

Federal Lighting and Appliance Standards in the Reference Case

For the TEPPC reference case, we want to explicitly account for the impact of recent and scheduled changes to Federal appliance and lighting efficiency standards. There are two sets of standards of interest:

- **EISA:** Standards established directly by Congress through the Energy Independence and Security Act of 2007 (EISA)
- **DOE:** Standards recently established, or scheduled to be established, by DOE through its normal rulemaking process

LBNL developed projections of the annual energy and peak demand savings from this set of standards, relying on secondary data sources. This document summarizes the data sources, identifies key analytical steps taken to adjust the data, and summarizes the results. The accompanying spreadsheet contains all of the underlying calculations.

Questions for SPSC DSM Work Group:

- Is the approach presented here reasonable? Are there opportunities for improvement?
- How, if at all, should we account for overlap between savings from standards and from ratepayer-funded EE programs? (This is perhaps more an issue outside of CA and the PNW)

Results (bus-bar savings)

States	2020 Energy Savings (GWh)			2020 Peak Demand Savings (MW)		
	EISA	DOE	Total	EISA	DOE	Total
Arizona	1,787	2,266	4,053	267	707	975
California	8,915	10,490	19,405	1,335	2,603	3,939
Colorado	1,425	1,658	3,082	214	370	583
Idaho	423	494	917	64	113	177
Montana	292	341	633	44	76	120
Nevada	738	903	1,641	111	254	365
New Mexico	577	684	1,261	86	169	255
Oregon	1,078	1,247	2,325	161	278	439
Utah	620	734	1,353	93	174	267
Washington	1,838	2,130	3,968	275	471	746
Wyoming	162	193	355	25	44	68
TOTAL	17,854	21,140	38,995	2,675	5,258	7,934

Products Covered New Federal Appliance and Lighting Standards

Set of Standards	Product
EISA standards	External Power Supply Dishwashers & Dehumidifiers Walk-in coolers Electric motors Light bulbs Incandescent reflector lamps Metal halide fixtures
DOE standards that have recently been established	General Service Fluorescent Lamps Incandescent Reflector Lamps Small Motors Water Heaters (Residential) Refrigerated Vending Machines Commercial Clothes Washers Pool Heaters Direct Heating Equipment
DOE standards that are scheduled to be established by January 2013	Commercial Boilers Residential Refrigerators and Freezers Microwave Ovens — Standby Power Residential Furnaces Fluorescent Lamp Ballasts Residential Clothes Dryers Room A/C Residential Central A/C and Heat Pumps Battery Chargers External Power Supplies Residential Clothes Washers Metal Halide Lamp Fixtures Walk-In Coolers and Freezers Commercial Reach-In Refrigerators and Freezers

Data Sources

Set of Standards	Data Source
EISA standards	Andrew deLaski (executive director of the Appliance Standards Awareness Project) provided a spreadsheet with his analysis of the expected savings from each EISA standard. (This is an updated version of analyses previously published jointly by ASAP and ACEEE)
DOE standards that have recently been established	DOE technical support documentation associated with each final rule
DOE standards that are scheduled to be established by January 2013	ASAP/ACEEE “KaBOOM” Report, with state-level savings provided here: http://www.standardsasap.org/state/2009%20federal%20analysis/ka-BOOM_overview.html . This analysis includes only those standards that are scheduled to be established by January 2013 (and effective by 2016)

Data analysis issues

Set of Standards	Data Analysis Issue
EISA standards	<ul style="list-style-type: none"> Data source provided national electricity savings (end-use level) and peak generation <u>capacity</u> savings

	<ul style="list-style-type: none"> • End-use electricity savings translated to bus-bar savings by adding 9.1% T&D losses (for consistency with KaBOOM report) • Peak capacity savings translated to peak demand savings by deducting 10% reserve margin (as assumed in the underlying analysis) • National savings allocated to each state based on the ratio of national-to-state savings for the same product/standard in the KaBOOM analysis. (The KaBOOM report includes national and state-level savings estimates for subsequent updates to the EISA standards).
DOE standards that have recently been established	<ul style="list-style-type: none"> • Data source provided national electricity savings (at the bus-bar) • Peak capacity savings translated to peak demand savings by applying the peak-coincidence factor assumed in the KaBOOM analysis for the same project/standard. (The KaBOOM report includes savings estimates for DOE standards that have already been set; rather than using those estimates directly, though, we use DOE's estimates based on the actual standard adopted). • National savings allocated to each state based on the ratio of national-to-state savings for the same product/standard in the KaBOOM analysis.
DOE standards that are scheduled to be established by January 2013	<ul style="list-style-type: none"> • The data source (the KaBOOM report) included savings estimates for DOE standards that have already been established, DOE standards that scheduled to be established, and several standards that the Obama Administration has stated should be accelerated. Only those savings estimates for DOE standards that have not yet been established were used. • The data source provided state-by-state electricity savings (end-use level) and peak generation capacity reduction for each standard • End-use savings were translated to bus-bar savings by adding 9.1% T&D losses (as ASAP/ACEEE assumed in the underlying analysis) • Peak capacity savings translated to peak demand savings by deducting 10% reserve margin (as ASAP/ACEEE assumed in the underlying analysis).