

**Items 11 and 12:
Proposed Regulations for
Battery Charger Systems and
Self-Contained Lighting Controls
and Negative Declaration**

Hearing for Consideration
and Possible Adoption

January 12, 2012





Battery Charger Systems

AUTHORITY AND NECESSITY



Appliance Efficiency Program Statutory Mandate and Results

- Warren-Alquist Act mandates that the CEC reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy by:
 - Prescribing standards for minimum levels of operating efficiency for appliances sold in CA
 - Including energy consumption labeling
- Appliance standards save 20,000 GWh/year
 - Since 1976 appliance efficiency standards have saved California consumers ~ \$36 billion

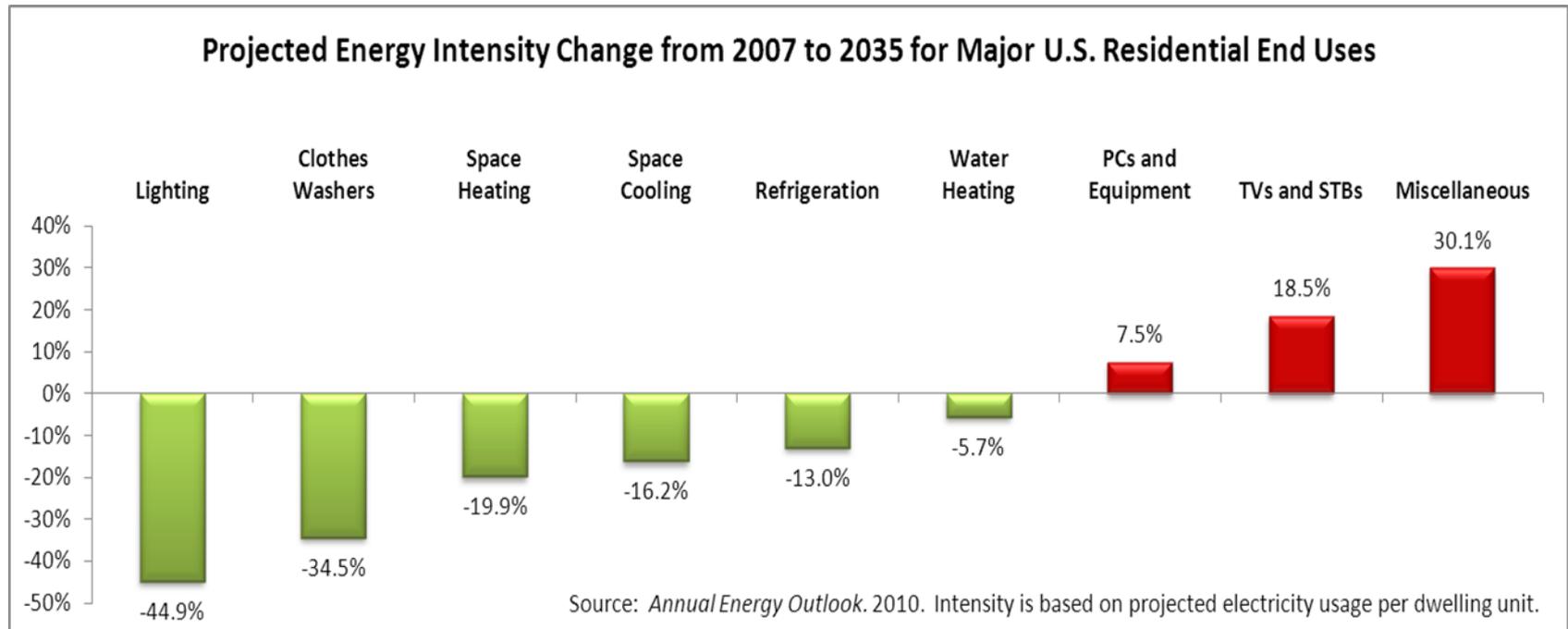


Commission Directives for Efficiency Standards Development

- Order Instituting Rulemaking (2007)
 - Authorized Efficiency Committee to conduct multiple phases of rulemaking focusing on several products, including battery chargers
- Scoping Order (2008)
 - Efficiency Committee divided rulemaking into phases, with battery charger systems to be considered in final phase



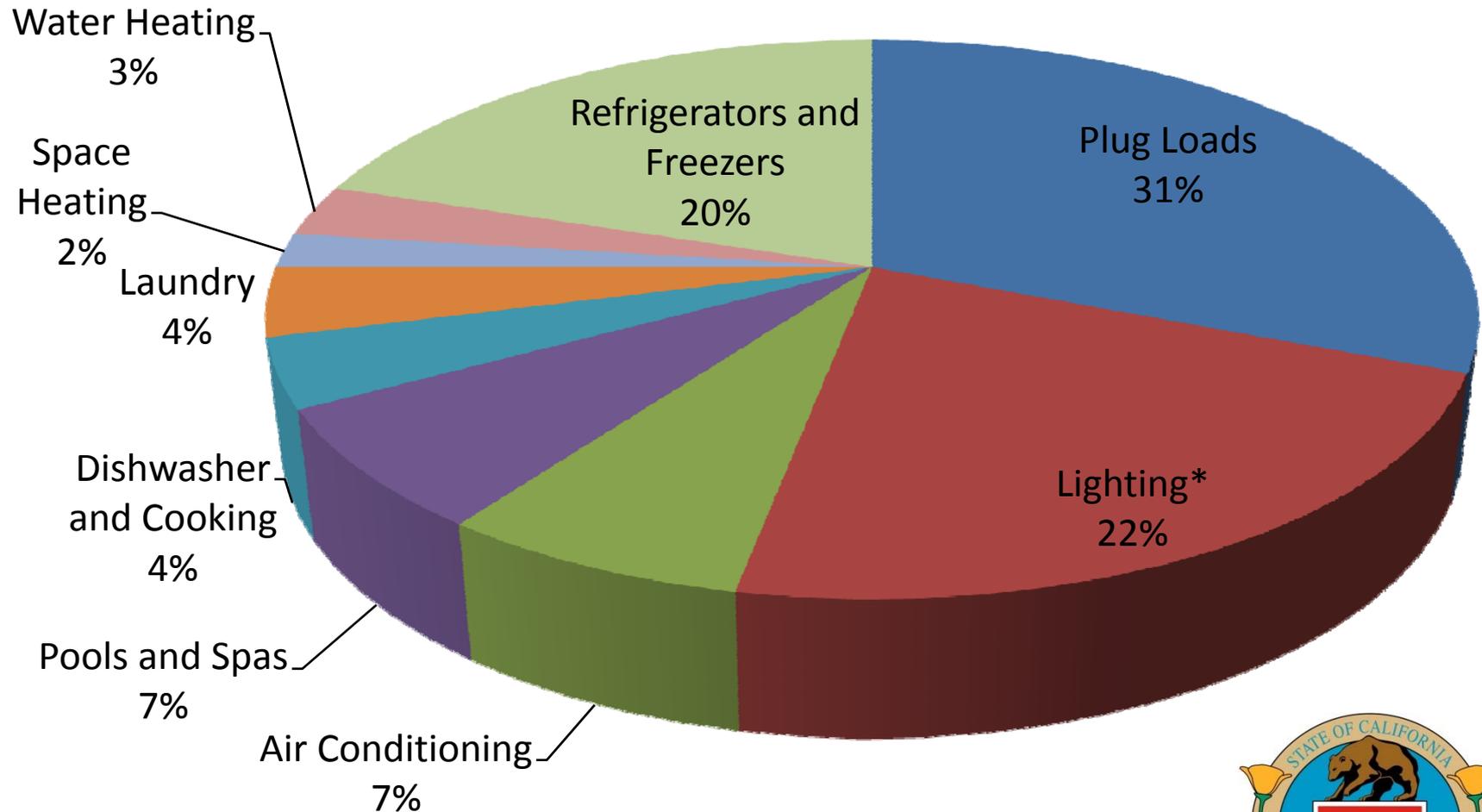
Plug Loads: Greatest Projected Energy Intensity Change Over Coming Decades



Miscellaneous contains smaller electronics such as chargers, home audio equipment, game consoles, etc. Also contain non-electronics such as portable fans, irons, etc.



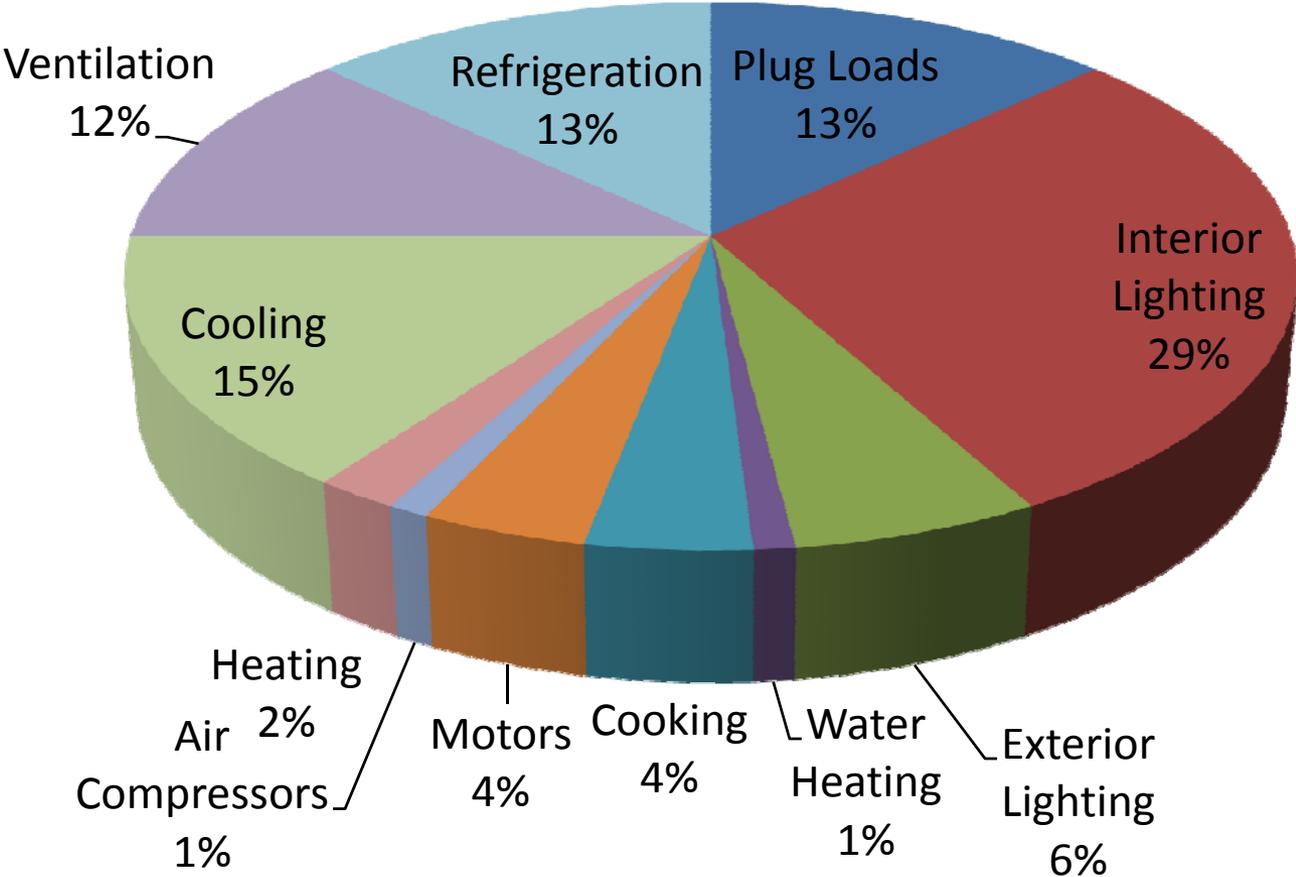
Plug Load Electricity Consumption in California Residential Buildings



Source: Residential Appliance Saturation Survey - 2010



Plug Load Electricity Consumption in California Non-Residential Buildings



Source: California Commercial End Use Survey - 2006



Battery Charger Use on the Rise

- Battery charger systems represent a significant and growing source of plug load energy use in California
 - 170 million in the CA market
 - Laptops, cell phones, and two-way radios
 - Power tools
 - Personal care products (shavers & toothbrushes)
 - Non-highway vehicles (forklifts & golf carts)

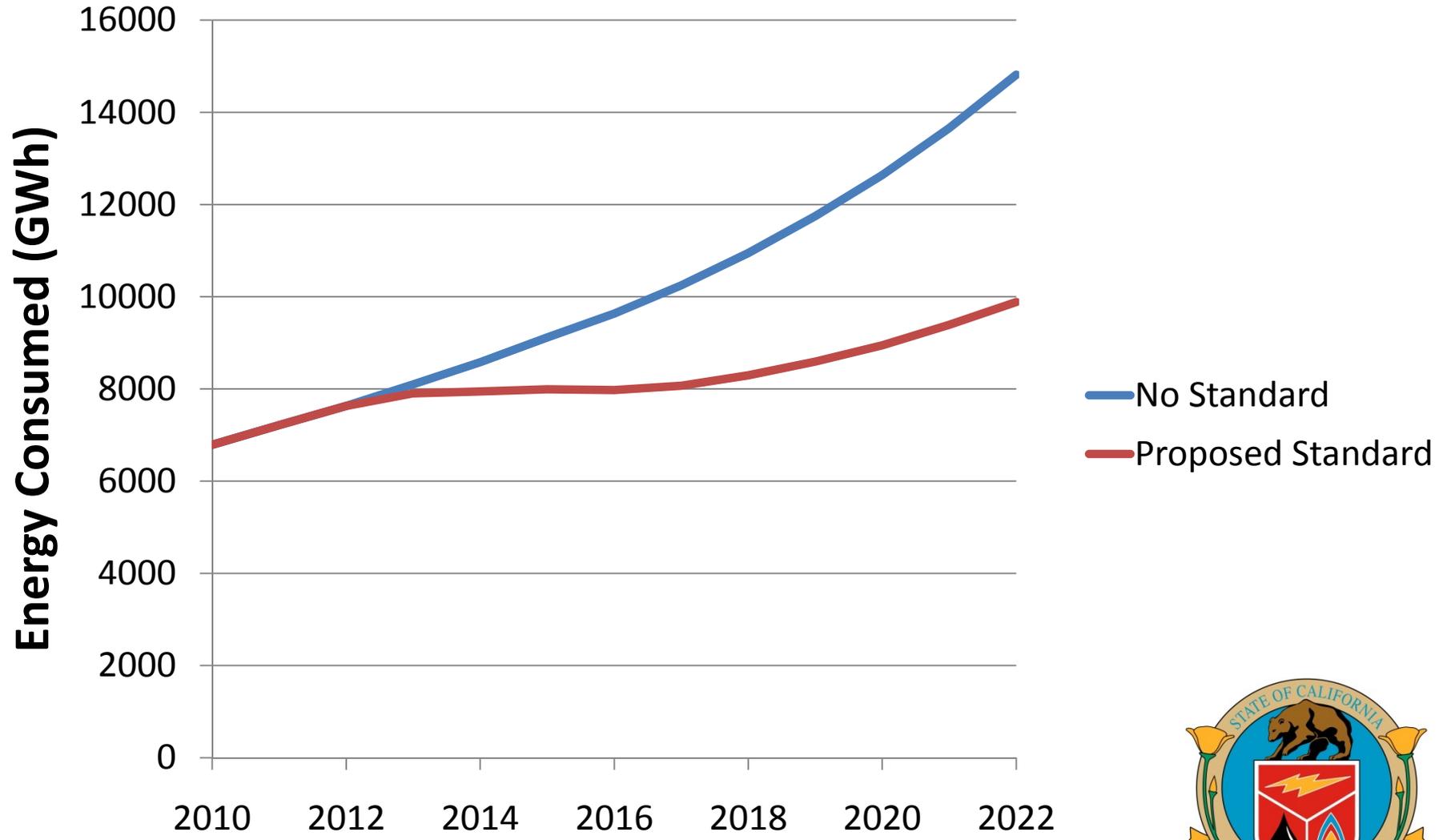


Most of the Energy Used in the Battery Charging Process is Wasted

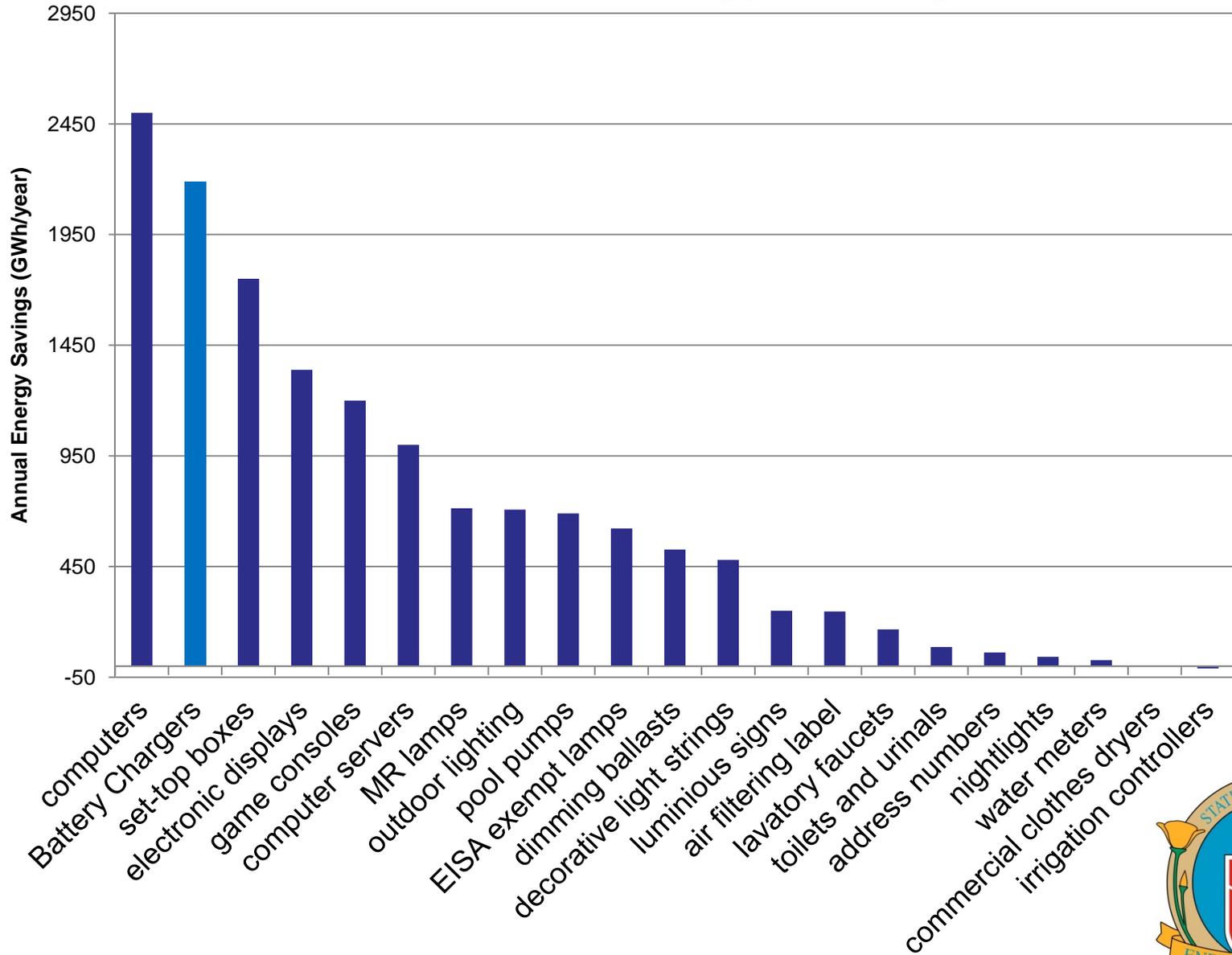
- Energy used by battery chargers in CA:
 - 8,000 GWh per year
 - Two-thirds wasted by continuing to send energy to batteries after fully charged
- Goal = Reduce this wasted energy by 40%
 - Will save 2,187 GWh and lower consumer energy costs by more than \$300 million per year
 - Energy savings equivalent to 350,000 homes
 - Reduce carbon emissions by 1 million metric tons



Statewide Battery Charger Consumption with standards and without standards



BCS : Relative Energy Savings





Battery Charger Systems

PROPOSED REGULATIONS AND STAKEHOLDER PROCESS



Proposed Battery Charger System Standards

- Establishes scope of products regulated
- Sets energy efficiency standards and effective dates for multiple categories of products
- Requires certification in order to be sold or offered for sale in CA.



Market Segment Product Categories Compliance Rates

- Small Consumer
 - Cell Phones 50%
 - Cordless Phones 0%
 - Personal Audio Electronics 90%
 - Laptops 10%
 - Personal Care 0%
 - Power Tools 10%
 - Universal Battery Charger 50%

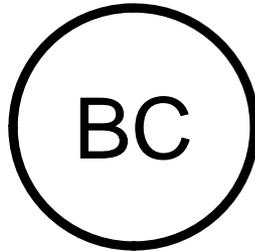
Source: Codes & Standards Initiative Report:
Analysis of Standards Options for Battery Charger Systems
- 2010



Battery Chargers Systems Proposed Labeling

- Requires a circle BC marking on the product that contains the battery charging terminals or the product's packaging

- Example:



Proposed Battery Charger System Standards Cont.

- The standards set
 - Maximum power consumption for battery charger systems with a full battery
 - Maximum power consumption for battery charger systems without a battery
 - Minimum efficiency requirements for charging a battery



Standards Development Process

- Codes and Standards Enhancement (CASE) Report submitted by CA IOUs
- 3 public workshops and many meetings and correspondence with stakeholders
- Staff Report drafted and published
- Publication of proposed regulations (45-day language) and other rulemaking documents
- Public hearing during 45-day comment period
- Publication of 15-day language



Responsiveness to Stakeholders

- Pre-Rulemaking Phase
 - Provided specific exemptions
 - Changes to effective date (non-consumer)
 - Changes to the standards
- Rulemaking Phase
 - Extended effective date for USB chargers
 - Modified labeling requirement
 - Changes to test procedure



Stakeholder 15-Day Comments

- Small BCS standard (consumer)
 - Manufacturers requesting more time to comply
- Labeling
 - Consumer Ed. Vs. Retailer Compliance
 - DOE adoption
- Exemptions requested
 - “loosely-coupled inductive charger”
 - FDA designated Class I medical products





Self-Contained Lighting Controls

PROBLEM AND PROPOSED SOLUTION



Adding Title 24 Requirements to Title 20

- Self-contained lighting controls currently regulated under Title 24
 - Installation-based requirement
 - Does not prohibit from the sale or offer for sale of non-compliant products
- Adding self-contained lighting control requirements to Title 20 ensures only compliant controls are sold or offered for sale in California



CEQA Compliance

- Initial Study
 - No adverse environmental impacts
- Negative Declaration
 - No comments were received



Conclusions

- BCS energy use is growing
 - Inefficient chargers waste two-thirds of electricity consumed
 - Significant savings potential
 - 2,100 GWh/yr
- BCS Standards:
 - Will cut wasted energy by 40%
 - Are cost effective and will save consumers over \$300 mil/yr
 - Are technically feasible using off the shelf parts

