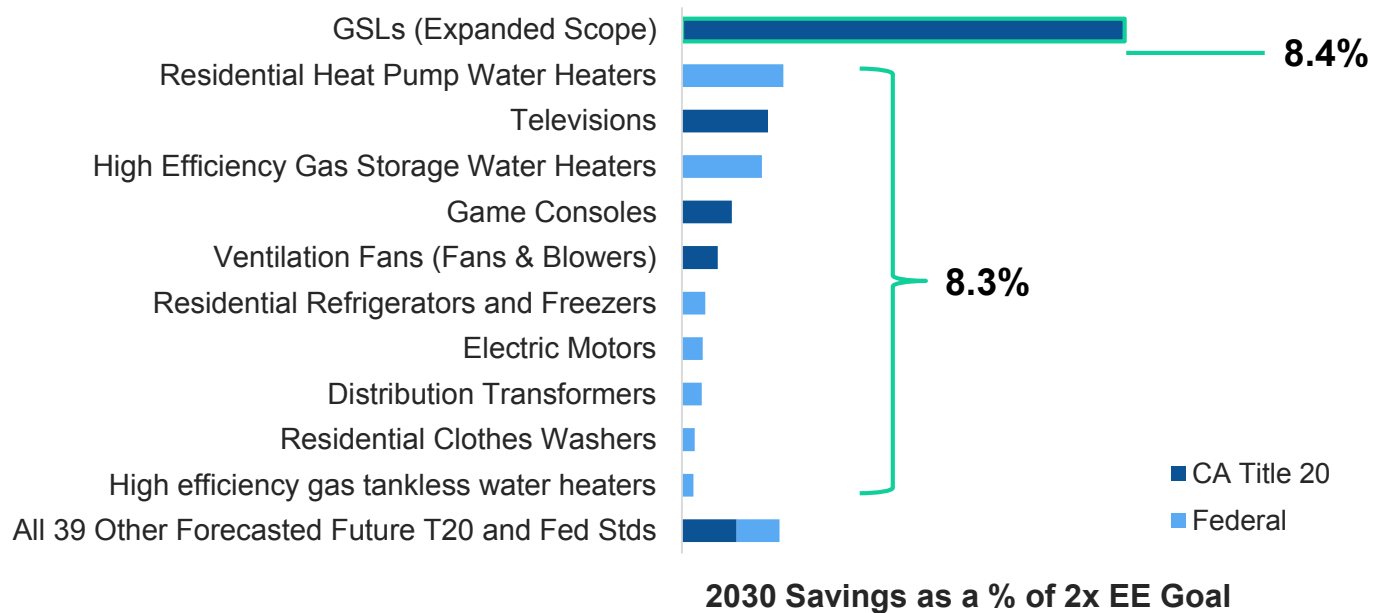
- Utility programs, including codes & standards, have worked with industry for years to advance energy efficient lighting.
- CA IOUs have invested millions of dollars towards incentive programs in support of LED lamps, assisting in the maturation of the most efficient and high performance lighting technologies

# Why CA Ratepayers Care

Huge amount of energy savings towards Statewide Goals

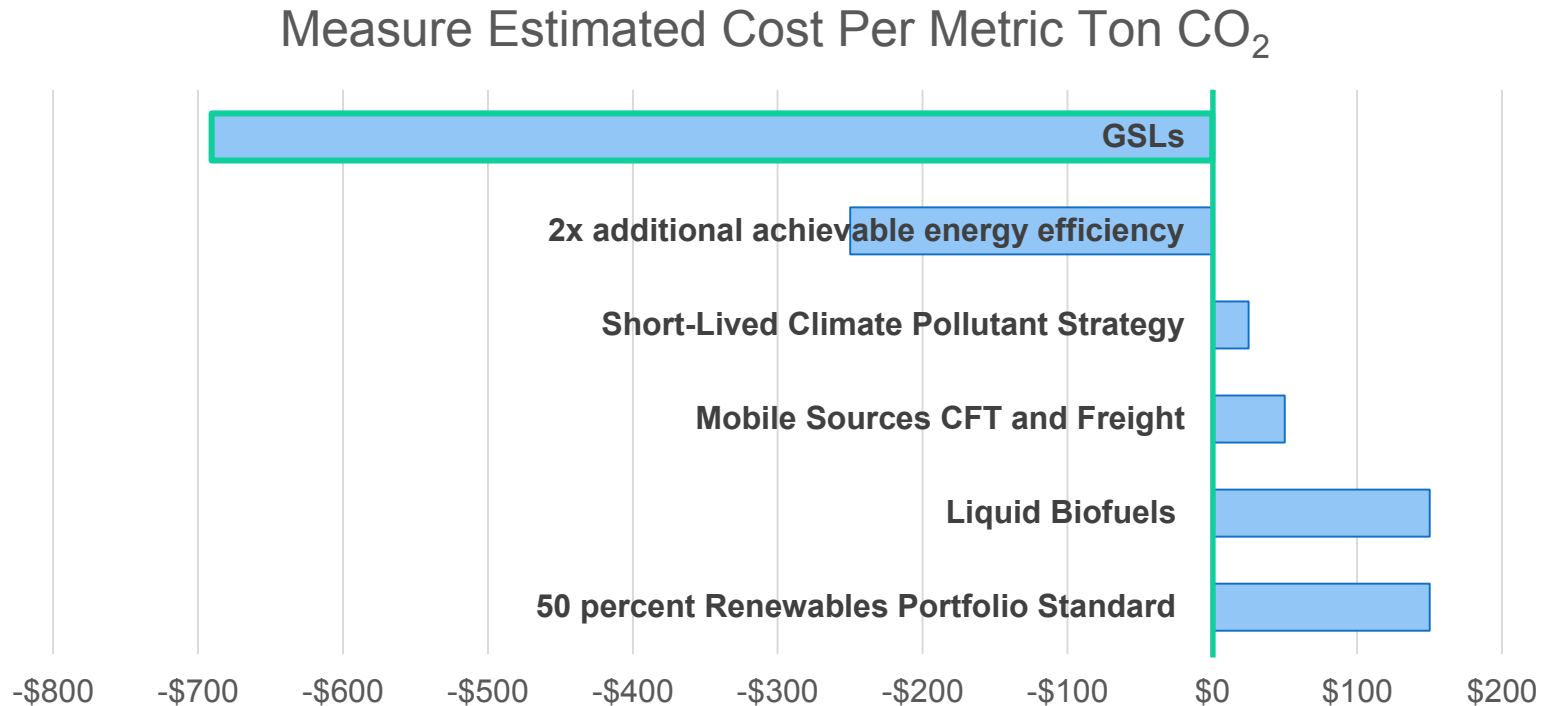
# Impact on CA's 2030 SB350 Targets (Doubling of Energy Efficiency Goal)

## Savings Potential of Future Appliance Standards to CA's 2030 2x EE Goal



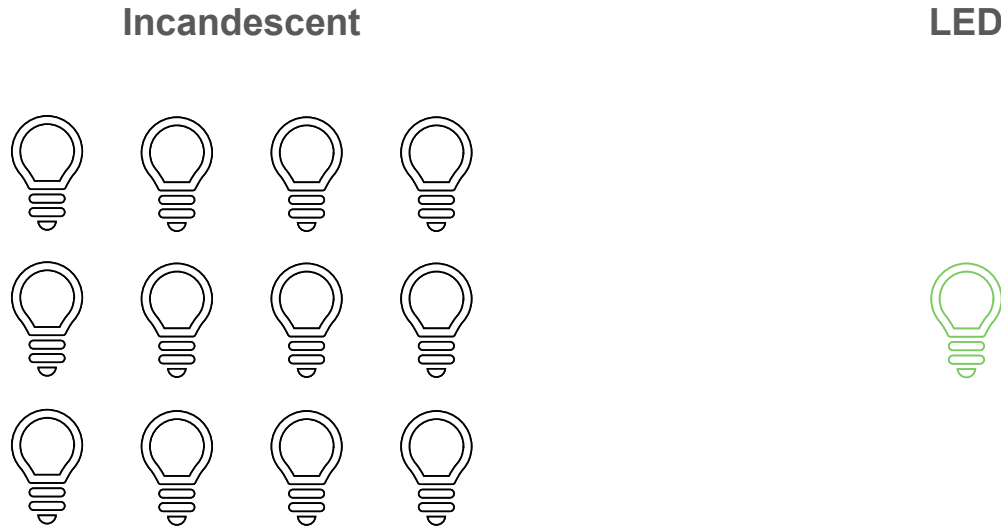
- This appliance efficiency measure will lead to more energy savings than any other measure in the foreseeable future
- On its own, the GSLs measure will save more energy than the next top ten measures combined

# Value in the Statewide EE Portfolio



- The GSL expanded scope measure is significantly more cost-effective than other measures in the scoping plan
- A one-year delay in the effective date costs ratepayers **\$391 million**

# Practical Value to Consumers



- The lifetime of a qualifying LED is **on average 12 times** longer than a typical incandescent, so consumers can avoid the hassle of lamp replacement
- Each LED lamp saves ~\$10 per year **on electricity costs alone**
- There is the additional avoided cost of **a dozen** incandescent lamp replacements needed to last the lifetime of one LED lamp
- Costs do not even consider product shipment costs, packaging costs, replacement labor costs



# Practicality of this Efficiency Measure

- There is no doubt that this measure is extremely **cost-effective**. Consumers will reap the benefits within the first year the standard is in effect.
- A 45-lumen-per-watt requirement for general service lamps is **technically feasible**.
- Consumers **widely accept** the qualifying technologies across all relevant applications as evidenced by:
  - Utility program feedback
  - Growing market share of LEDs
  - Growing number of ENERGY STAR® Qualified Products

# Why Timing Matters

Missed savings opportunities and market uncertainties

# Wasted Energy

 = 1000 cars



- Delaying the standard by 2 months would have the emissions equivalence of adding an additional **75,000 cars** to CA roads for 2 months.
- The amount of energy currently being wasted is roughly equivalent to leaving more than **3 LED lamps on all the time, 24/7, in every home in CA.** (12.8M CA households)

# Uncertainties Slow Market Adoption of Efficient Appliances

- The current definition of general service lamp allows for many exception products that are common in retail stores.
- Manufacturers and retailers are confused about state and federal regulations. How are retailers to filter out noncompliant products if they do not know if a product is noncompliant or an exception?
- Utility programs may have some uncertainty on how to work with manufacturers to incentivize lighting products.
- Adding clarity to the definition of general service lamp will reduce manufacturer and retailer confusion. Less confusion around the regulations will ultimately lead to higher compliance beyond 2020.

# California's Right To Regulate GSLs is Overdue

## 42 U.S.C. §6295(i)(6)(A)(vi)

(vi) State preemption.—Neither section 6297(b) of this title nor any other provision of law shall preclude California or Nevada from adopting, effective beginning on or after **January 1, 2018**—

(I) a final rule adopted by the Secretary in accordance with clauses (i) through (iv);

(II) if a final rule described in subclause (I) has not been adopted, the backstop requirement under clause (v); or

(III) in the case of California, if a final rule described in subclause (I) has not been adopted, any California regulations relating to these covered products adopted pursuant to State statute in effect as of December 19, 2007.

# Statewide CASE Team Recommendations

# Refine Staff Report Assumptions

- Assumptions are too conservative:
  - Lifetime in years should be longer than 10,000 hours (10,000 is an LED minimum)
  - Incremental cost of EISA-Exempt lamps should be less (the price continues to decrease)
- Overly conservative estimates undervalue this very important measure.
- The Statewide CASE Team will conduct additional analyses and recommend values to the Energy Commission in written comments.

# Adopt Proposal for Low-Lumen Lamps

- The Energy Commission should adopt this measure because:
  - It is also cost-effective, technically feasible, and leads to significant energy savings.
  - Small-diameter directional LED lamps within the 150 – 310 lumen range would otherwise be competing with incandescent alternatives.





# Adopt and Enforce As Soon As Possible

- The proposed requirements should be adopted as soon as possible
  - This will reduce uncertainty
  - This will allow for an earlier effective date
- Effective date should be as early as possible
  - Additional savings, reducing wasted energy
  - Meet CA mandates, help achieve SB350 Statewide Goals

# Summary of Recommendations

- 1) Refine Staff Report Assumptions**
- 2) Adopt Proposal for Low-Lumen Lamps**
- 3) Adopt and Enforce As Soon As Possible**

# References

- **Sources Slide #3:**
  - U.S. Department of Energy: Adoption of Light-Emitting Diodes in Common Lighting Applications  
([https://www.energy.gov/sites/prod/files/2017/08/f35/led-adoption-jul2017\\_0.pdf](https://www.energy.gov/sites/prod/files/2017/08/f35/led-adoption-jul2017_0.pdf))
- **Sources Slide #5:**
  - Forecasted standards list (50 standards) and energy savings derived from CEC SB 350 2x EE potential study  
(<https://efiling.energy.ca.gov/GetDocument.aspx?tn=221613>)
- **Sources Slide #6:**
  - \$/MtCO<sub>2</sub> for measures other than GSLs  
([https://www.arb.ca.gov/cc/scopingplan/scoping\\_plan\\_2017.pdf](https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf))
  - GSL electricity and monetary savings in CA  
(<https://efiling.energy.ca.gov/GetDocument.aspx?tn=224408>)
  - 2019-2030 GHG emissions factors  
([https://www.arb.ca.gov/cc/scopingplan/comparison\\_graphs\\_6cases101817.xlsm](https://www.arb.ca.gov/cc/scopingplan/comparison_graphs_6cases101817.xlsm))
  - U.S. Census Bureau  
(<https://www.census.gov/quickfacts/ca>)
- **Sources Slide #7:**
  - GSLs expanded scope energy savings derived from LBNL national impact analysis, population-scaled to CA  
(<https://eta.lbl.gov/sites/default/files/publications/lbnl-1007090-rev2.pdf>)