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November 10, 2015

MEMORANDUM

TO: Council members

FROM: Charlie Grist and Jennifer Light

SUBJECT: Results from 2014 Regional Conservation Progress Survey

BACKGROUND:

Presenter: Charlie Grist and Jennifer Light

Summary: The Regional Conservation Progress (RCP) Survey comprises data from Bonneville (on behalf of their public utilities), the region's investor owned utilities (IOU), Energy Trust of Oregon, and the Northwest Energy Efficiency Alliance (NEEA). The data collected in the RCP provides an understanding of the conservation savings acquired in the region and conservation expenditures for 2014.

Following are some of the survey's major findings for conservation savings:

- The utility-funded conservation savings in 2014 were 262 average megawatts (aMW). This is shy of the Sixth Plan annual target for 2014 of 280 aMW of savings from all sources, including codes and standards.
- The cumulative utility-funded conservation savings for the first five years of the Sixth Plan period were 1,309 aMW, which surpassed the Action Plan's five-year target of 1,200 aMW
- When accounting for codes and standards and market induced savings, the cumulative five year savings were 1,504 aMW, surpassing the high end of the Sixth Plan range of 1100 to 1400 aMW

- Utility-funded capacity savings were around 500 MW for 2014.
- Cumulative savings from 1978 through 2014 from utility and NEEA conservation programs, state codes and federal standards now total 5,772 average megawatts and conservation remains the region's second largest resource after hydroelectricity.

Following are some of the survey's major findings for conservation costs:

- In aggregate, regional utility investments in energy efficiency in 2014 were \$367 million (2006\$). (Note: This may not represent all public utility self-funded conservation.)
- The average levelized cost for conservation continues to remain low. The average levelized cost to utilities of 2014 savings was \$15.70 per megawatt hour (2006\$).
- Utility-funded conservation savings for 2014 are equivalent to 1.25% of the regional electricity sales, on average. The data also shows that a handful of utilities capture significant savings relative to their share of retail electric sales.

Relevance The primary charge to the Council under the Northwest Electric Power Planning and Conservation Act is to prepare a long-term forecast of regional electricity needs and a plan to meet those needs. One of the key roles for the Regional Technical Forum is to track conservation savings in the region. The RTF conducts this annual survey to track progress and provide insight on how the region is doing on meeting the conservation targets identified in the power plan.

Workplan: 1.D. Chair and manage RTF activities: Complete report on EE achievements.

Background: The Council's Regional Technical Forum (RTF) is charged with conducting an annual survey to assess progress towards the Sixth Power Plan's conservation goals. Council staff, with the assistance of RTF contract analyst and an outside contractor (Cadmus), recently completed the 2014 survey and will present their findings at the November Council meeting.

More Info: N/A

Progress Toward the Sixth Plan's Regional Conservation Goals

2014 Achievements

November 2015

2014 Regional Conservation Achievement Report

- **Annual survey conducted by the RTF and Council**
- **Requested actual conservation savings and expenditures for 2014**
- **Data requested from all utilities, SBC administrators, NEEA, and BPA**

2014 Regional Conservation Progress Report

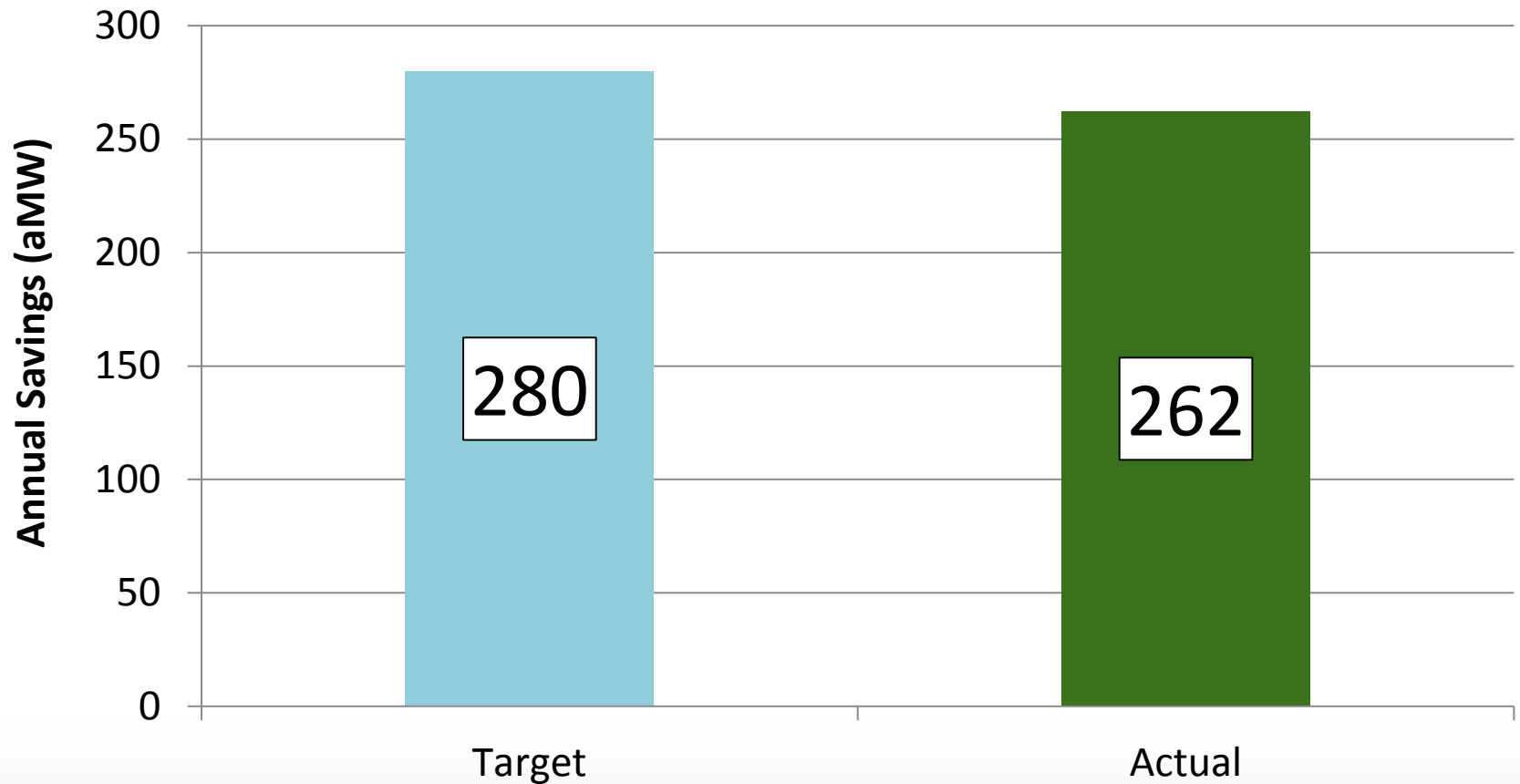
- Annual survey conducted by the RTF and the Council to track region's progress against Power Plan targets
- Data collected for 2014: Conservation savings, capacity savings (where available), expenditures
 - New this year: sought measure/end use specific data
- Data requested from all utilities, SBC administrators, NEEA, and BPA
 - This year: BPA provided data directly for its customers with an opportunity for them to review/correct data

The Council and RTF would like to thank all the utilities and organizations who participated in this survey!

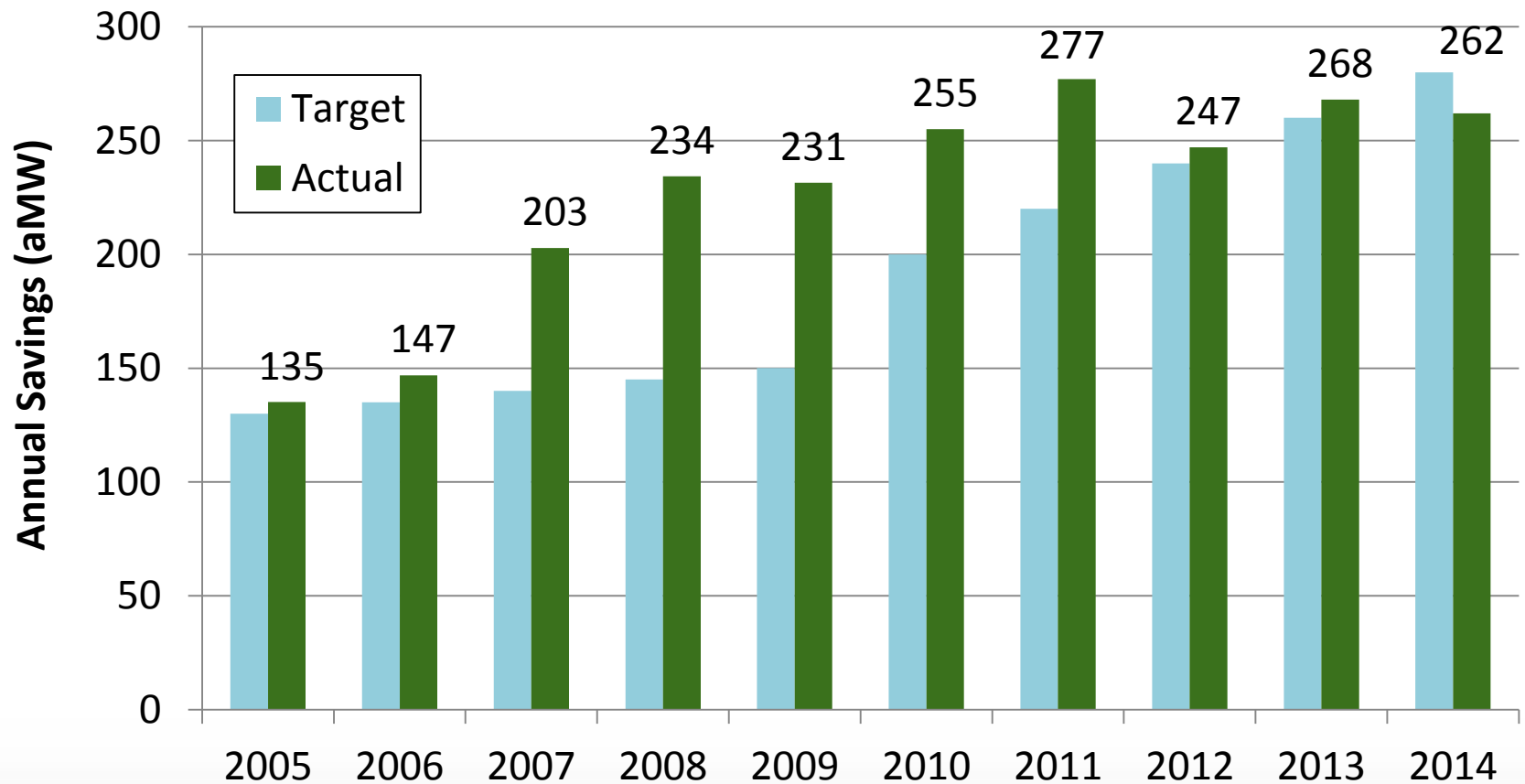


2014 Achievements

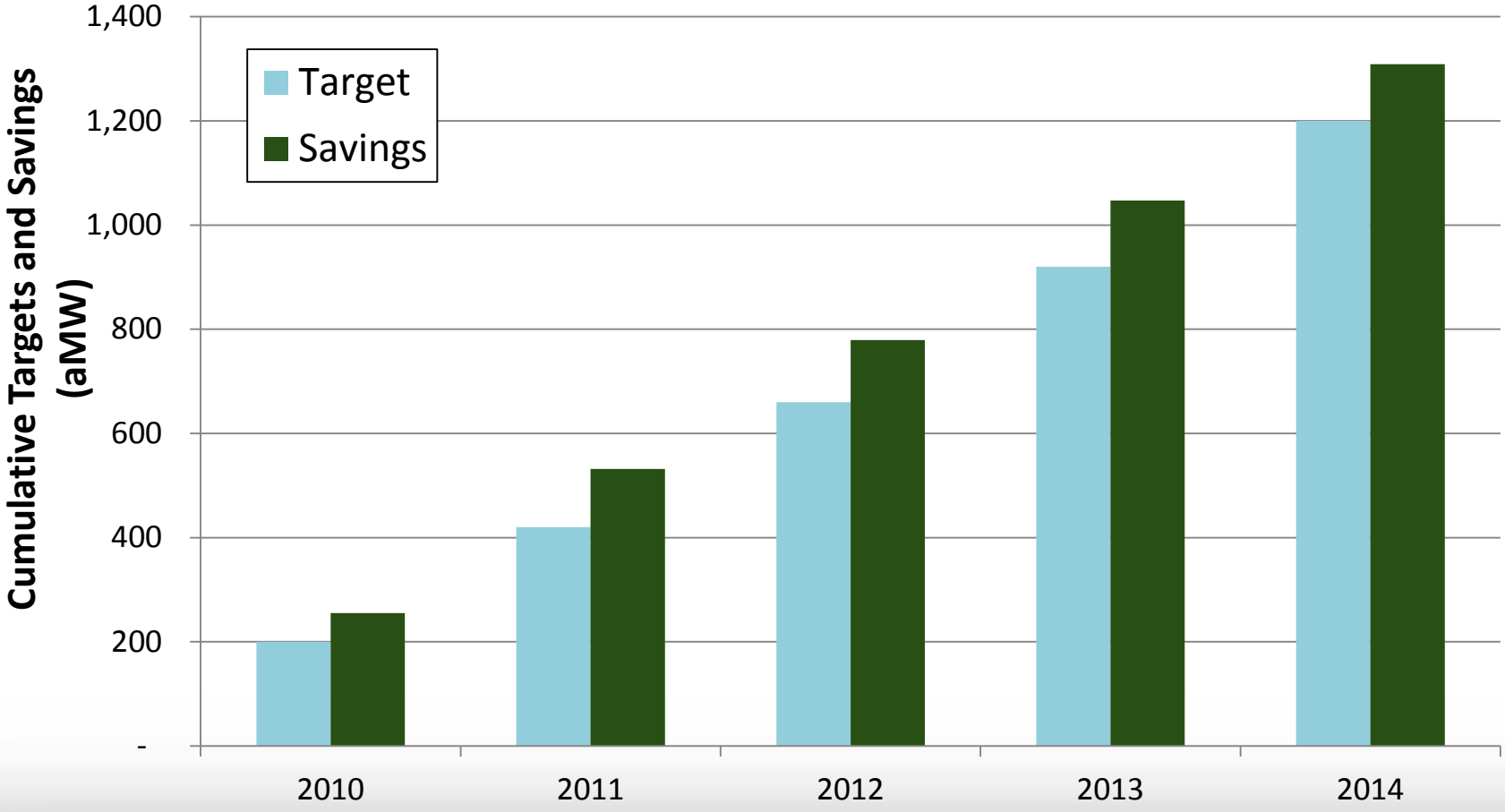
2014 Utility-Funded Accomplishments Shy of Plan Annual Target



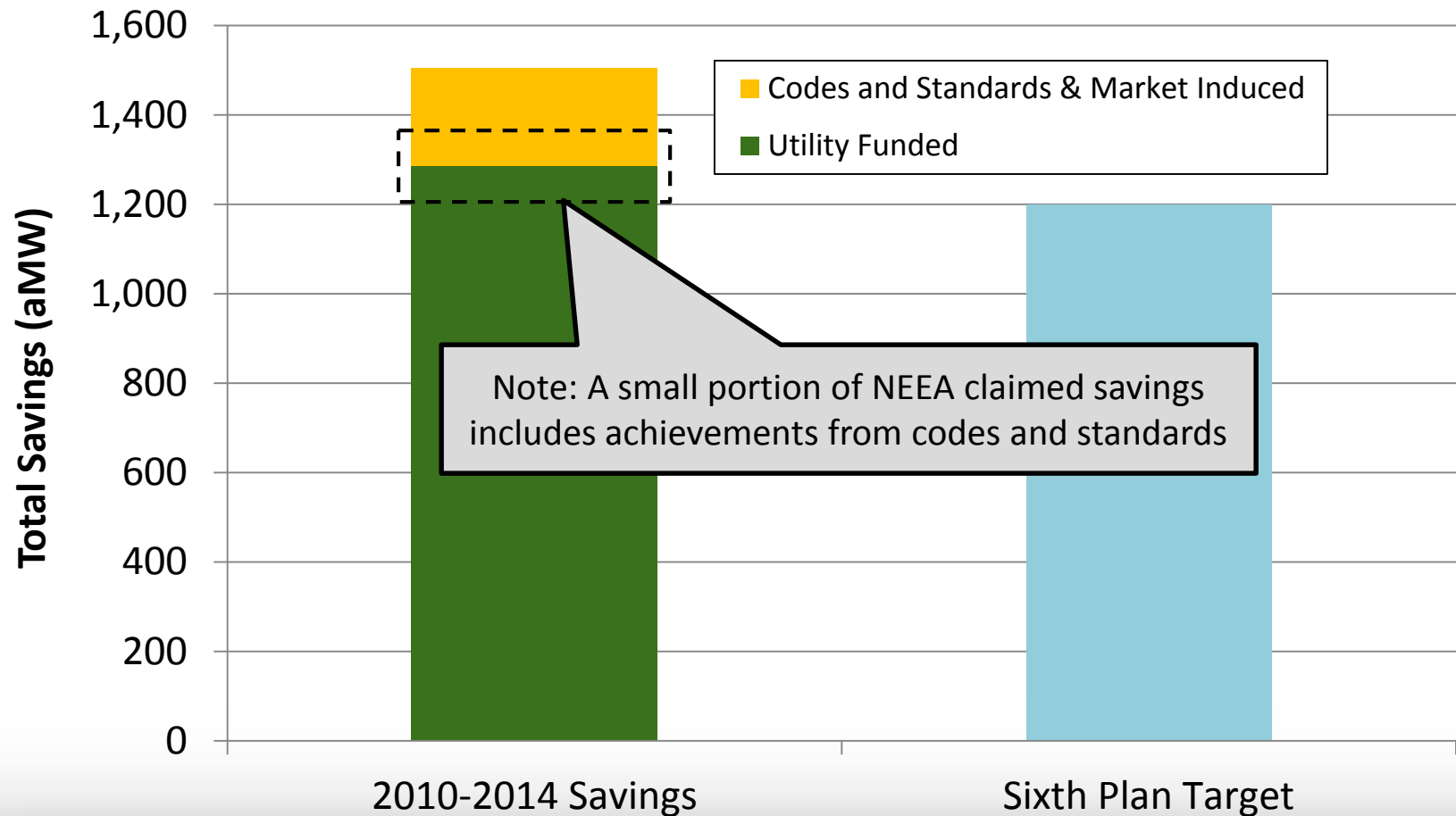
2014 is First Year Since 2005 that Utility-Funded Savings Alone Fell Short of Annual Targets



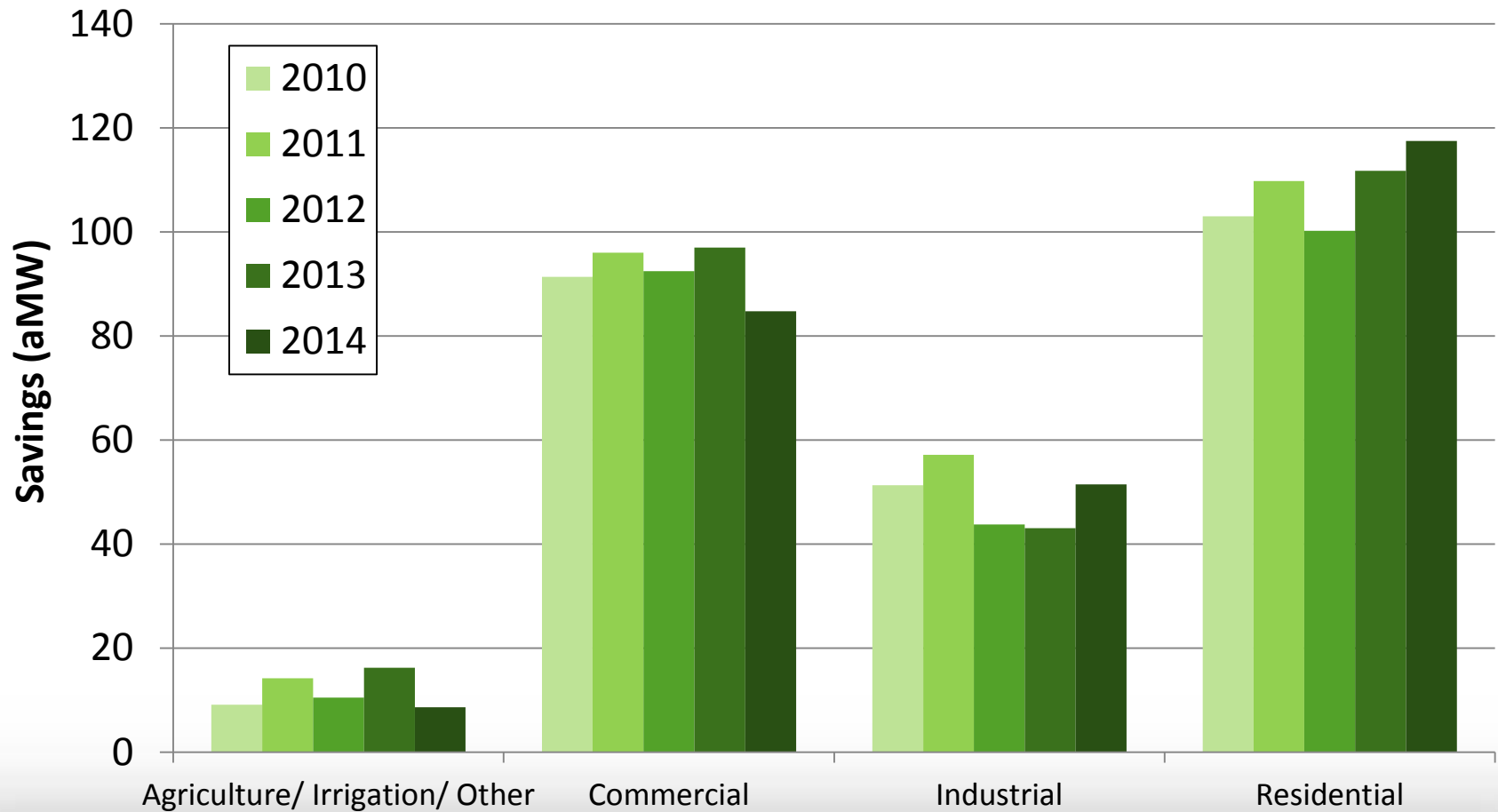
However, Utility Funded Savings over the Plan Period Surpassed the Five Year Goal of 1,200 aMW



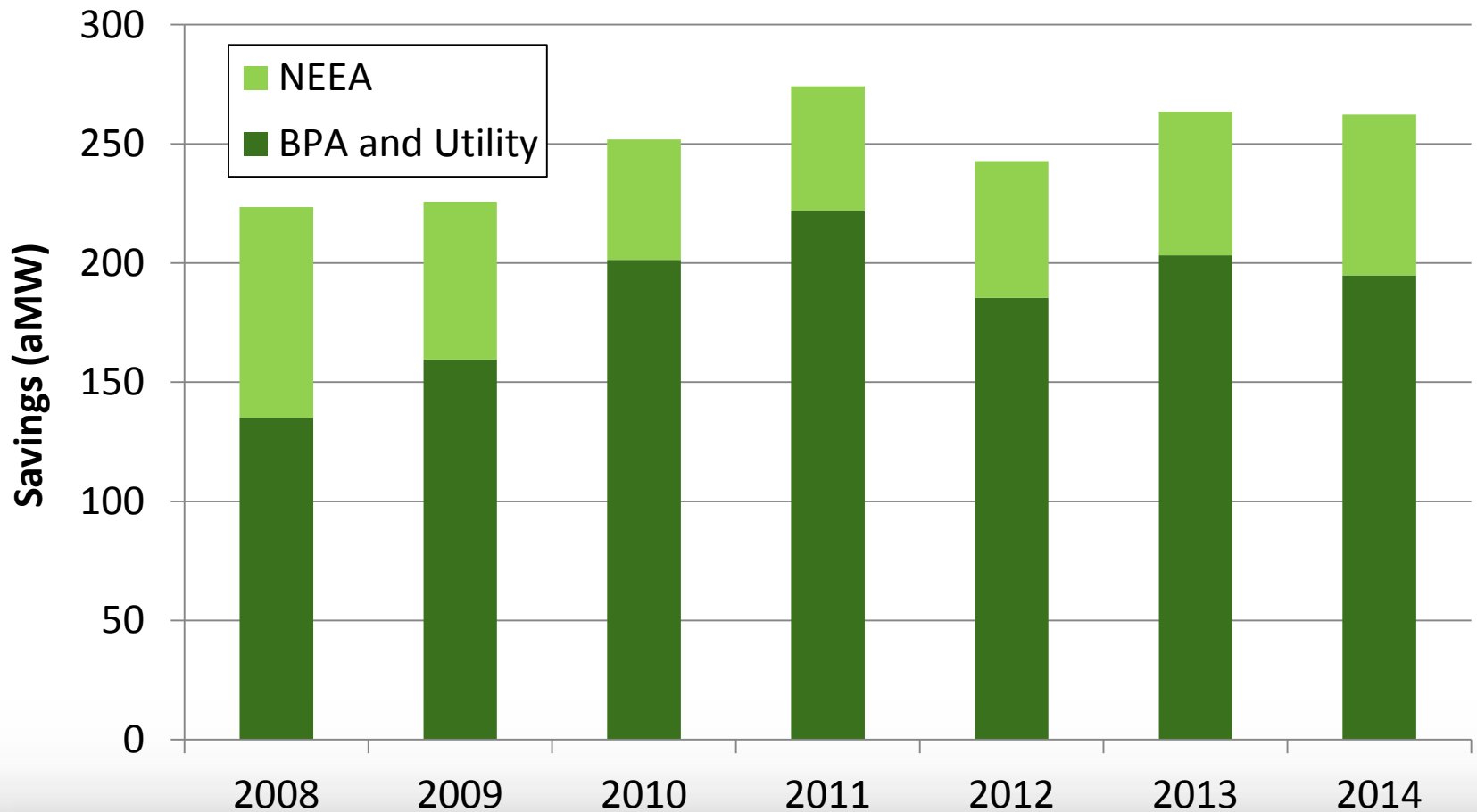
Additional Savings from Codes & Standards & Market Induced



Residential Savings Comprise Largest Portion of Savings in Sixth Plan Period



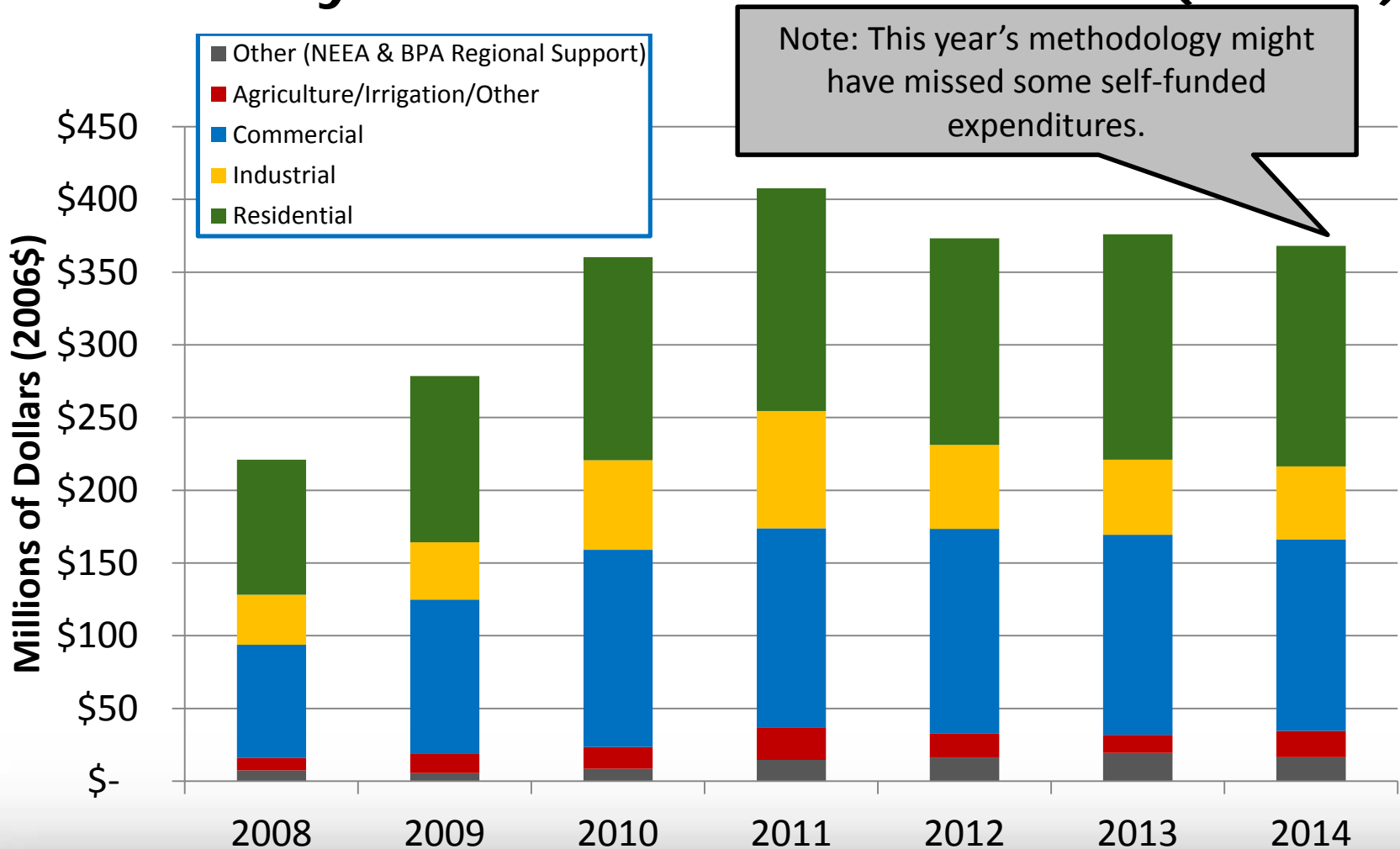
NEEA Continues to Contribute Significant Savings



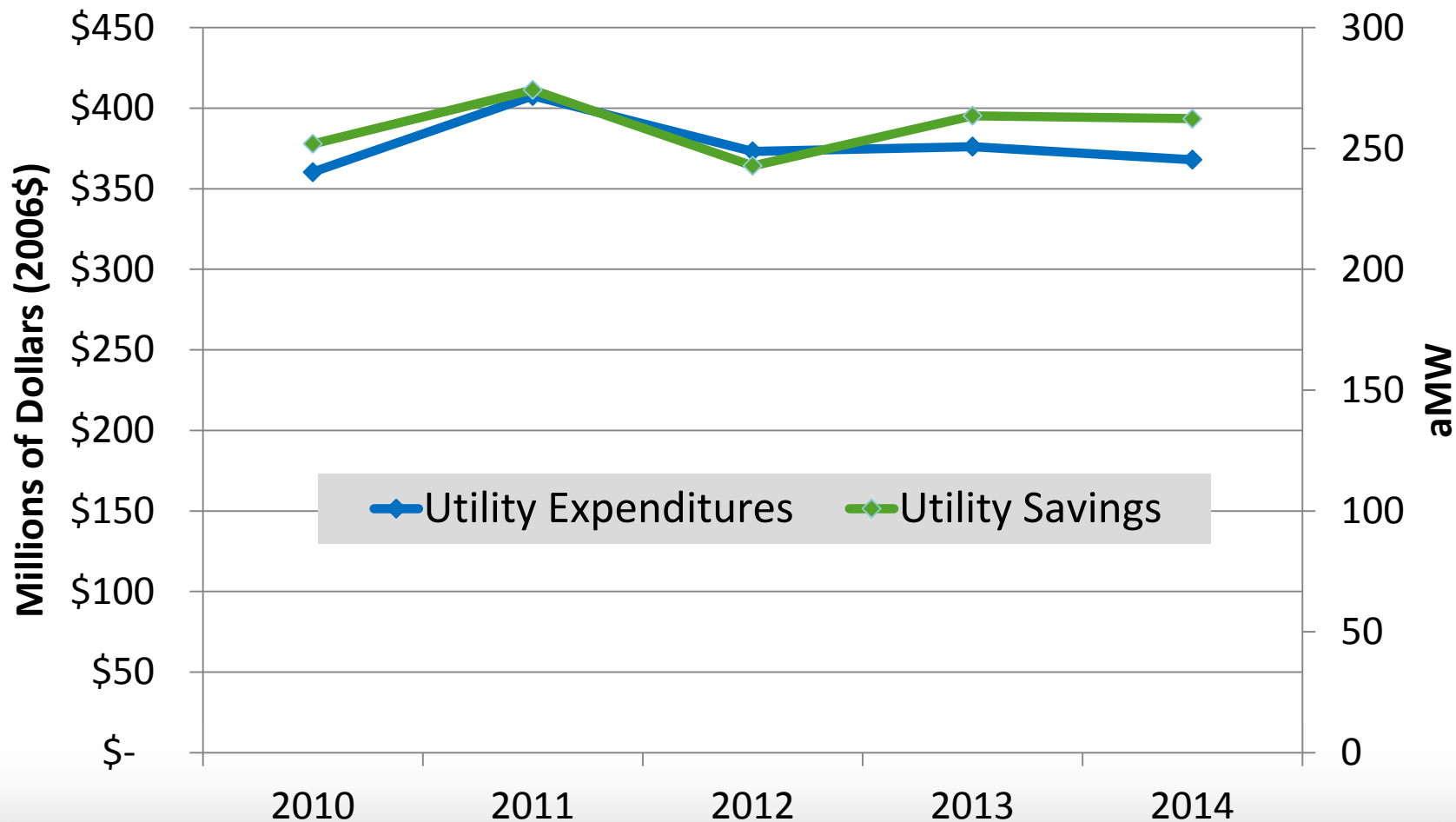
Capacity Savings for 2014 are Around 500 MW

- Only a couple of utilities reported capacity savings directly
 - Aim to improve reporting on capacity in the future
- For remainder of utilities, estimated capacity savings based on the measure mix and best judgement load shapes
- Capacity (512MW) to conservation (262 aMW) ratio is similar to what was found in the Seventh Power Plan (1.9 MW/aMW)

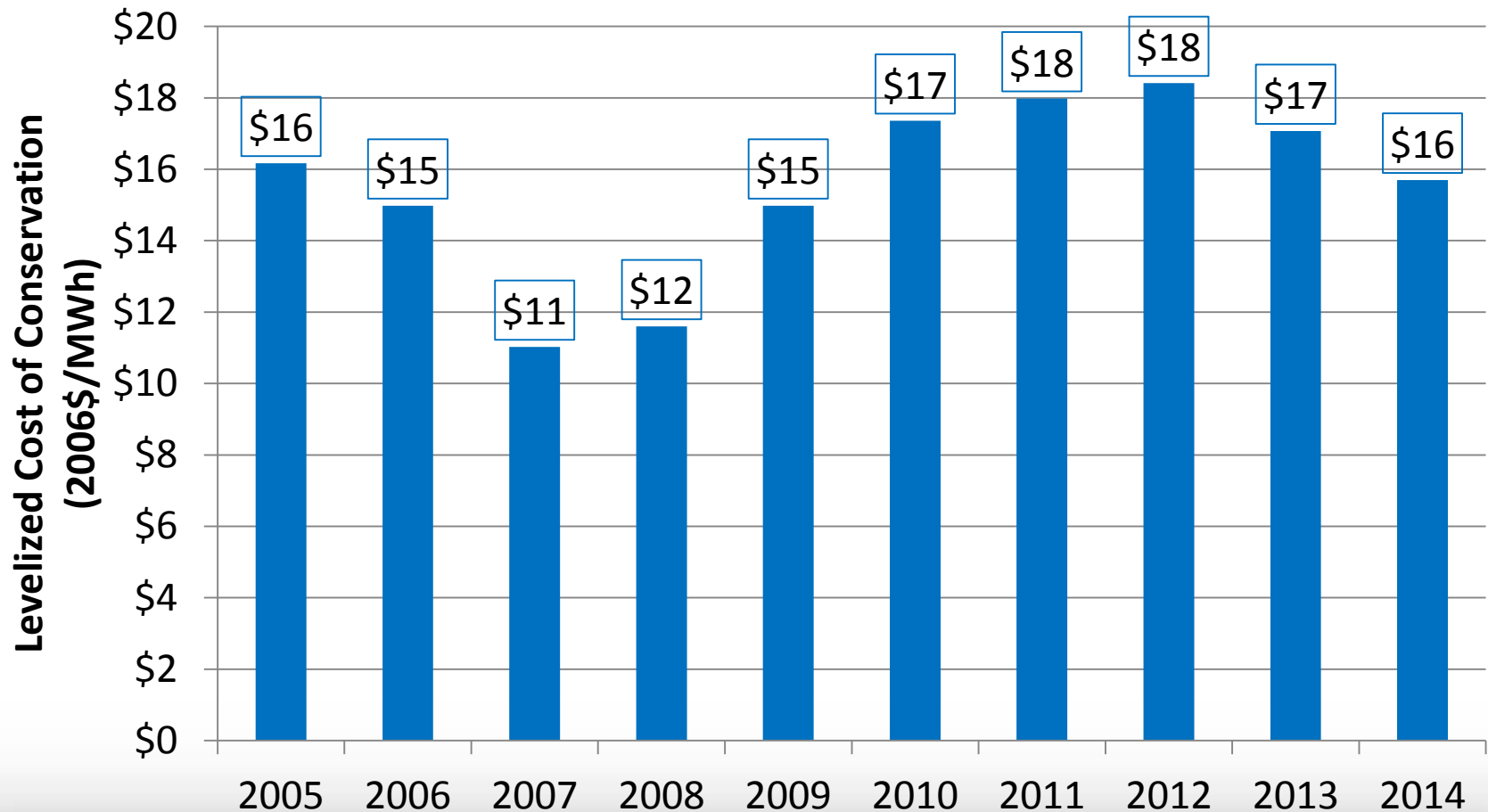
Total Utility/SBC Investments in Energy Efficiency in 2014 was \$367 million (2006\$)



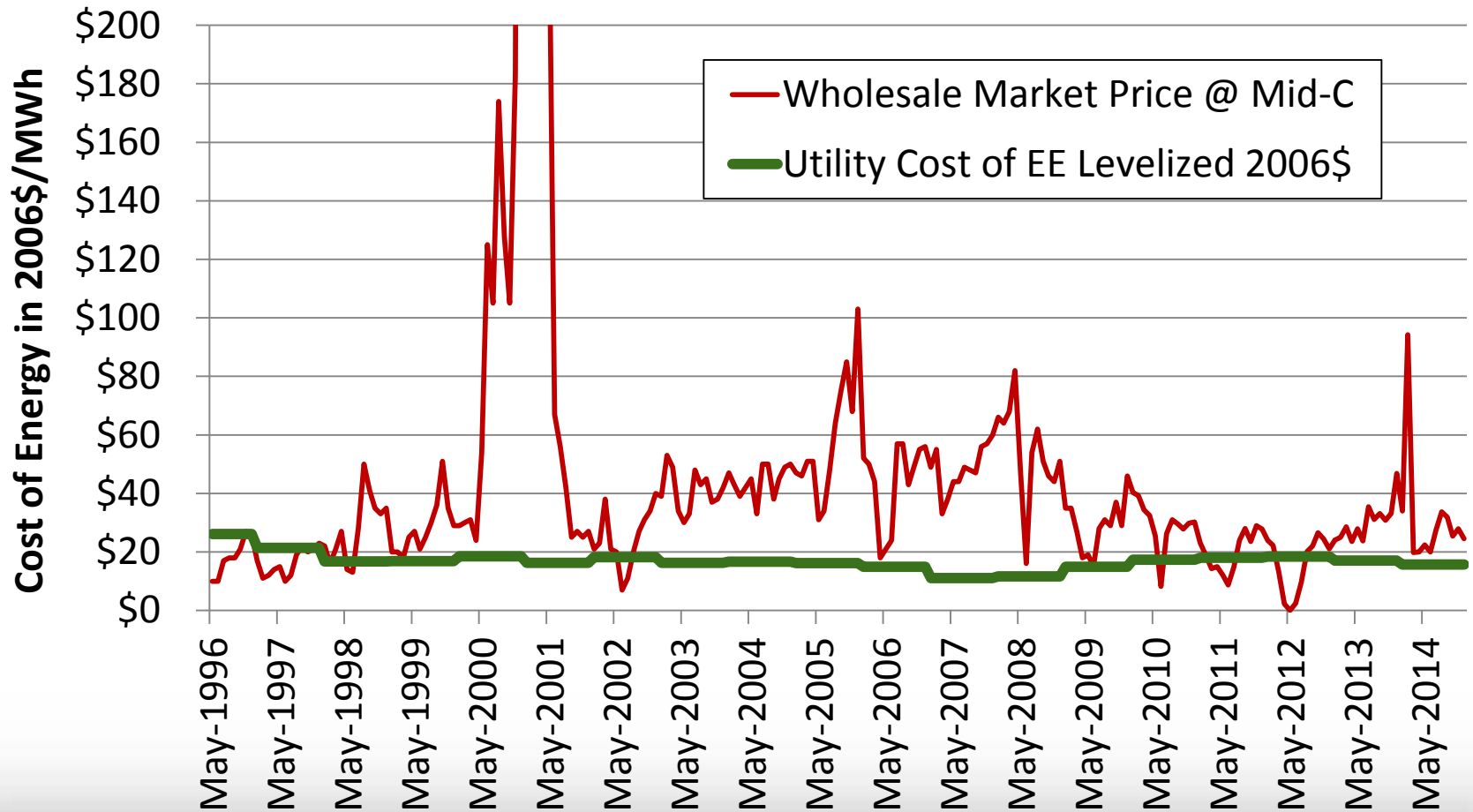
Utility-Funded Savings & Expenditures Relatively Constant & Correlated Since 2010



Average Utility Levelized Cost of Conservation Remains Low

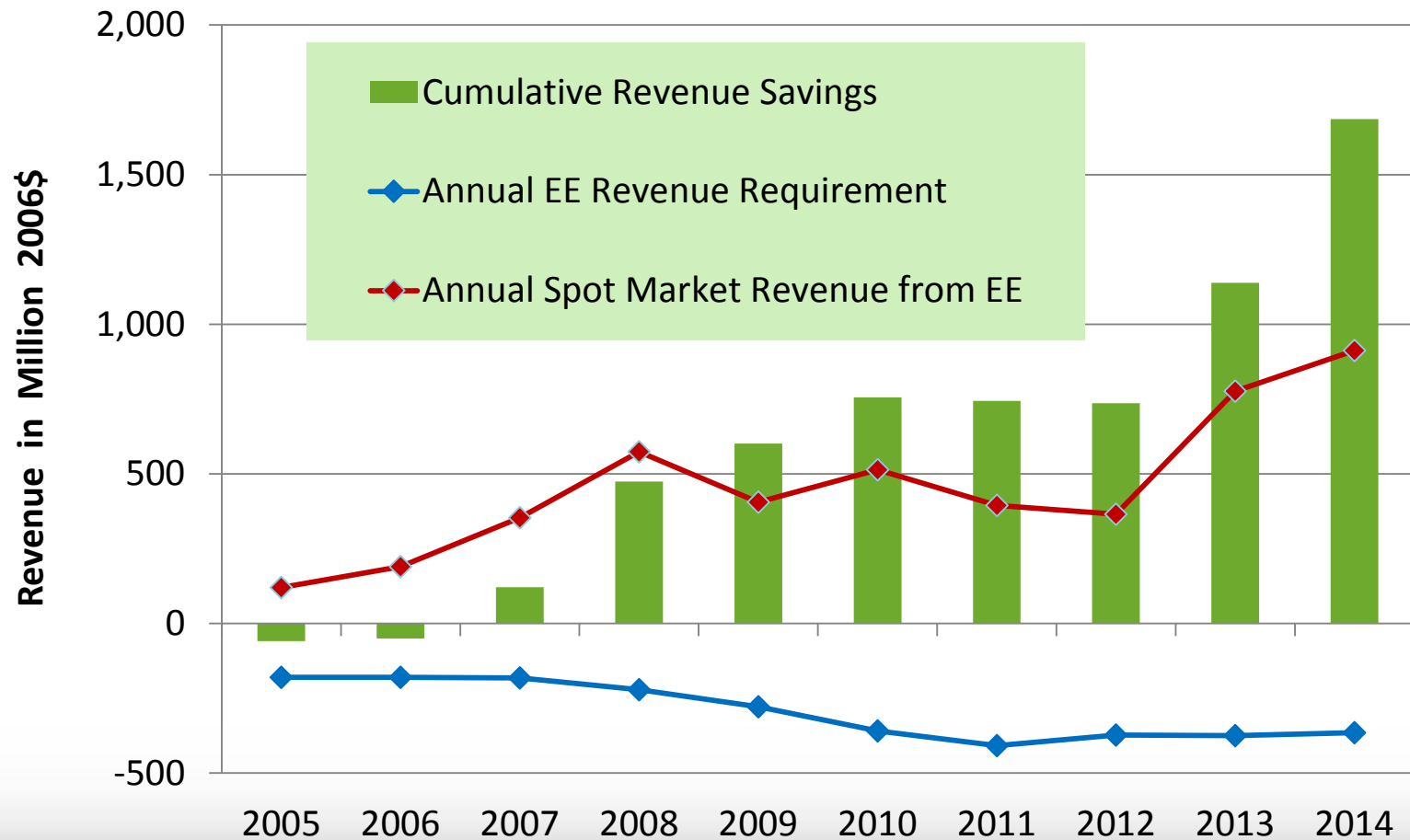


Utility Levelized Cost of Conservation is Both Low and Stable

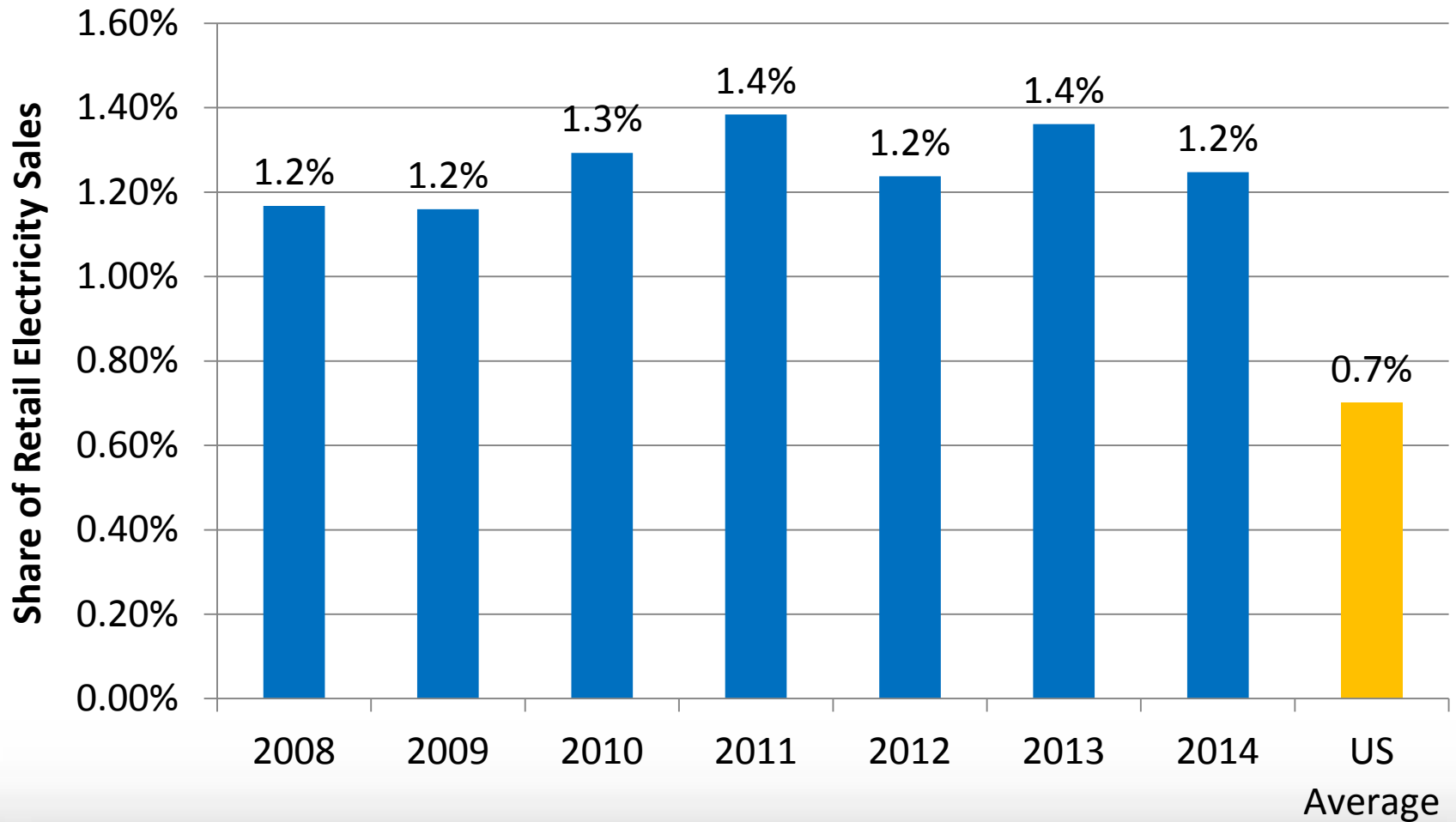


Value of EE Savings Accumulates Over Time

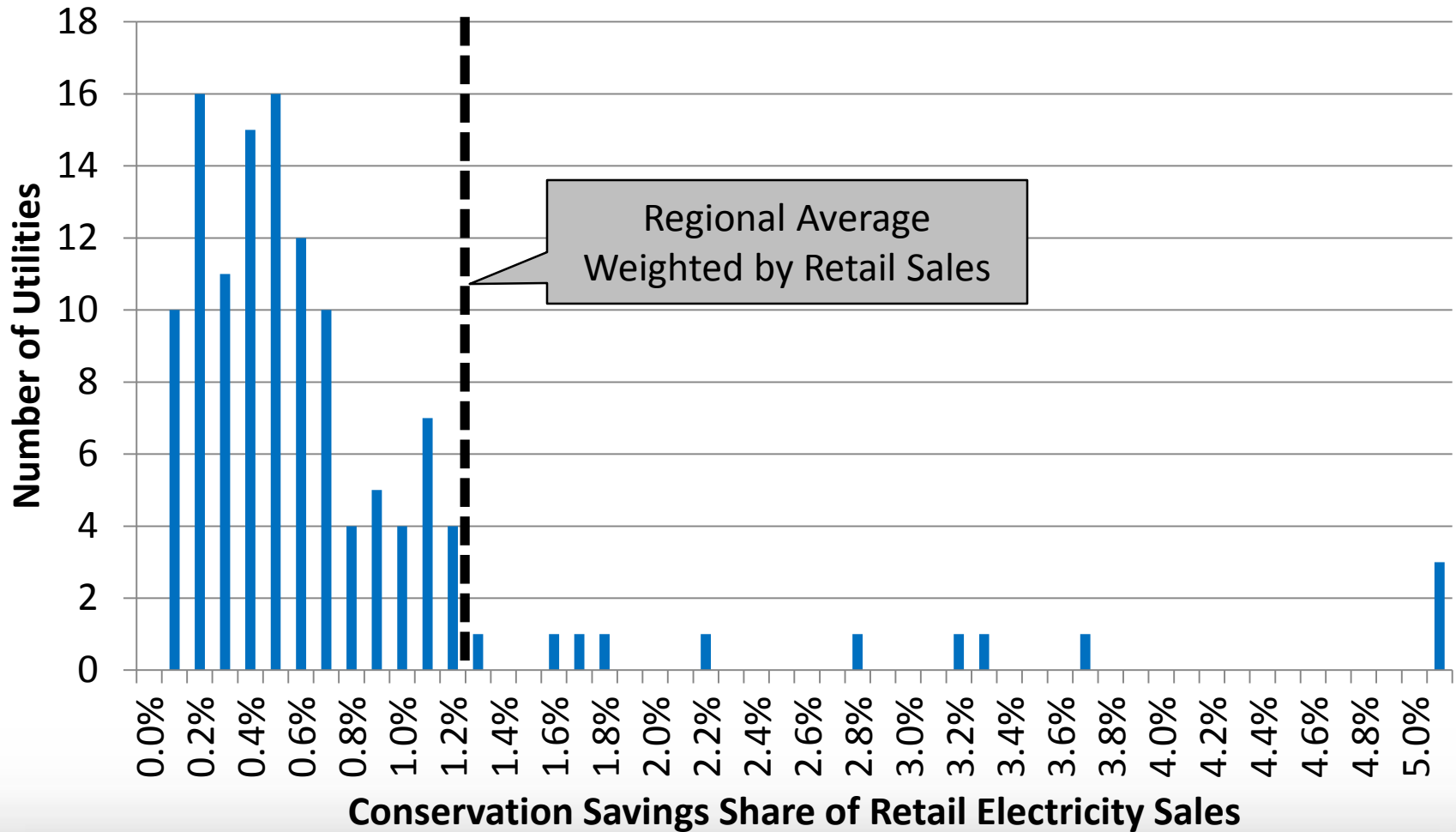
Annual EE Cash Flow Since 2005



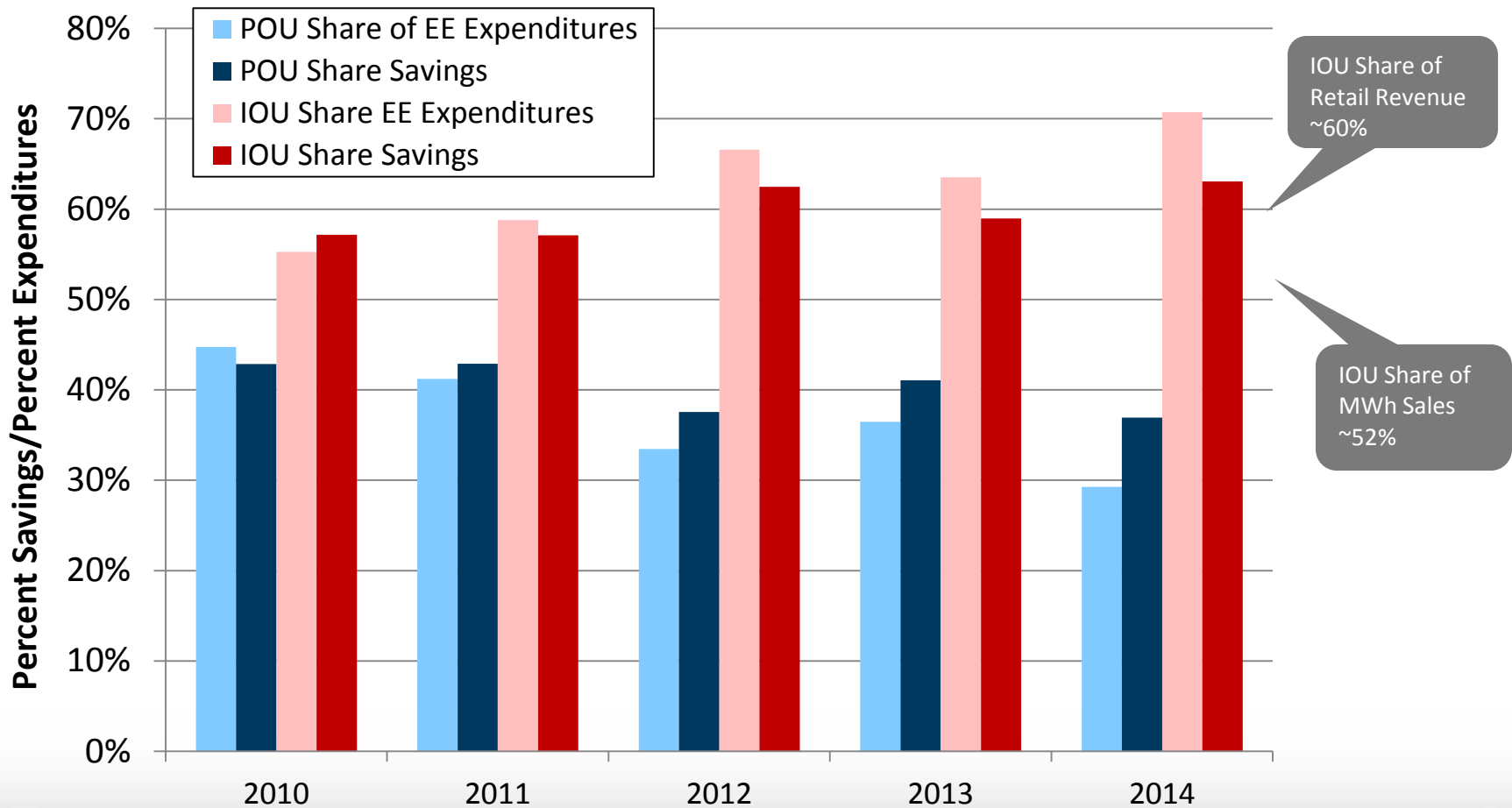
Conservation Savings Equivalent to 1.2% of Regional Electricity Sales; Nearly Double US Average



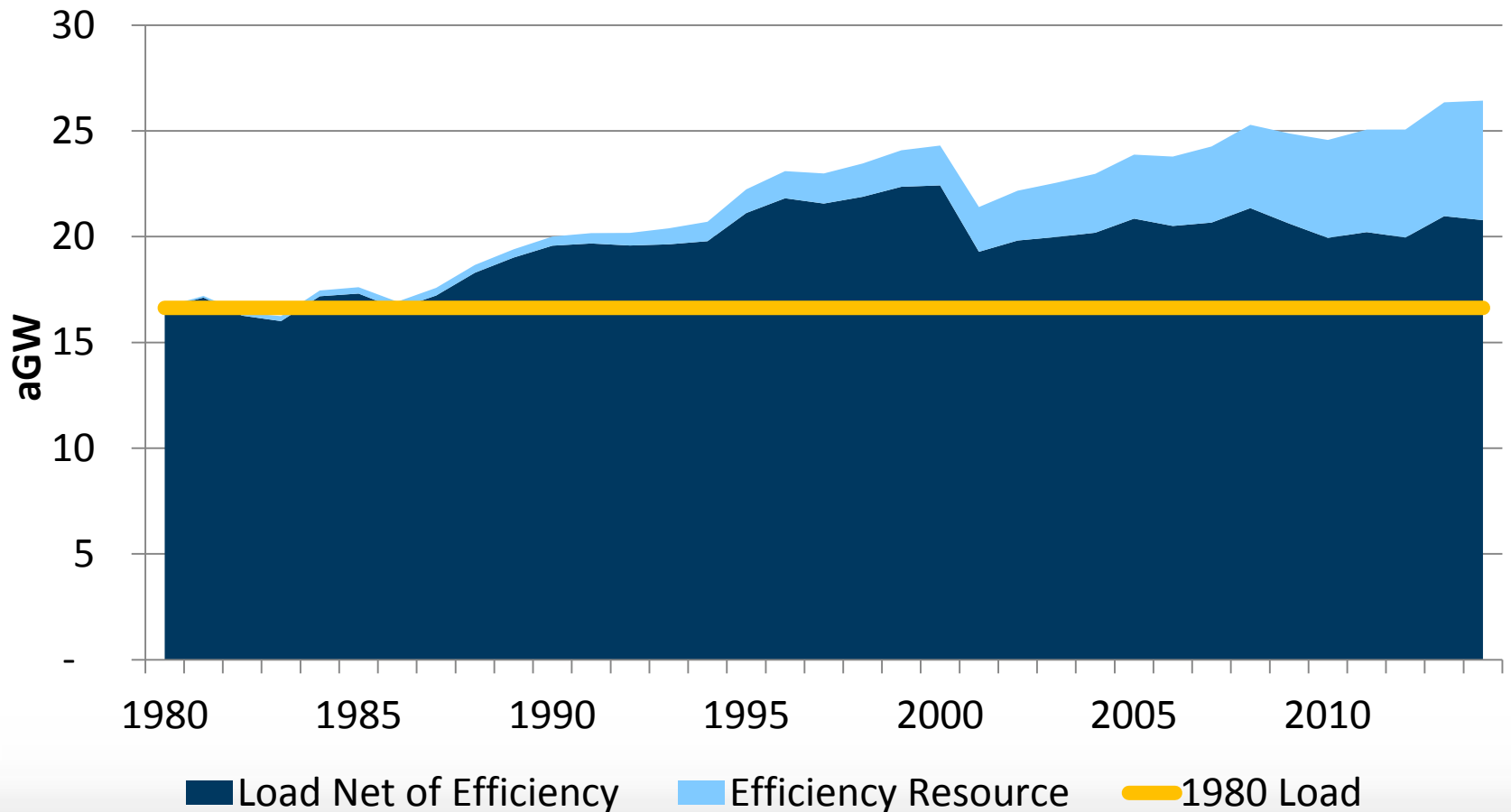
Ten Utilities Achieved Significant Conservation Relative to Their Share of Retail Electric Sales



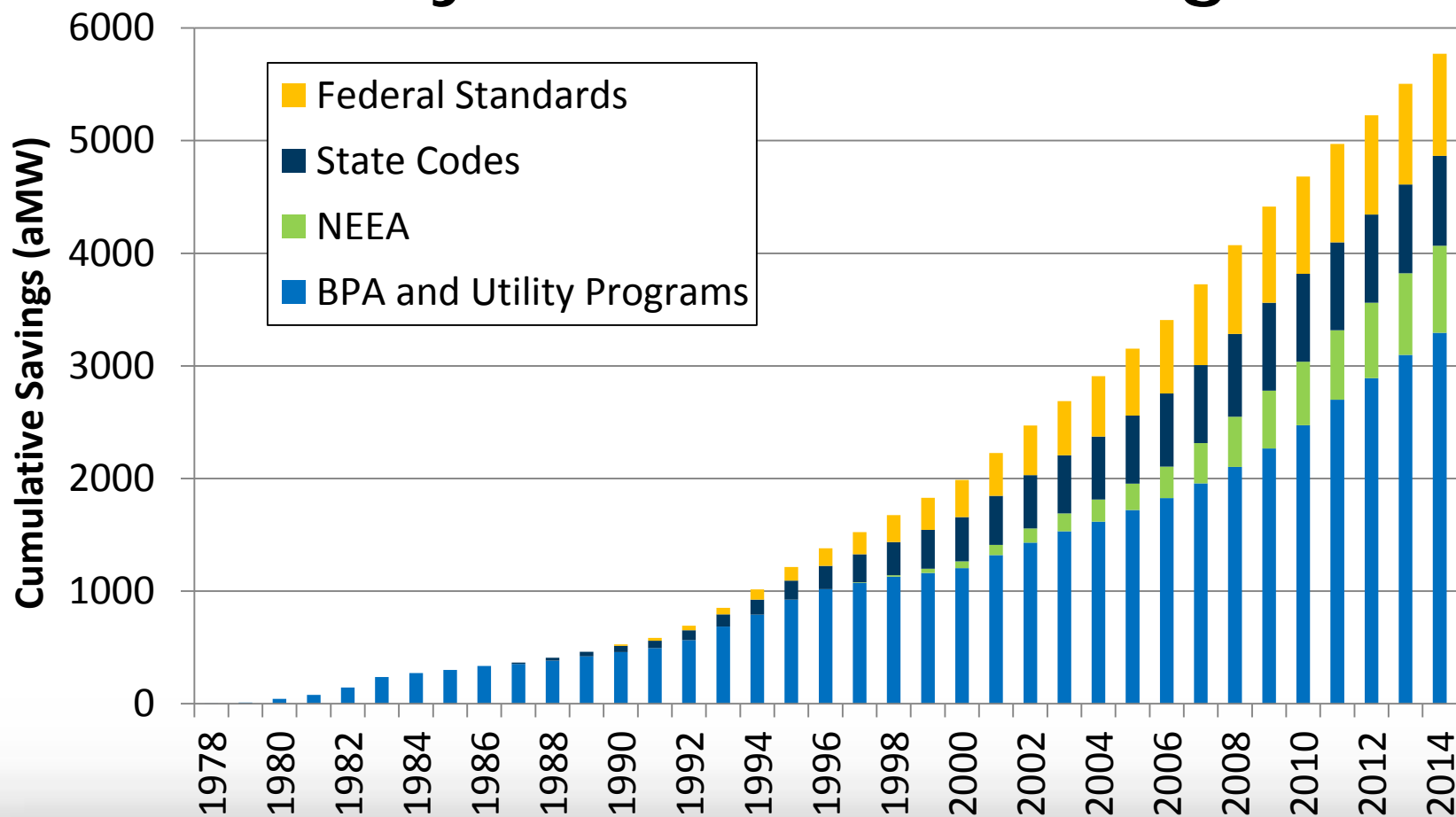
Trends in IOU/POU Share of Savings and Expenditures



Efficiency Has Met 57% of PNW Load Growth Since 1980



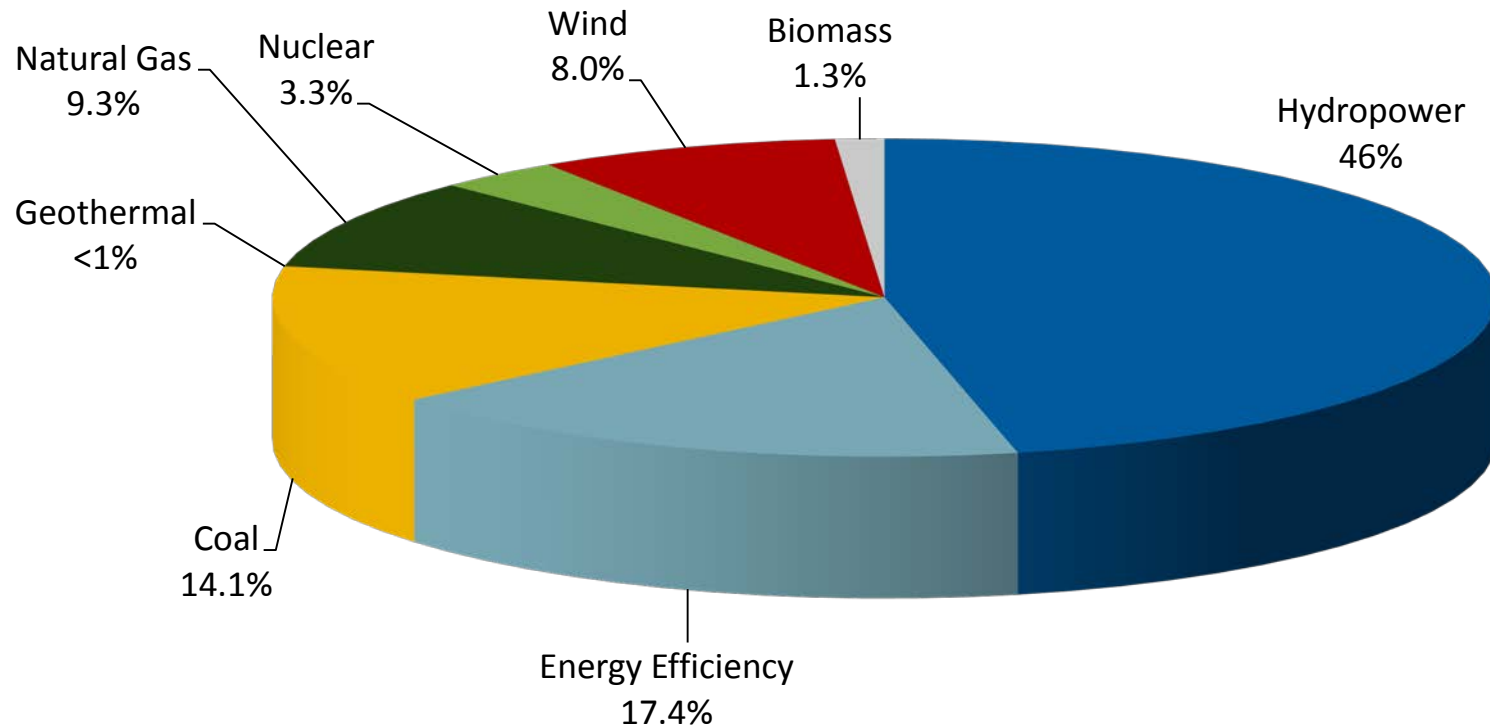
Since 1978 Utility Funded Programs and Codes and Standards have Produced Nearly 5800 aMW of Savings



What's the Value of 5772 aMW?

- It represents enough energy savings to save the region's electricity consumers nearly \$3.73 billion in 2014
- It lowered carbon emissions in the Pacific Northwest by an estimated 22.2 million MTE

Energy Efficiency Was The Region's Second Largest Resource in 2014



Based on 2014 Actual Dispatch and Hydro Resource Output from EIA

Questions?