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June 2, 2015

### MEMORANDUM

**TO: Power Committee**

**FROM: Charlie Grist**

**SUBJECT: Momentum Savings**

#### **BACKGROUND:**

**Presenter:** Carrie Cobb, Market Research Lead Bonneville Power Administration

**Summary** Carrie Cobb will brief the Council on momentum savings – what they are, how they are documented and the contribution they make to achieving conservation targets.

Momentum savings are energy efficiency that occurs outside of direct utility program incentives. The term ‘momentum’ is used because the resulting savings are often the follow-on result of previous conservation programs. Momentum savings are sometimes called program spillover as program effects spill over to non-program participants. Momentum savings can also materialize in the form of federal or state product efficiency standards and state building code upgrades. In these cases, utility programs were often instrumental in demonstrating performance and customer acceptance for new more efficient products or practices that can then be adopted into codes and standards.

For example, utility programs promoted high-performance 32-watt fluorescent lamps beginning in the 1990s to replace common 40-watt lamps seen in most commercial lighting at the time. By 2010, 32-watt lamps had almost completely taken over sales for the four-foot fluorescent lamp market with total lamp sales far exceeding the number of lamps that went through utility programs. In 2012 and 2014 these more efficient lamps became minimum federal standards.

Momentum savings contribute to meeting conservation targets set by the Council. Bonneville is keenly interested in tracking momentum savings because they help meet targets at little cost to the electric system. But measuring momentum savings can be a challenge. To count towards targets, momentum savings must be cost-effective and not incented by utility or NEEA programs. One critical element is that savings are measured against the baseline used in the Council plan.

Momentum savings grow over time relative to the 'frozen' baseline set in a power plan. These savings accumulate against the baseline when improved codes and standards are adopted and when market penetration increases above plan baselines. Bonneville estimates that momentum savings will comprise 30 to 50 percent of total Sixth Plan savings accomplishments reaching 100-200 aMW per year by 2015.

However, when a new power plan is adopted, annual momentum savings diminish to near zero in the first year of the new Plan. This is because every time the Council produces a power plan, a new set of baselines is established that incorporates all known codes, standards and market conditions. Savings potential is measured above and beyond the new baselines resetting the accumulation of momentum savings. Thus momentum savings will not contribute as much to near-term Seventh Plan targets as they do at the end of the Sixth Plan. This reset factor is an important consideration in conservation program planning and budgeting.

The tracking and reporting of momentum savings is still in its formative stages. Bonneville contracts with a consulting firm to develop estimates of savings based on a variety of data collected on market uptake and product sales data as well as engineering and economic analysis. The estimates are reviewed by volunteers at BPA, utilities, Energy Trust, NEEA and the Council staff.

One of the highly valuable byproducts of tracking momentum savings is the insights into current market conditions and efficiency product uptake. These insights can help guide utility program development by identifying opportunities for utility programs or recognizing what markets may no longer require utility program intervention. The information is also valuable to the regional power plan.

**Relevance:** Bonneville tracks momentum savings because they have become a significant contributor to total savings targets identified in the Council's power plans. The quantity and pace of momentum savings has direct bearing on efficiency budget requirements. Market data from tracking momentum savings informs program development and modification.

**Workplan:** Workplan item 1B: Develop Seventh Power Plan and maintain analytical capability

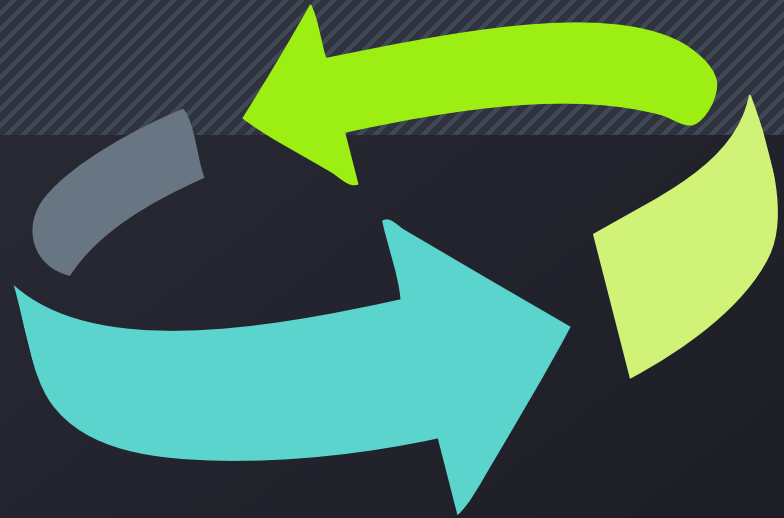
**Background:** Richard Génécé briefed the Council in August 2014 on Bonneville's Energy Efficiency Action Plan. In that presentation Bonneville identified the expected contribution from momentum savings which were referred to as "non-programmatic" savings at the time.

<http://www.nwcouncil.org/media/7119839/2.pdf>

# MOMENTUM SAVINGS

Carrie Cobb, BPA

June 8, 2015



MOMENTUM SAVINGS ARE ALL THE ENERGY EFFICIENCY THAT OCCURS OUTSIDE OF PROGRAMS, REGARDLESS OF WHY AND HOW. THEY ARE:



Not incented by programs or included in NEEA's market effects



Above the Council baseline

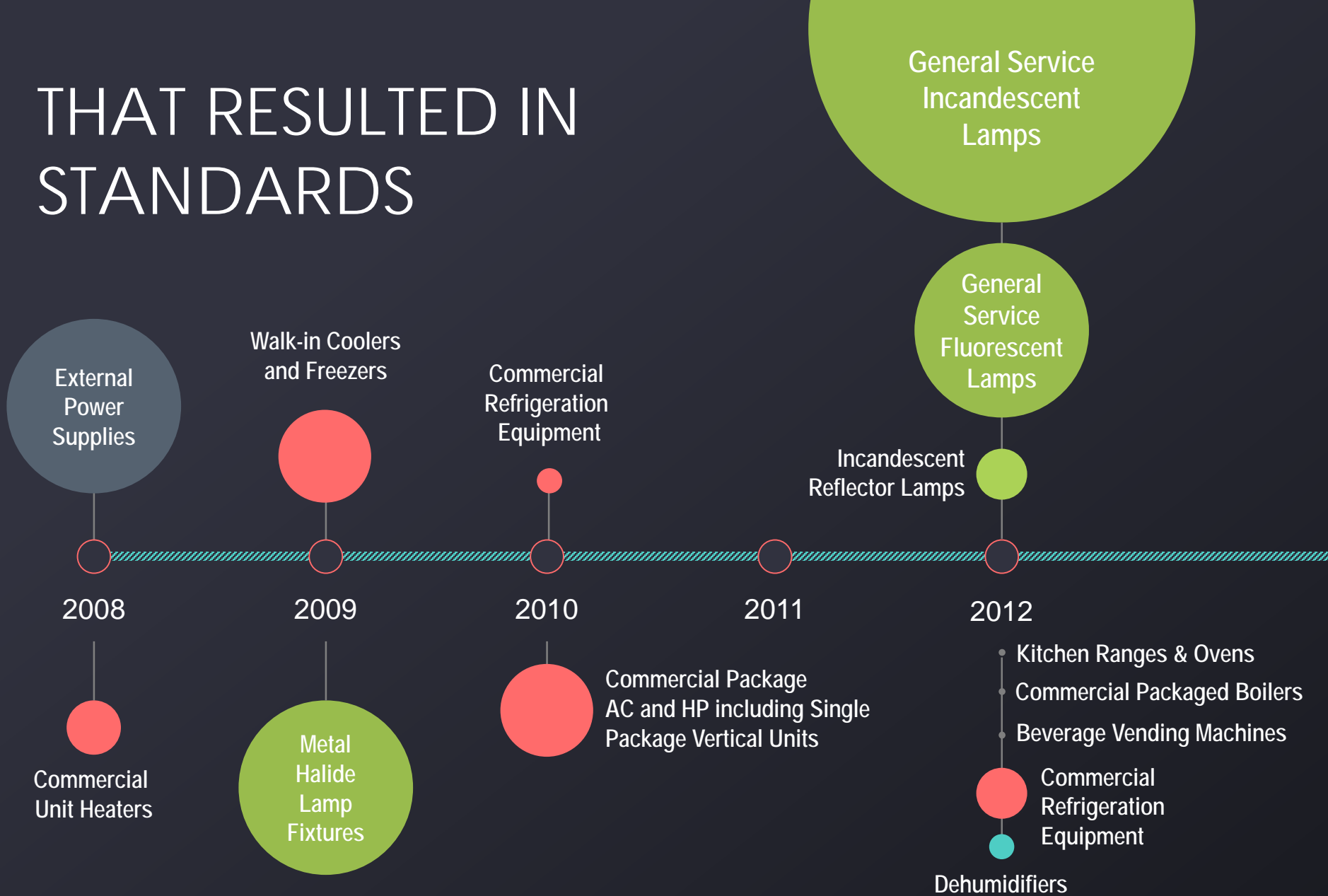


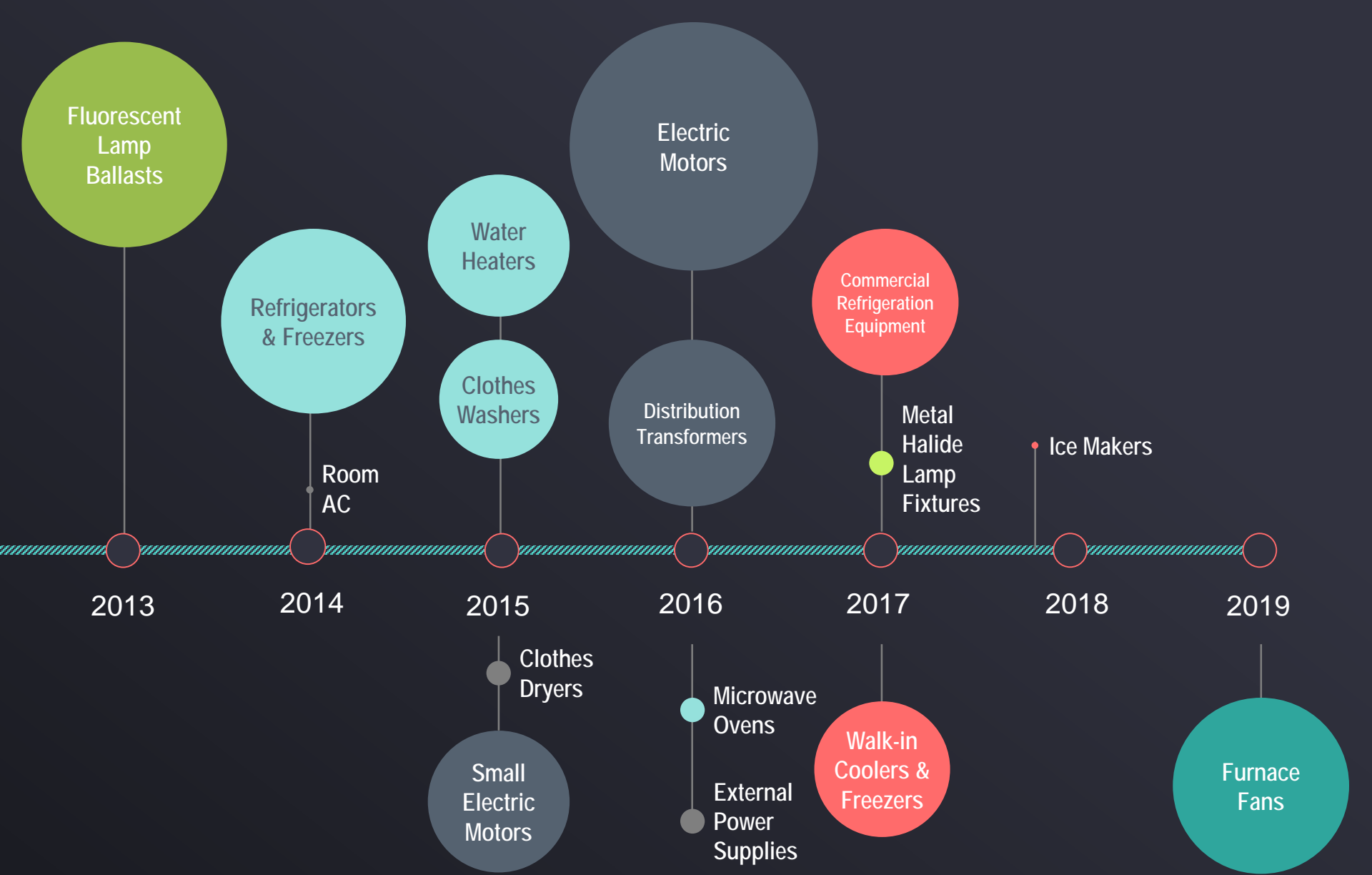
Cost-effective



THEY COME FROM 30  
YEARS OF INVESTMENT

# THAT RESULTED IN STANDARDS





# AND MASSIVE MARKET CHANGES







Total Market  
Savings

Program  
Savings  
Above 6th Plan

Momentum  
Savings

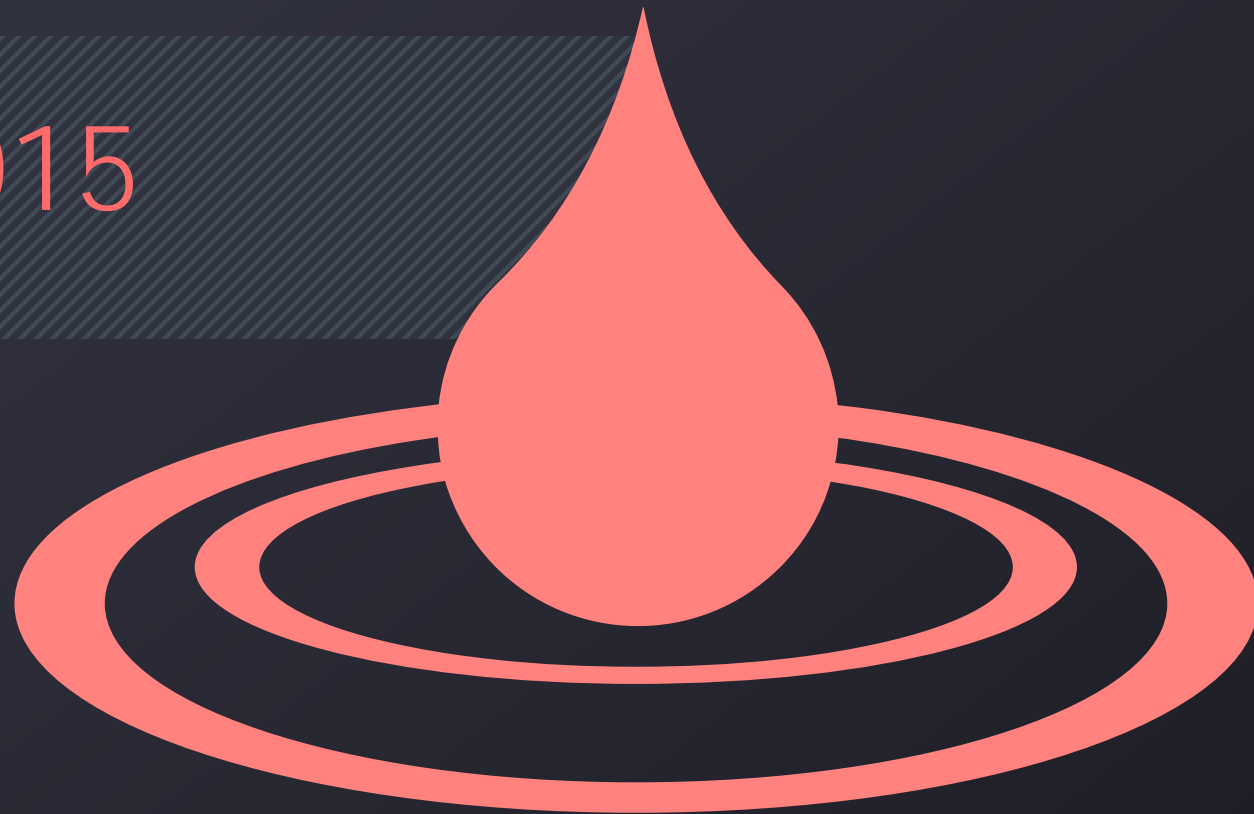


SALES DATA

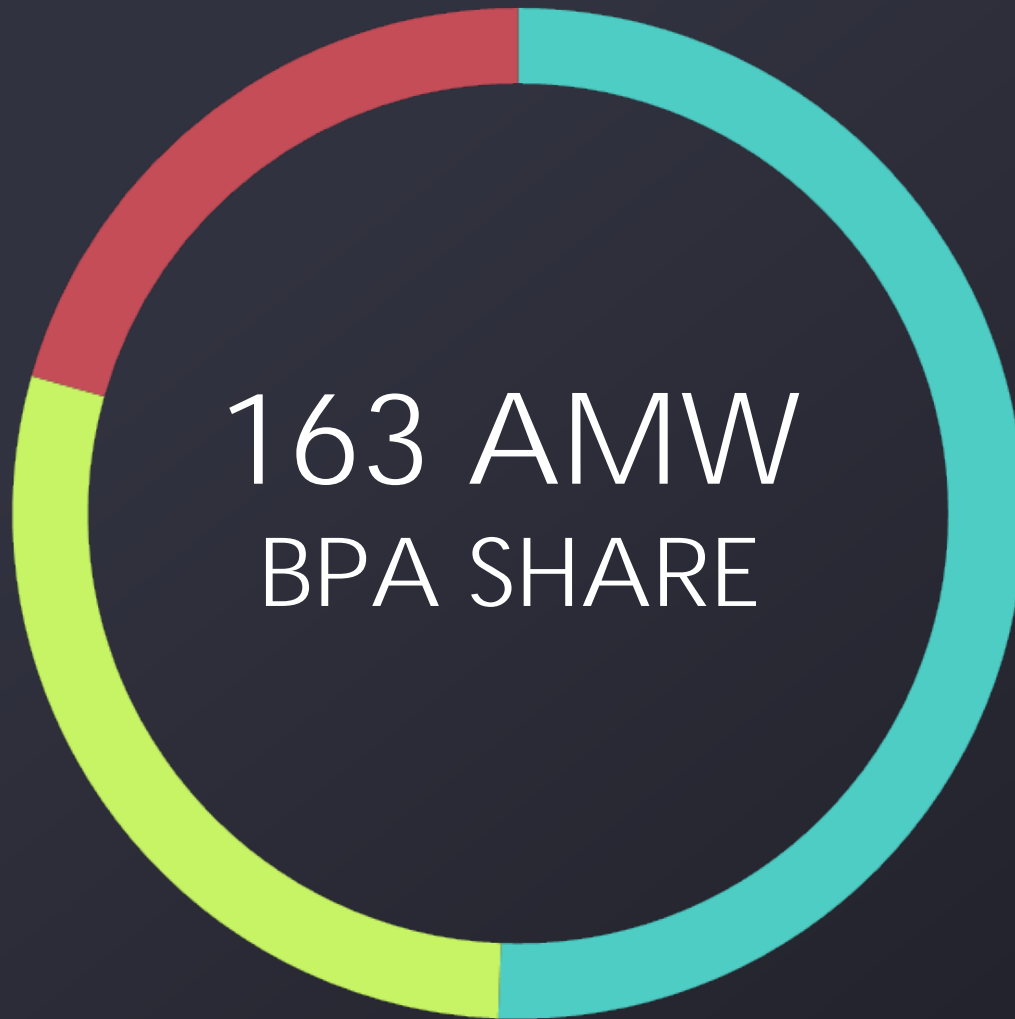


STOCK DATA

2010-2015

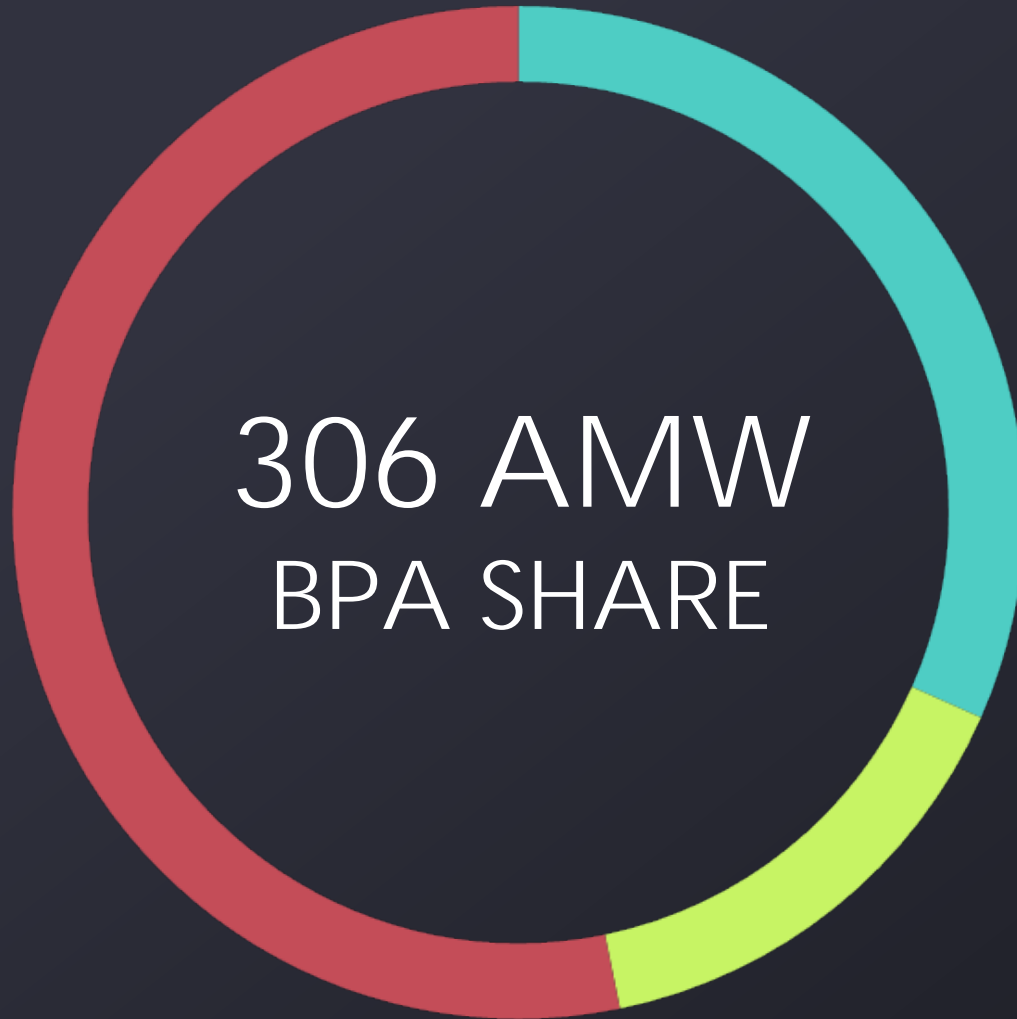


# QUANTIFIED SAVINGS, 2010-2015



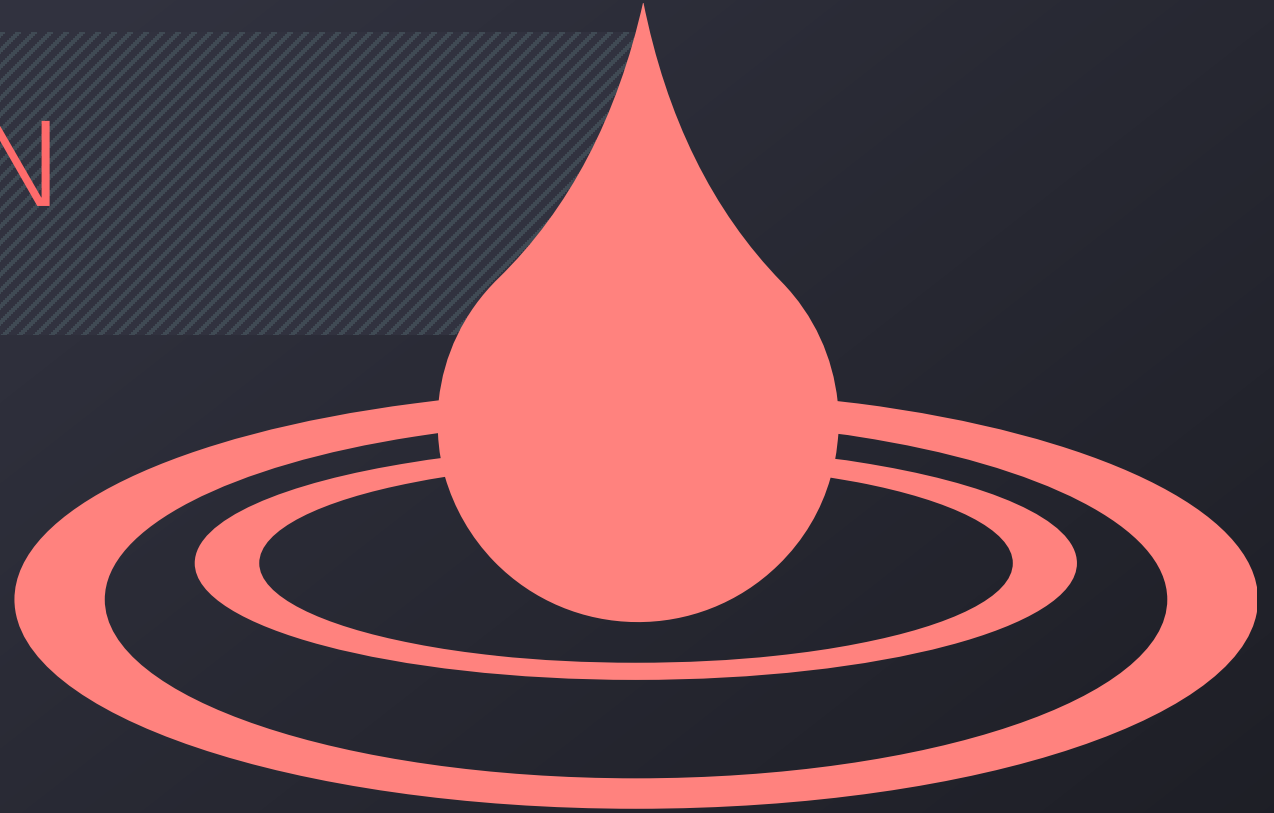
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- Total Standards Momentum
- Total BPA reported Momentum

# NEWLY FORECASTED SAVINGS, 2010-2015

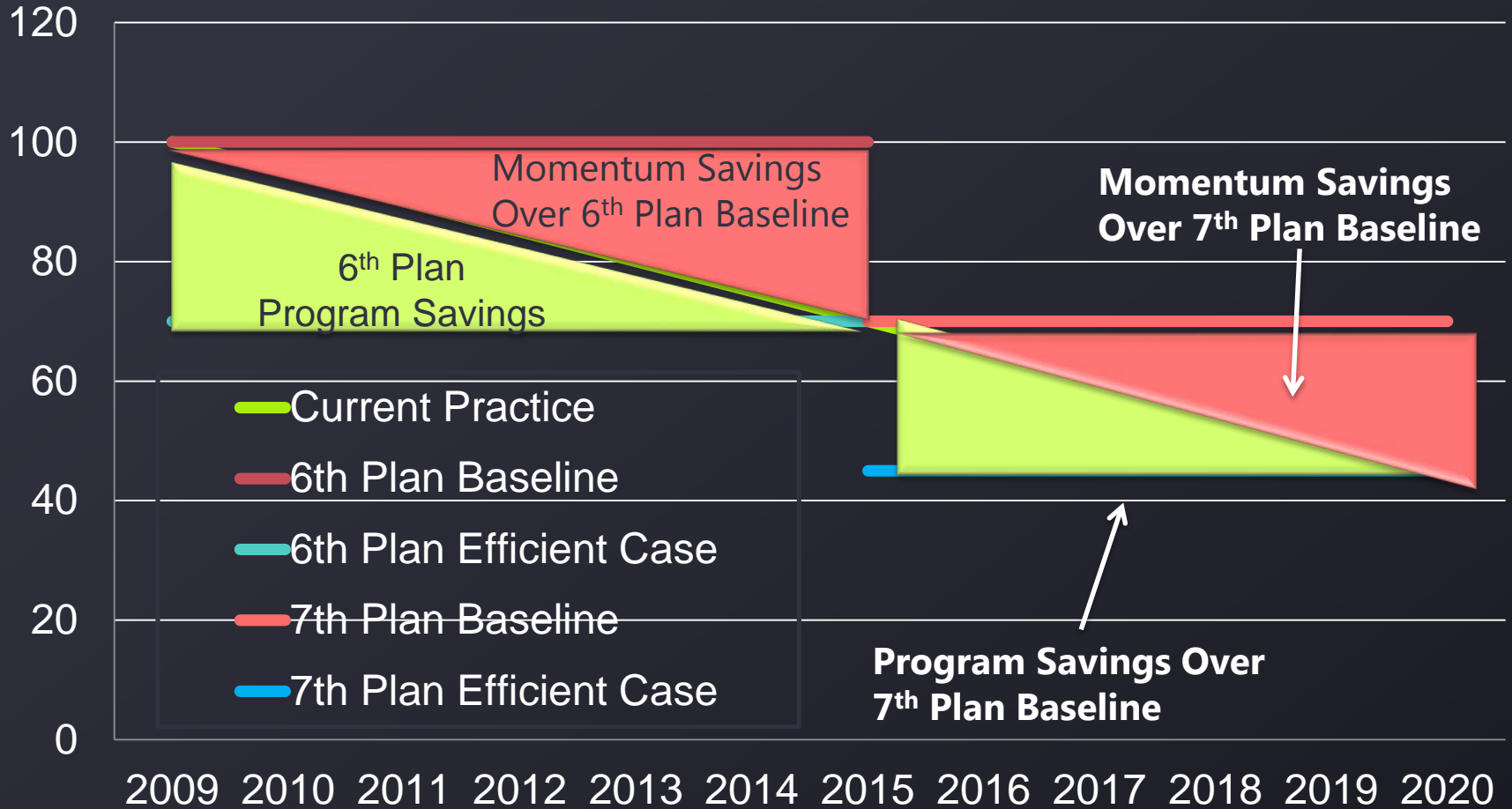


- Total NEEA reported Momentum
- Total Standards Momentum
- Total BPA reported Momentum

# 7<sup>TH</sup> PLAN



# SAVINGS WILL CHANGE WITH NEW BASELINES



# STANDARDS MOVE INTO THE BASELINE





NEEA REPORTED  
MOMENTUM TELEVISIONS  
MOVE INTO THE BASELINE





# STRATEGIC CONSIDERATIONS

# CONTROL OF SAVINGS



# TIMING OF SAVINGS

2015



WHAT THEY MEAN



ENERGY EFFICIENCY  
INVESTMENT CREATES  
DIVIDENDS



MARKETS HAVE  
MOMENTUM TO  
HARNESS

# THE REGION HAS THE OPPORTUNITY TO OPTIMIZE OUR INVESTMENT STRATEGY







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