

NRDC's Position on Title 20 California Efficiency Standards for Battery Charger Systems

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Summary

NRDC strongly supports CEC's BCS Proposal and encourages CEC to proceed without delay to positively influence DOE rulemaking

CEC proposed standard will:

- Save California over 2,000 GWh/yr electricity, equivalent to the output of a 350 MW power plant
- Save Californians \$300 million per year in reduced electrical bills
- Be very cost-effective, saving much more over the life of the products than its incremental cost (7:1 benefit to cost ratio overall)

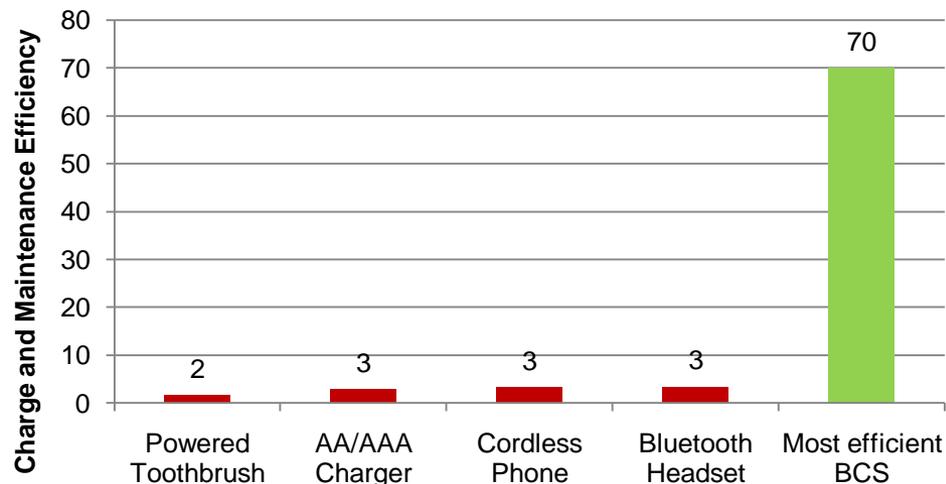
Bottom of battery charger market very energy inefficient

- Overall 63% of battery charger energy wasted
- Efficiency of worst products as low as 2%

2% efficiency means **98% of electricity is wasted** in the battery charger, not delivering user value



Worst and Best Efficiencies in Sample Test Products



California needs to set strong standard before DOE

- CEC's leadership will pave the way for a strong standard in California and nationally
 - CEC's proposal very close to DOE CSL2¹
 - CSL2 yields **60% greater savings** than CSL1
 - CEC should adopt a standard at CSL2 and pave the way for an identical national standard by DOE
- DOE's schedule is uncertain:
 - Behind schedule for July 1 final rule
 - The earlier California's standard becomes effective, the more savings are locked in for Californians: \$25 million incremental savings per month

1. CSL: Candidate Standard Level

CEC latest proposal makes many adjustments to address legitimate industry concerns

In response to stakeholder feedback, CEC revised proposal includes 16 changes to scope, test procedure and standard, including the following:

- Higher combined “Standby” limit, scales with battery capacity, and provides flexibility to balance fixed losses between No Battery and Maintenance modes for small chargers
- Reduced power factor requirements for both large and small chargers
- Drop Tier 1 for large chargers, move straight to Tier 2

We caution the Commission against further changes that could unduly reduce savings.

Historical perspective: industry's concerns on EPS were unfounded

- CEA during the external power supply (EPS) proceeding
 - CEA predictions were inaccurate
 - The CEC standard resulted in dramatically more efficient EPS and paved the way for a sound federal standard
 - In addition the labeling system first required in California has since been adopted around the world
 - With over 3 billion EPS shipped worldwide each year, the standard saved over \$1 billion in US and \$100 million in California (PIER)

Déjà Vu - CEA's Prior Campaign for External Power Supplies

Net Result of Regulations

- Instead of saving megawatts of energy, the regulations will potentially:
 - Reduce consumers choice with some popular products withdrawn from CA market
 - Force manufacturers to offer less featured products to California consumers
 - Lead to higher costs for popular products
 - Diminish the long-term effectiveness of the ENERGY STAR program



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8

And more recently on TVs

CEA claims:

- The proposed standard would eliminate 50-65% of TVs
- The standard would cut jobs and reduce state revenue

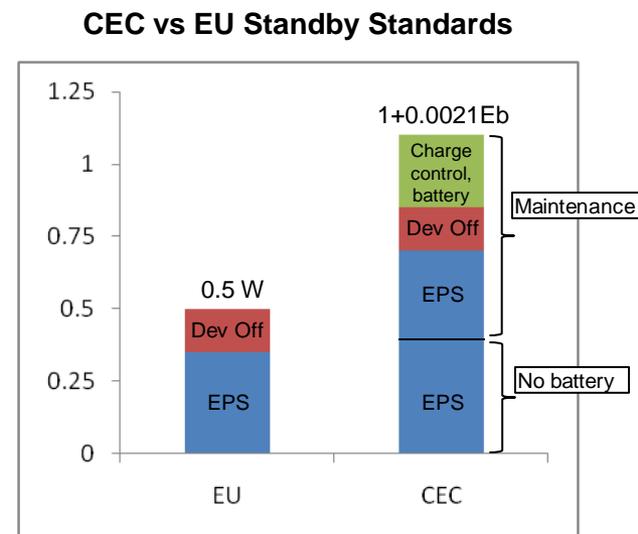
Reality:

- Almost all TVs sold today in 2011 already meet the CEC's 2013 standards
- These more efficient TVs cost LESS than they did in 2009 and have MORE features
- The standard is having tremendous energy saving benefits on biggest consumer electronics energy end-use



Standby requirements for notebooks

- EU Standby requirement: 0.5W by Jan 2013
 - Different metric: EU does not include charge control and battery losses
 - CEC's limit ($1+0.0021Eb$) is slightly less stringent than EU: 0.2-0.4W available for charge control and battery losses
 - California should not accept notebook BCS efficiencies worse than EU!



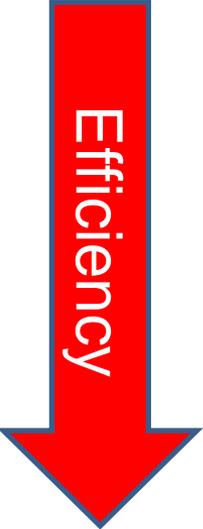
- No need to change the Test Procedure:
 - Isolating Device Off energy from BCS energy may be a good idea conceptually, but complicated in practice: requires destructive testing
 - Unnecessary: CEC proposed standard works with current test procedure, and maintains consistency across products

Efficiency mark intended to facilitate standard implementation and enforcement

- Intent:
 - Encourage the creation of a federal efficiency mark
- Benefits:
 - Facilitates compliance verification, replaces certification in CA
 - Creates framework for consistent regulations globally
- Similar label for external power supplies was resounding success:
 - Adopted worldwide
 - Transformed the efficiency of external power supplies, saving billions of dollars in electricity costs



Proposed mark and efficiency levels



Level	Description	Standard
BC I	Least efficient	Less than BC II
BC II	Efficient	CEC and DOE standards
BC III	Most efficient	For Energy Star and utility incentives
BC IV	Future use	Future Energy Star and utility incentives

- Anchor protocol with California proposed standard at level II
- Leave one level below California to allow other jurisdictions to mandate labeling without minimum requirement

Mark location

Form Factor 1: 3 separate housings



Mark on back of charge control component

Form Factor 2: Power supply and charge control together, battery separate



Mark on charge control equipment

Form Factor 3: Charge control and battery together, EPS separate

Laptop:



Mark on back of laptop

Form Factor 4: all 3 elements in single housing



Mark on back of product

In conclusion

CEC proposal is:

1. Cost effective for consumers
2. Technically feasible and reasonable
3. A major energy and CO2 savings opportunity
4. In line with California's energy efficiency and CO2 reduction goals
5. An economic growth opportunity through higher energy productivity