

ENERGY STAR

PARTNER MEETING UPDATE



Bonneville
POWER ADMINISTRATION



DRIVERS FOR MARKET CHANGE



Technology



Economics



Regulation



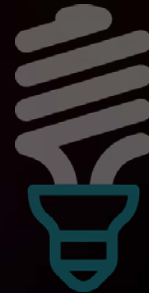
Technology

BUH-BYE

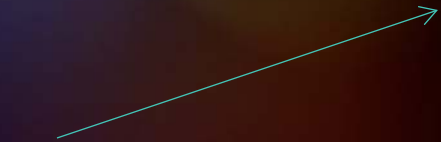
Wal-mart: gone

Target, Costco, many Ace: leaving

Home Depot Lowe's: reducing



SALES SPLITTING





Economics



LED PRICES DROPPING



HALOGEN PRICES STEADY



LED PRICES DROPPING

HIGHER WATTAGE AND SPECIALTY



Regulation



EISA 2020

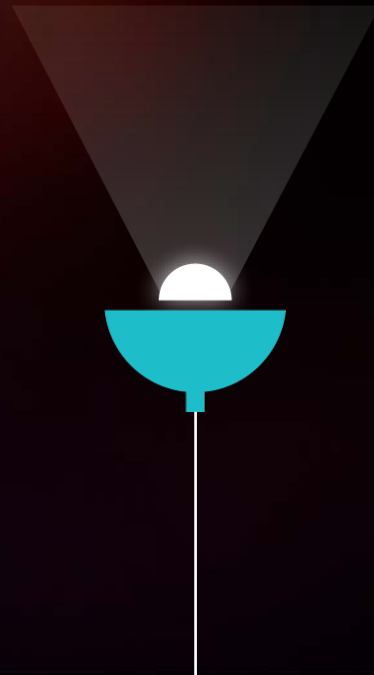
**Scope Change: DOE just clarified that EISA 2020
proposed rulemaking covers specialty lamps**



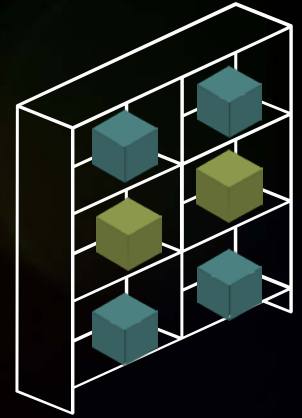
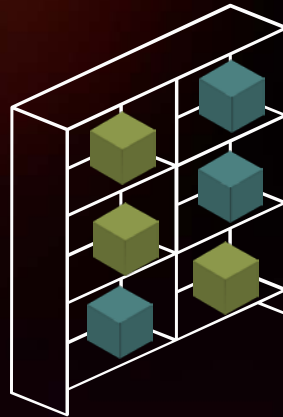
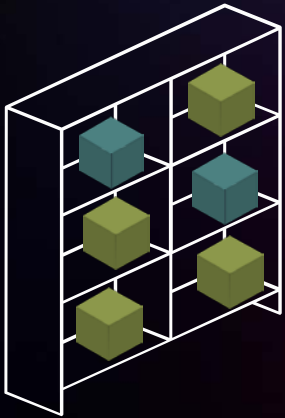
ONLY SOME LEDs

will be able to meet rule as proposed

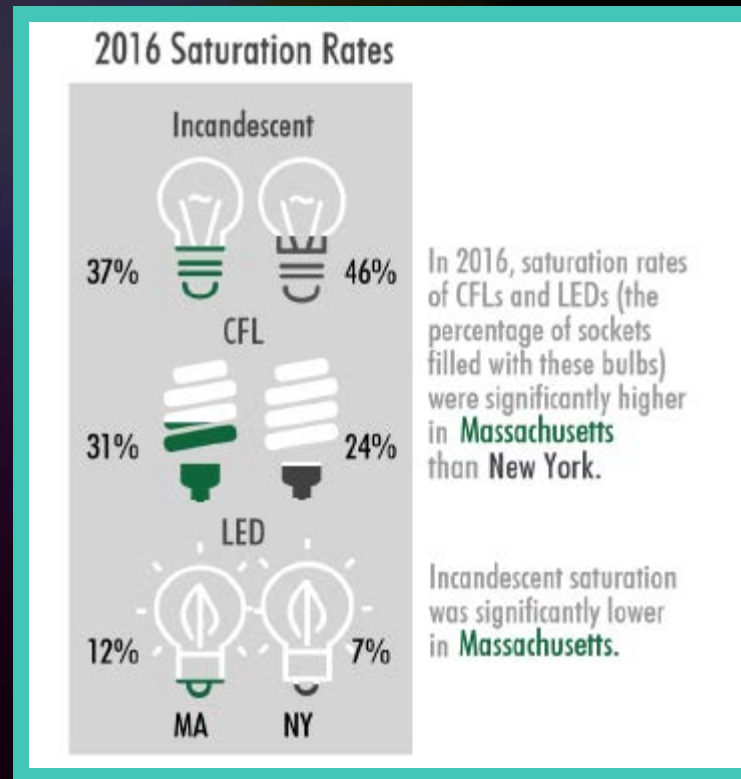
CALIFORNIA SPEC ADOPTION



UTILITY VS. NON-UTILITY STORE PLANOGRAMS



LED socket penetration by state



2015-16 Lighting Market Assessment Consumer Survey and On-site Saturation Study <http://ma-eeac.org/wordpress/wp-content/uploads/MA-2015-16-Lighting-Market-Assessment-Final-Report-08August2016.pdf>

CONDUIT ED & MOMENTUM SAVINGS

ETHAN MANTHEY



conduit



EMPOWERED

Inspired by the idea that every energy efficiency professional working in the Northwest can be empowered by a deeper understanding of the fundamentals of energy efficiency.





CONDUIT ED & MOMENTUM SAVINGS

Syllabus

Week 1: What are Momentum Savings?

Week 2: Focus on residential HVAC

Week 3: Focus on residential lighting



Go to Conduit for
more information!

ConduitNW.org

Follow the elephant!



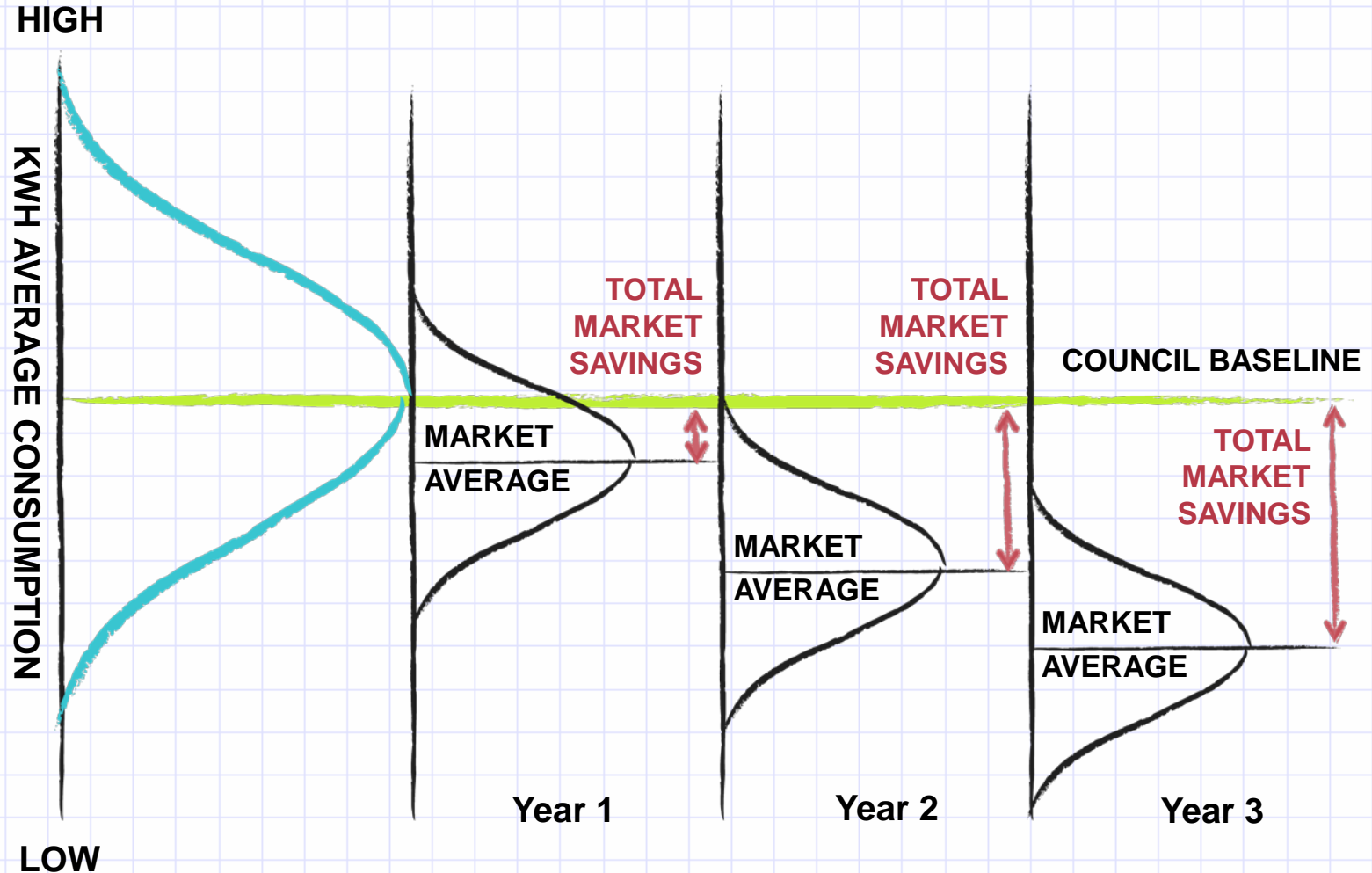


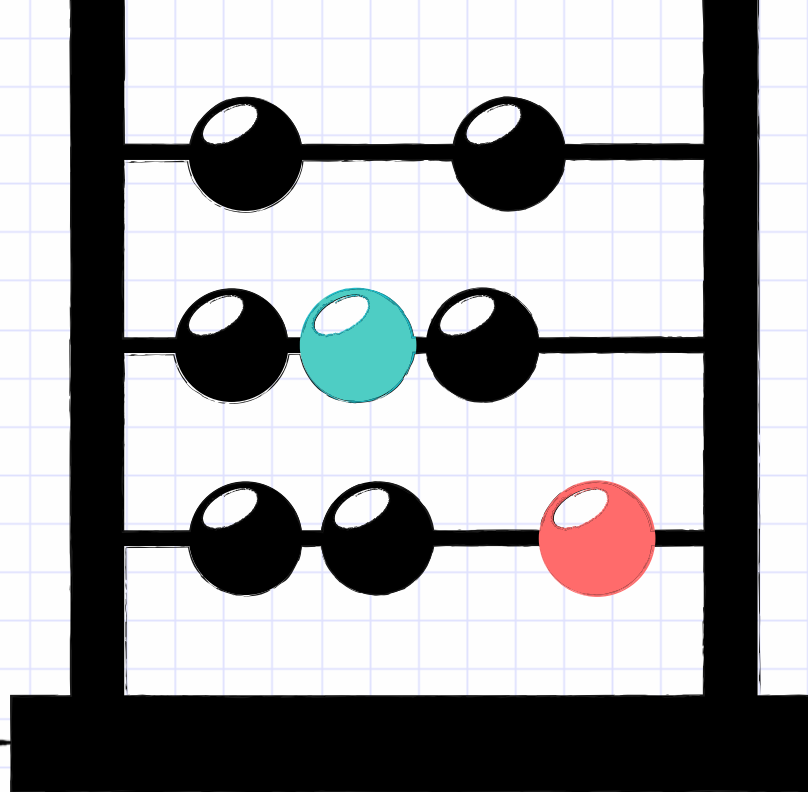
Analytical Steps to Avoid

**DOUBLE
COUNTING**

in Momentum Savings

Momentum Savings Analyses are Total Market Analyses





WHAT is Double Counting?



**Double-counting
happens when you**

COUNT

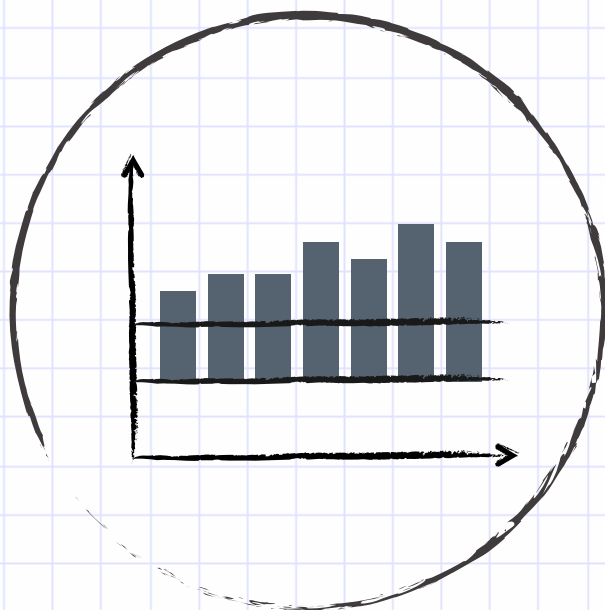
the same savings

TWICE.

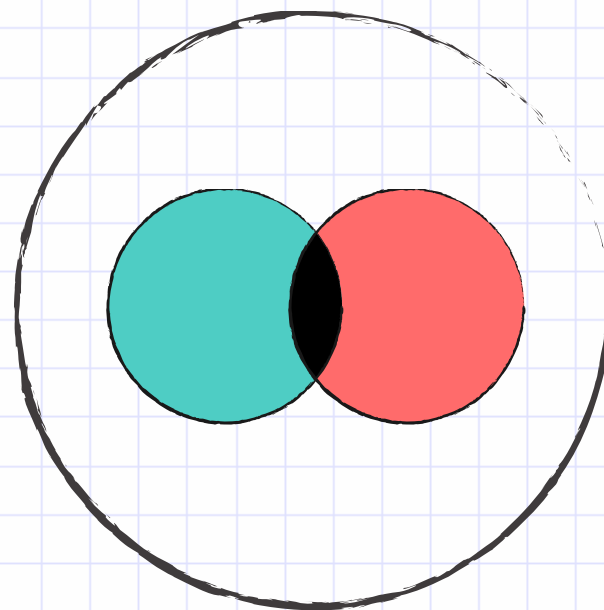


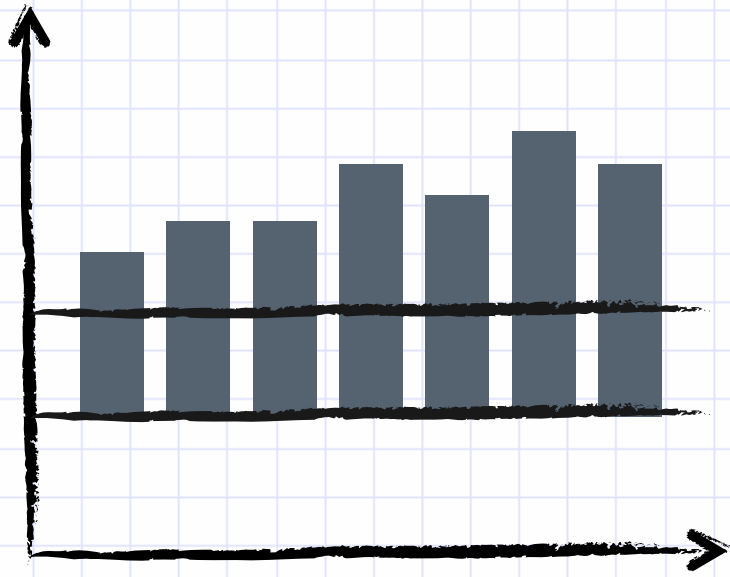
There are two kinds of double counting

**Double-Counting
Baseline Savings**



**Overlap between
Savings**

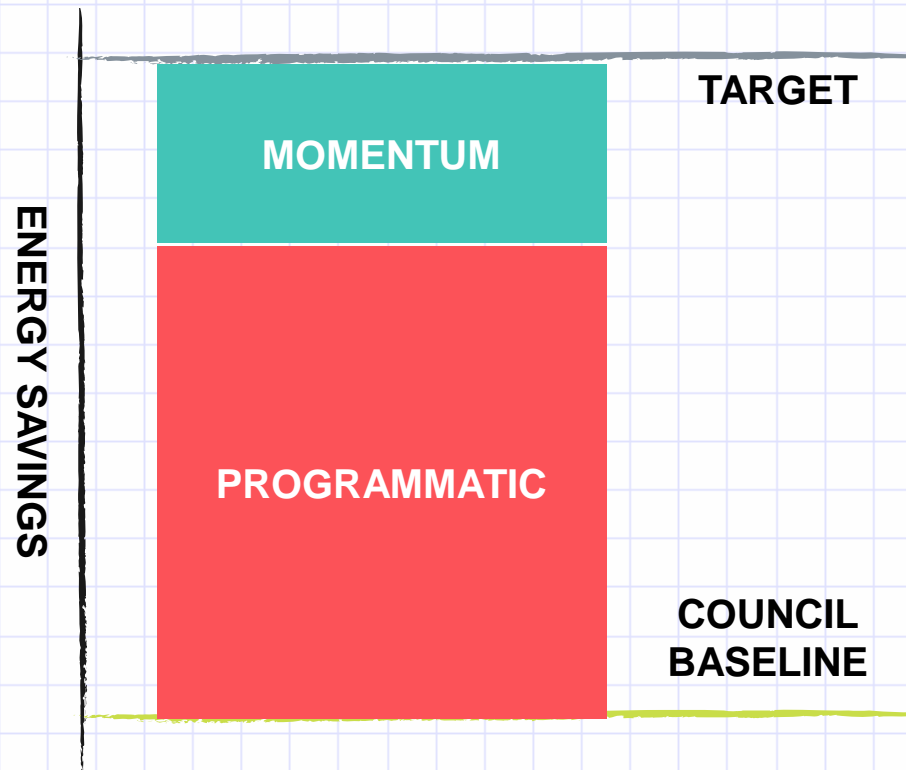




DOUBLE COUNTING

Baseline Savings

Momentum Savings Analyses are tracked from the Council baseline

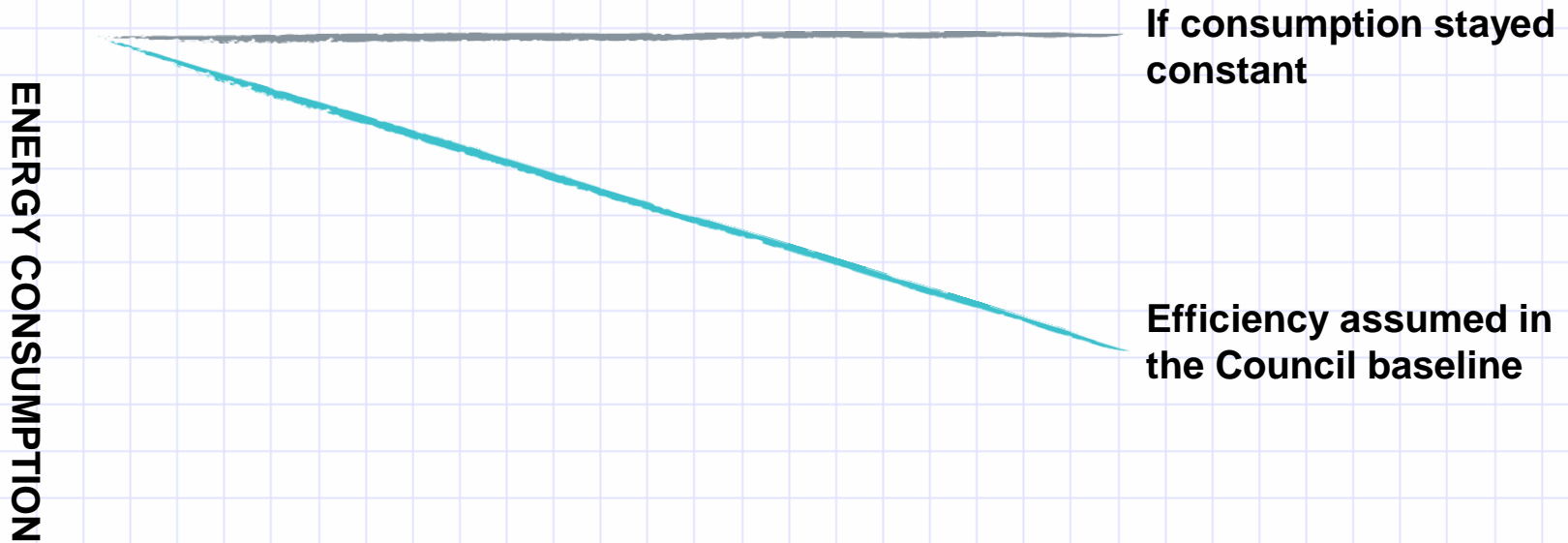


There is efficiency assumed in the Council baseline

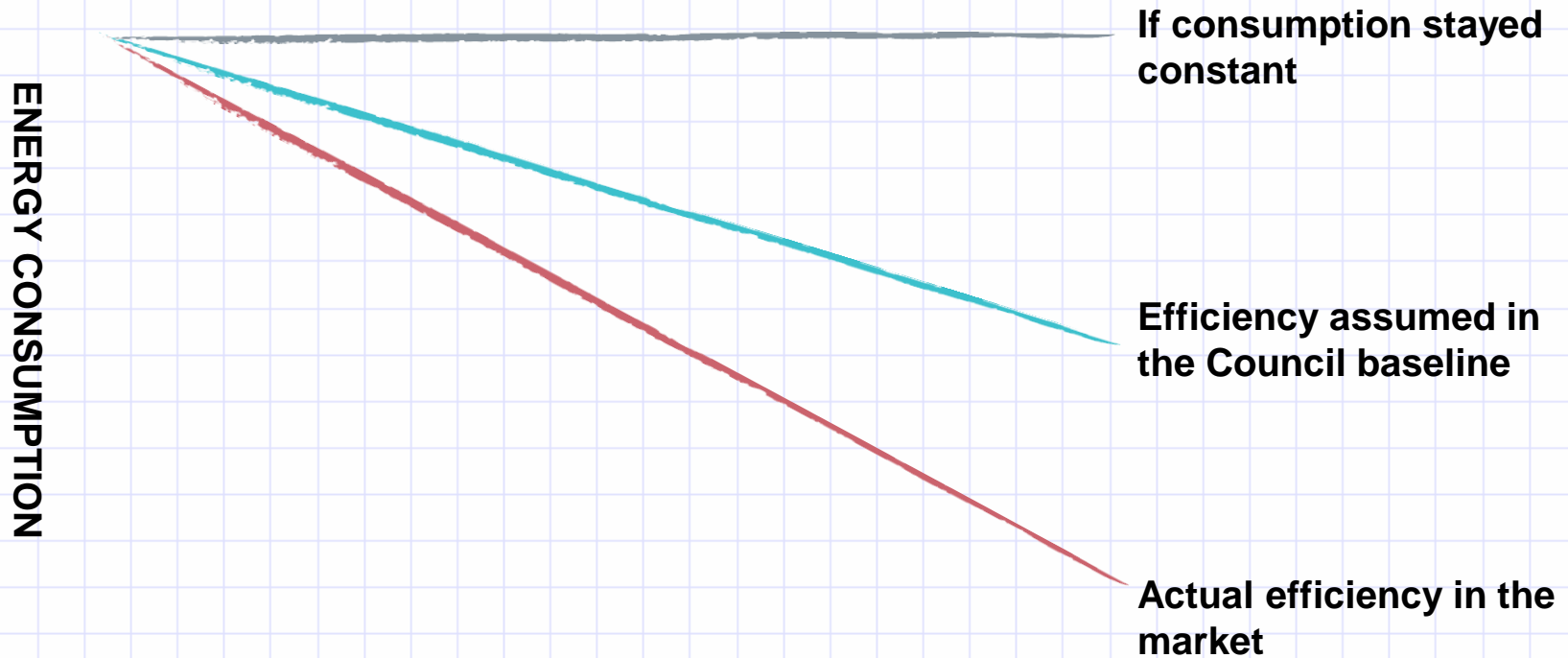
ENERGY CONSUMPTION

If consumption stayed constant

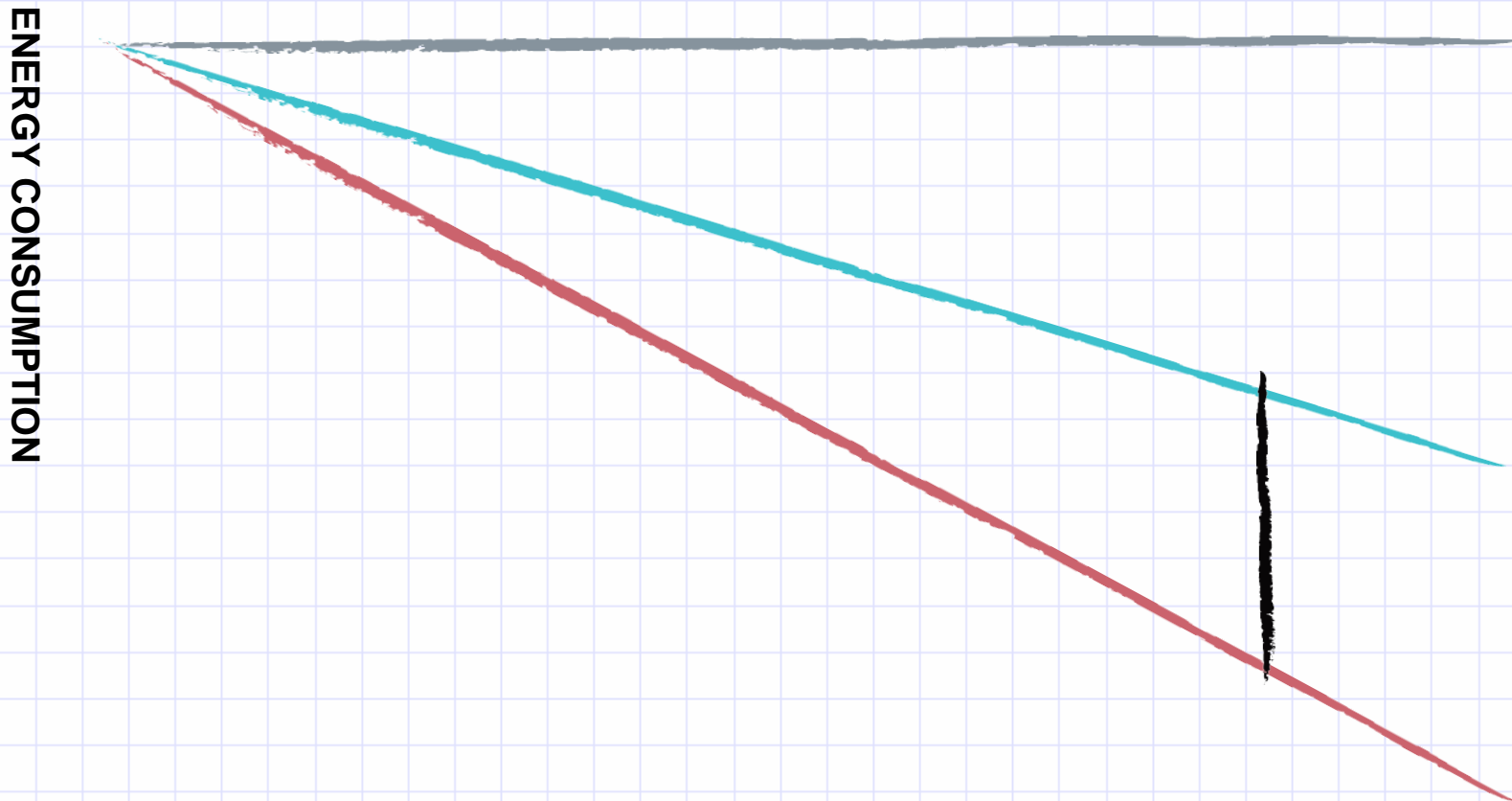
There is efficiency assumed in the Council baseline



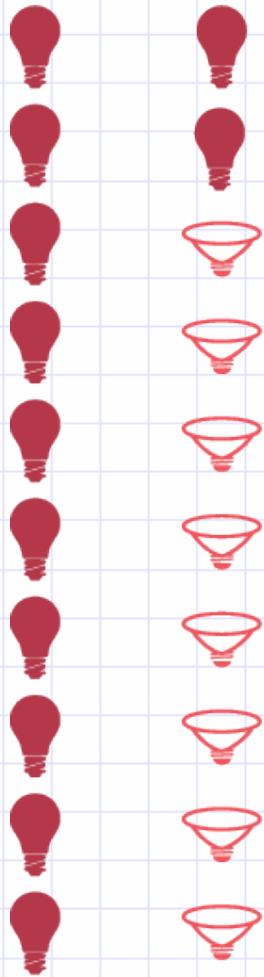
There is efficiency assumed in the Council baseline



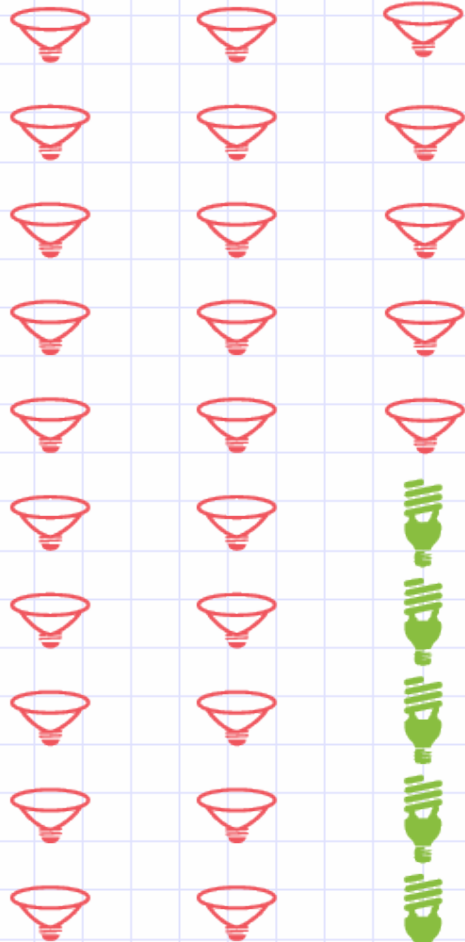
Getting the baseline right is the most important way to avoid double-counting



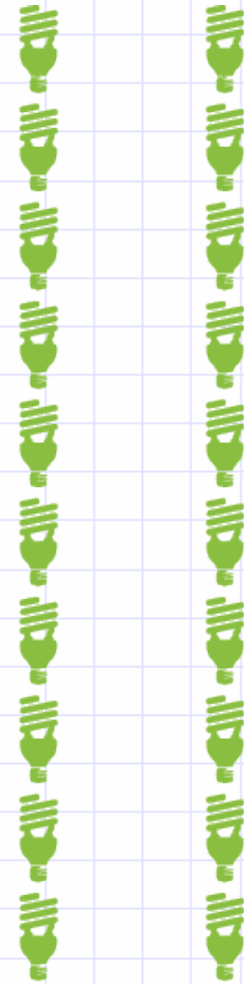
12%



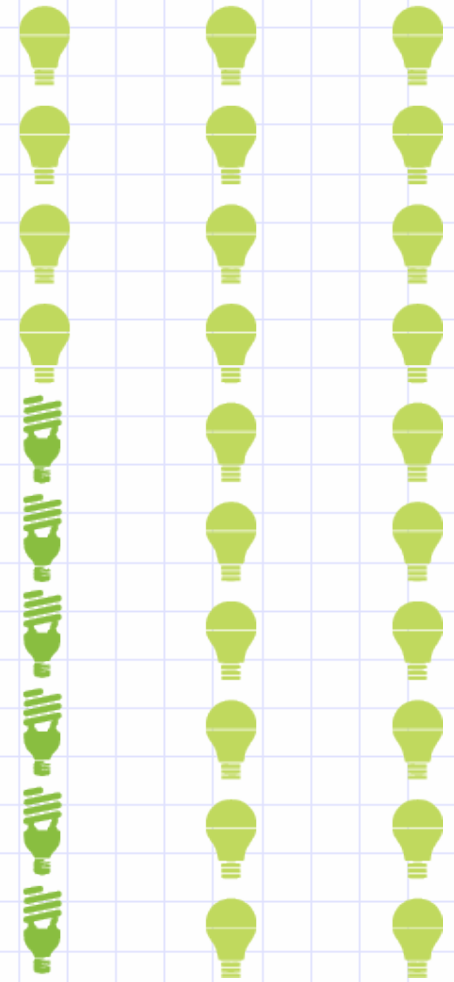
33%



31%



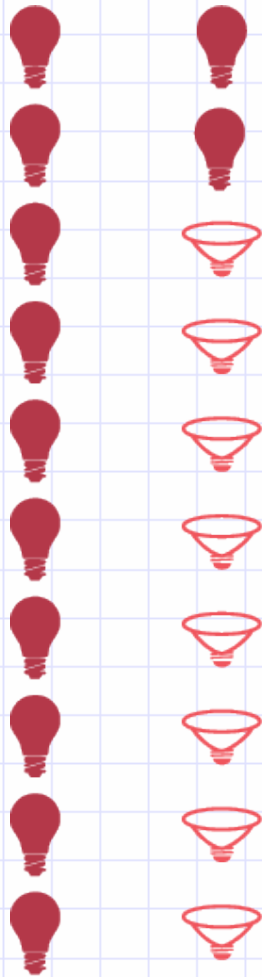
24%



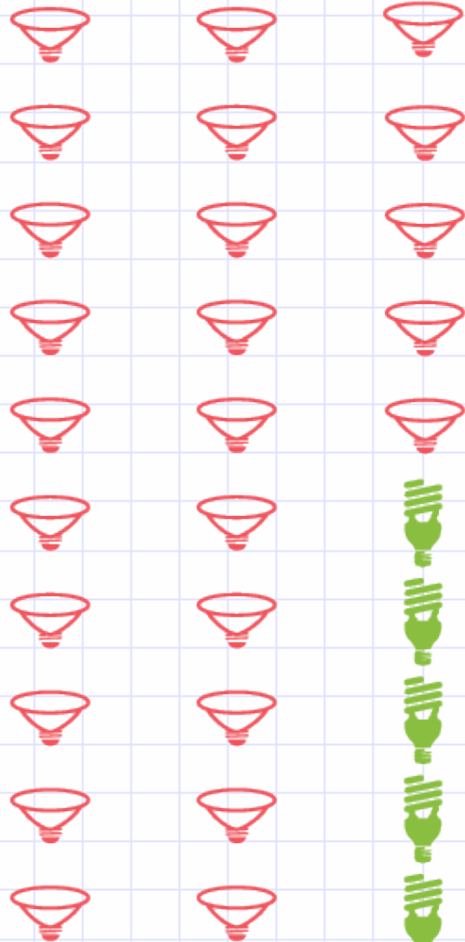
2015



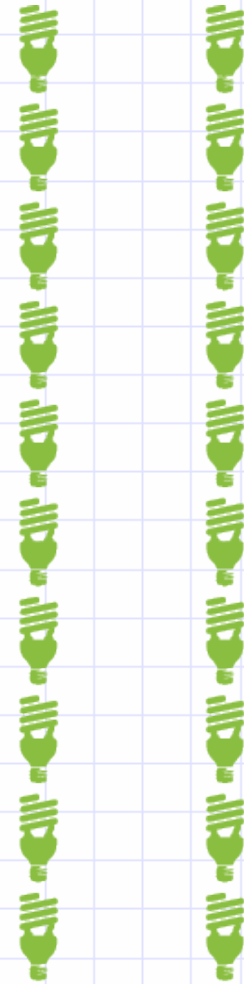
12%



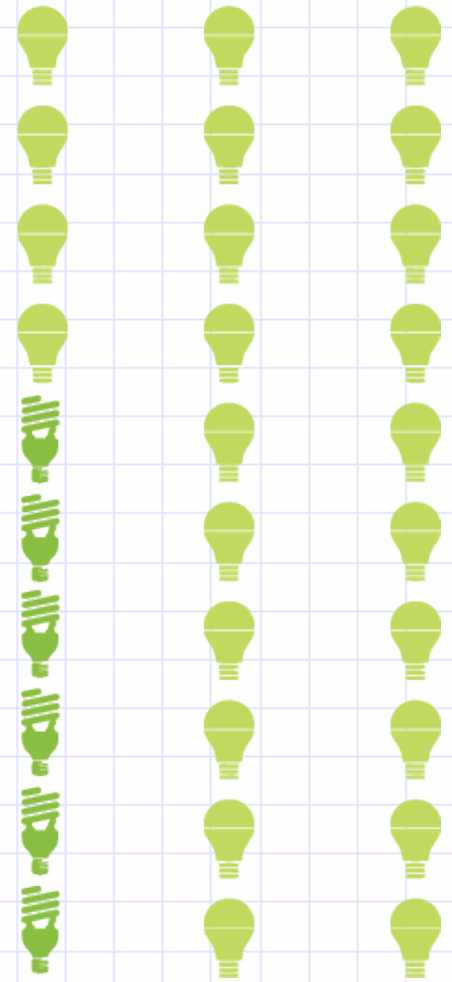
33%



31%



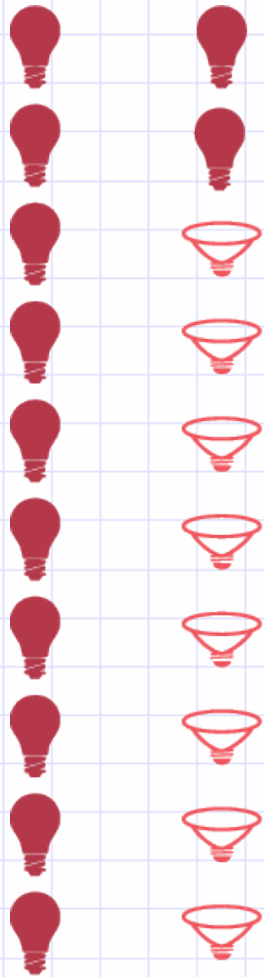
24%



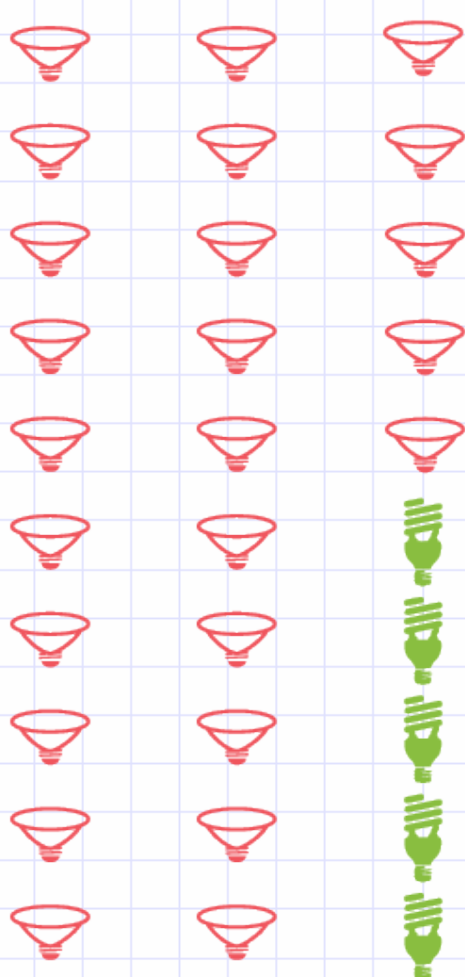
2016



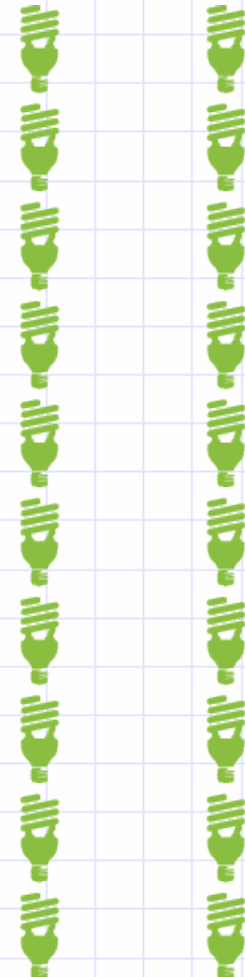
12%



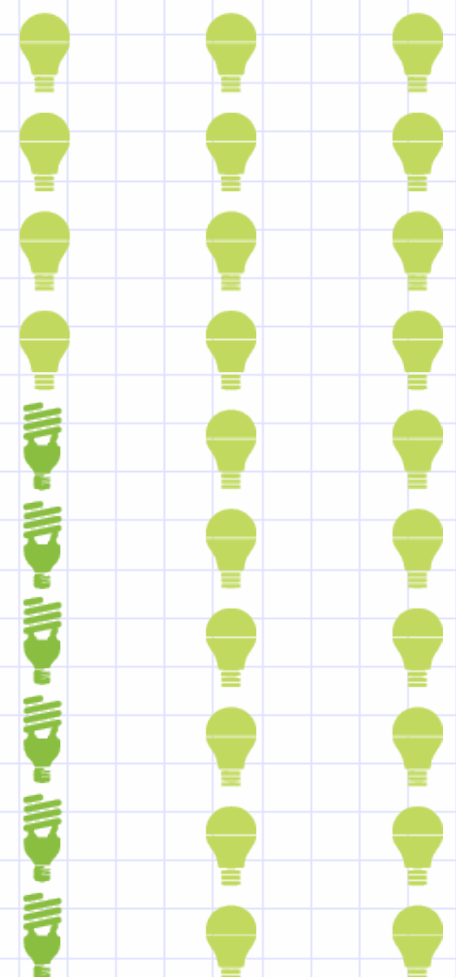
33%



31%



24%



2017

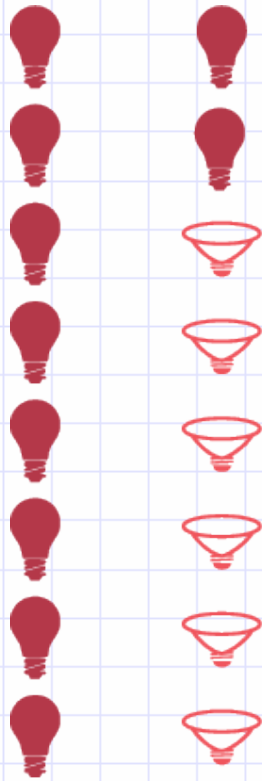
 INC

 HAL

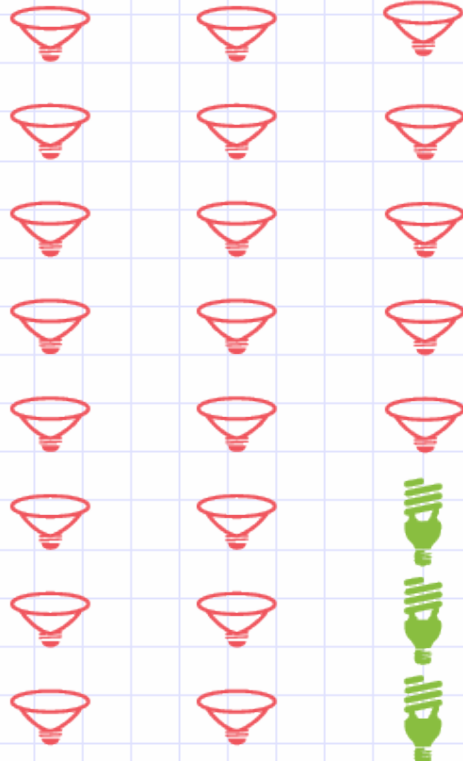
 CFL

 LED

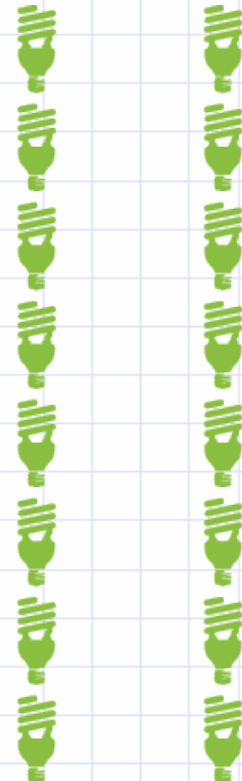
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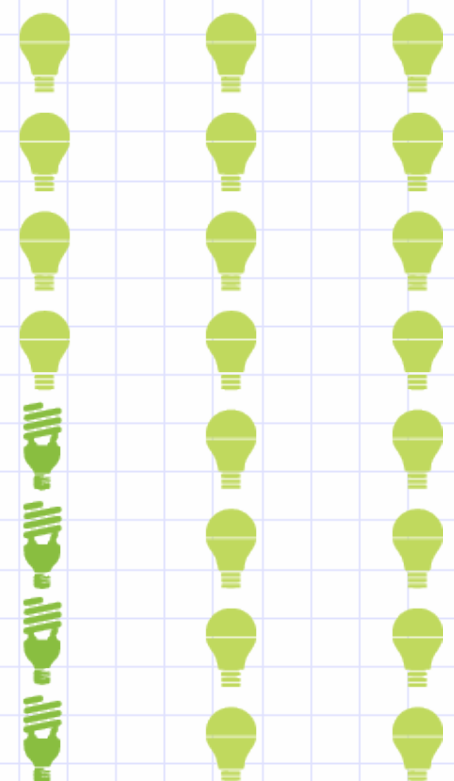
33%



31%

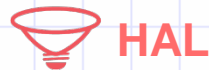


24%

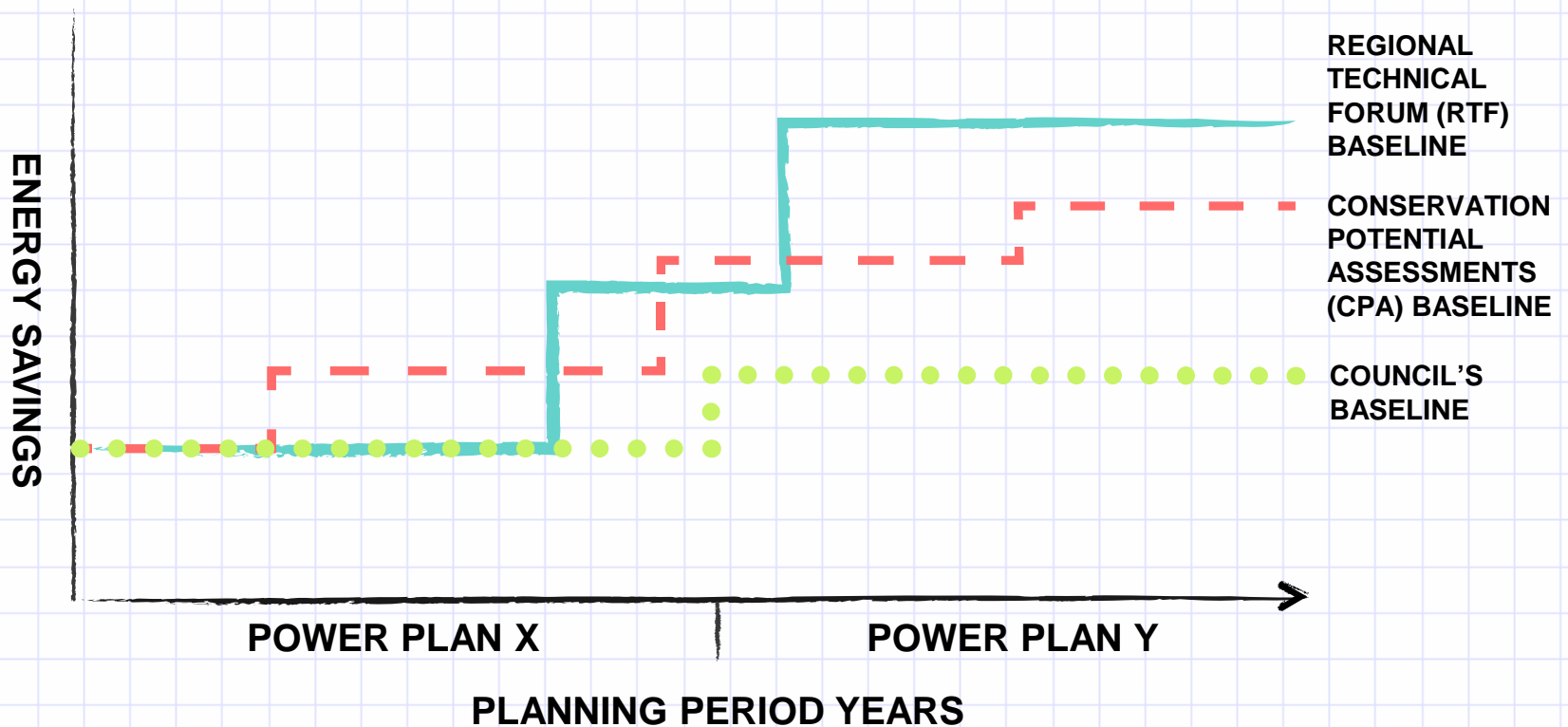


Counting these bulbs in green is double-counting

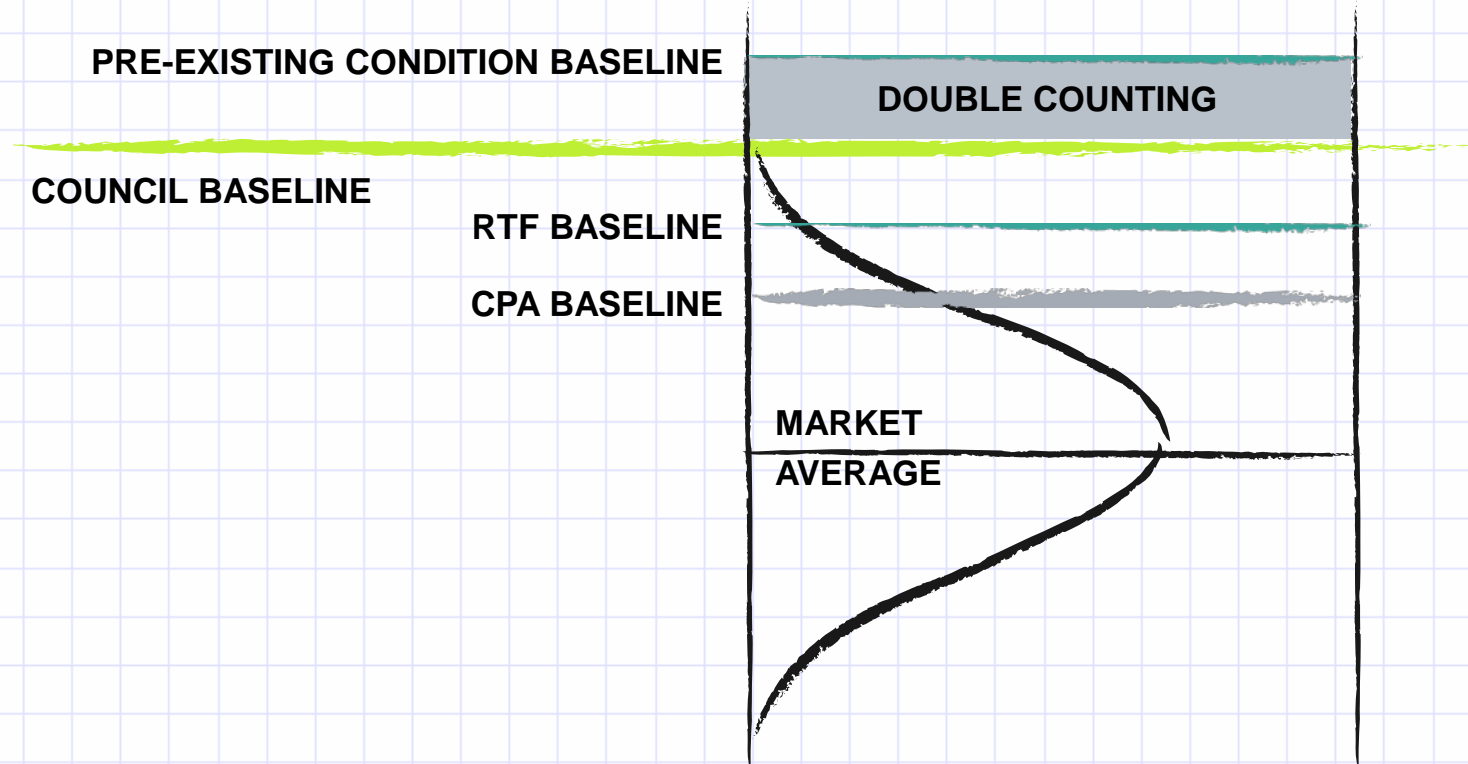
2018

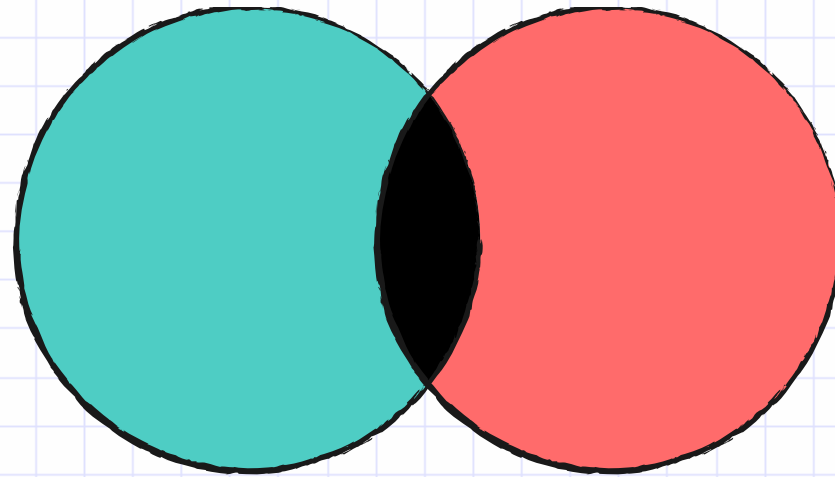


The region uses many different baselines for reporting energy savings



We true up program savings for double counting





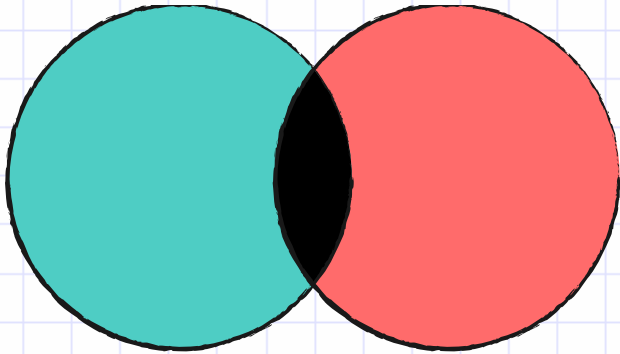
OVERLAP

Savings

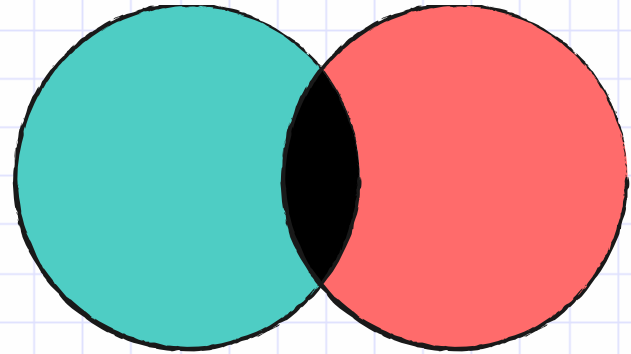


What is Overlap?

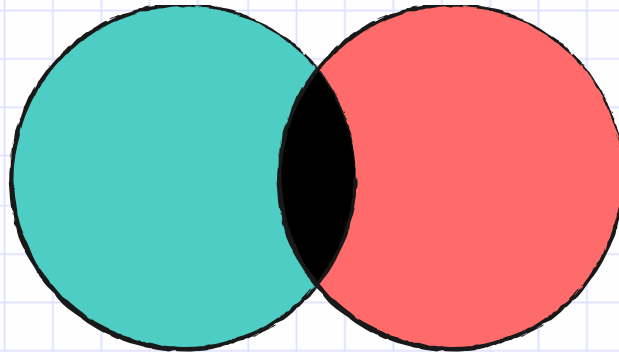
TECHNOLOGY



EFFICIENCY LEVELS



TIME



Correcting for Overlap

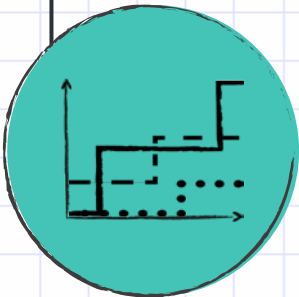
IDENTIFY

QUANTIFY

DEDUCT

Sources of Savings Overlap

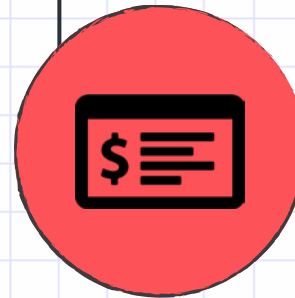
**Momentum
Savings
Models**



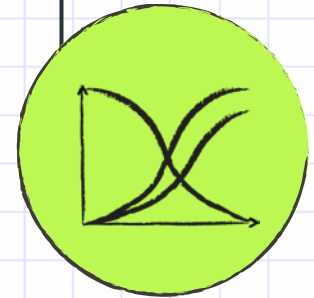
**Codes +
Standards
Savings**



**Program
Savings**



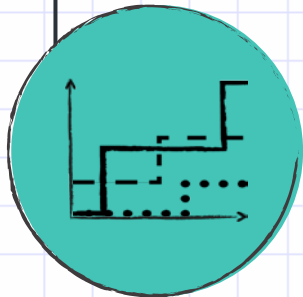
**NEEA
Program
Savings**





Sources of Savings Overlap

Momentum Savings Models



Codes + Standards Savings



Program Savings



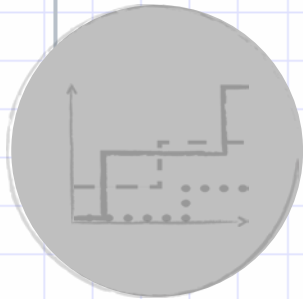
NEEA Program Savings



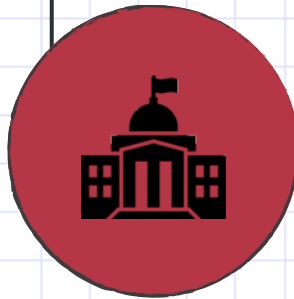


Sources of Savings Overlap

Momentum
Savings
Models



Codes +
Standards
Savings



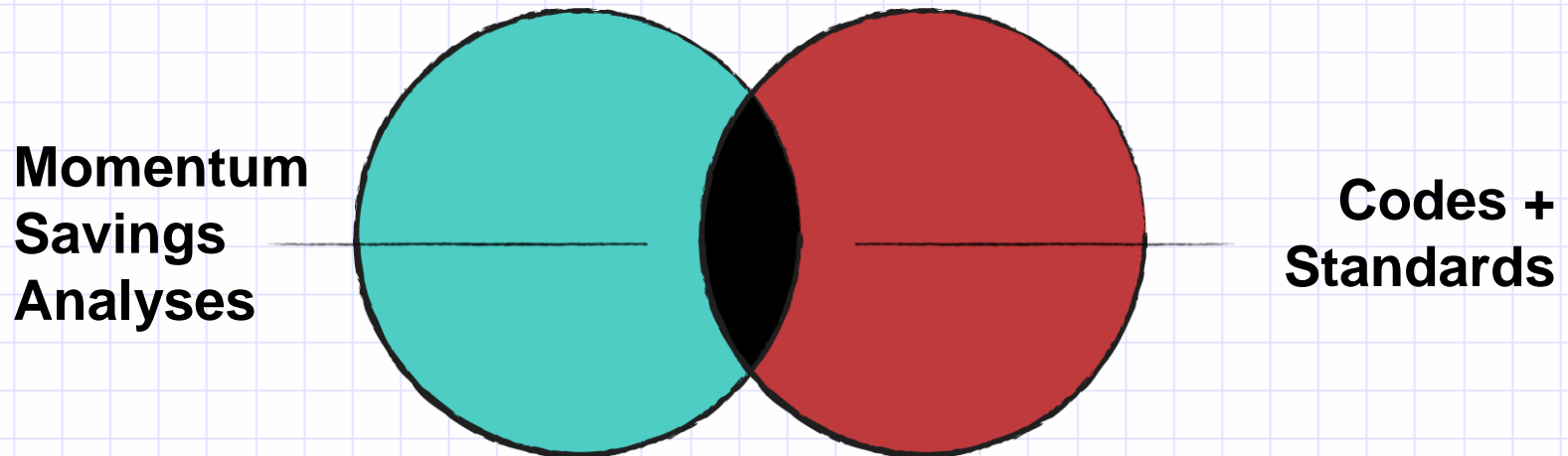
Program
Savings



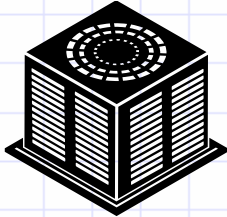
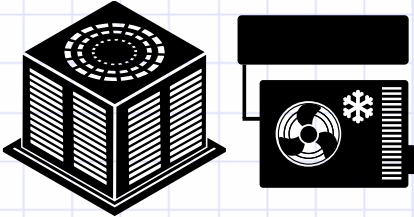
NEEA
Program
Savings





Overlap Between Momentum Savings Analyses and Codes + Standards



Example: Residential Heat Pumps

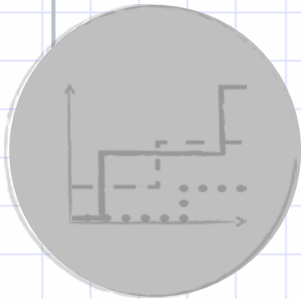
	Momentum Savings from Residential HVAC Market	Momentum Savings from Heat Pump Standards	Overlap?
Technology			✓
Efficiency Levels	7.7 – 11.5 HSPF	7.7 – 8.2 HSPF	✓
Time	2010-2014	2015	X

Example: Small Packaged AC

	Washington State Commercial Building Code	Momentum Savings from Packaged AC Standards	Overlap?
Technology			✓
Efficiency Levels	Minimum 14.0 SEER for Single Package Units < 5 tons	Minimum 14.0 SEER for Single Package Units < 5 tons	✓
Time	Compliance in 2015	Compliance in 2017	✓

Sources of Savings Overlap

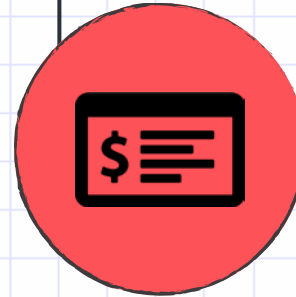
Momentum
Savings
Models



Codes +
Standards
Savings



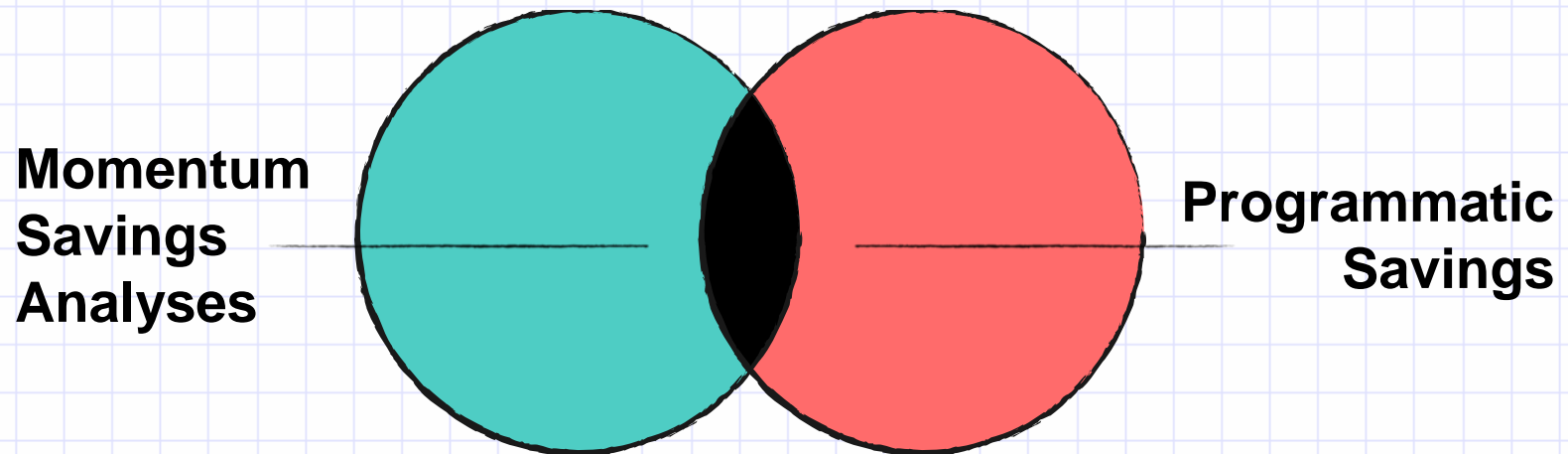
Program
Savings



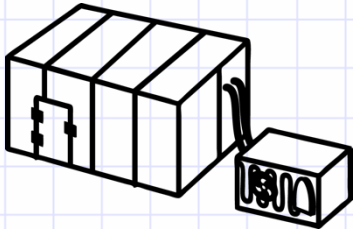
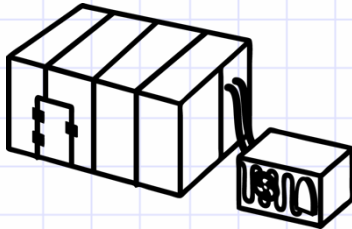
NEEA
Program
Savings



Overlap Between Momentum Savings Analyses and Programmatic Savings

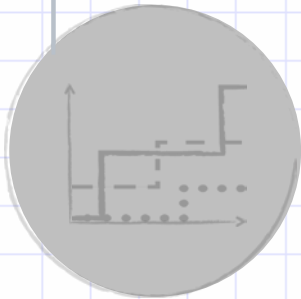


Example: Walk-in Coolers

	Program Savings from Custom BPA Refrigeration Project	Momentum Savings from Walk-in Cooler Standards	Overlap?
Technology			✓
Efficiency Levels	Not Specified, Assumed Overlap	Depends on Component (Insulation, Motors, Lighting, and Doors)	✓
Time	2015	2014-2015	✓

Sources of Savings Overlap

Momentum
Savings
Models



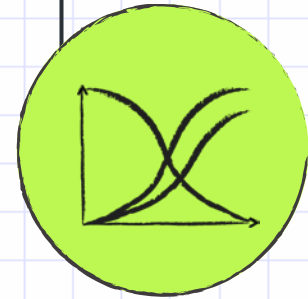
Codes +
Standards
Savings



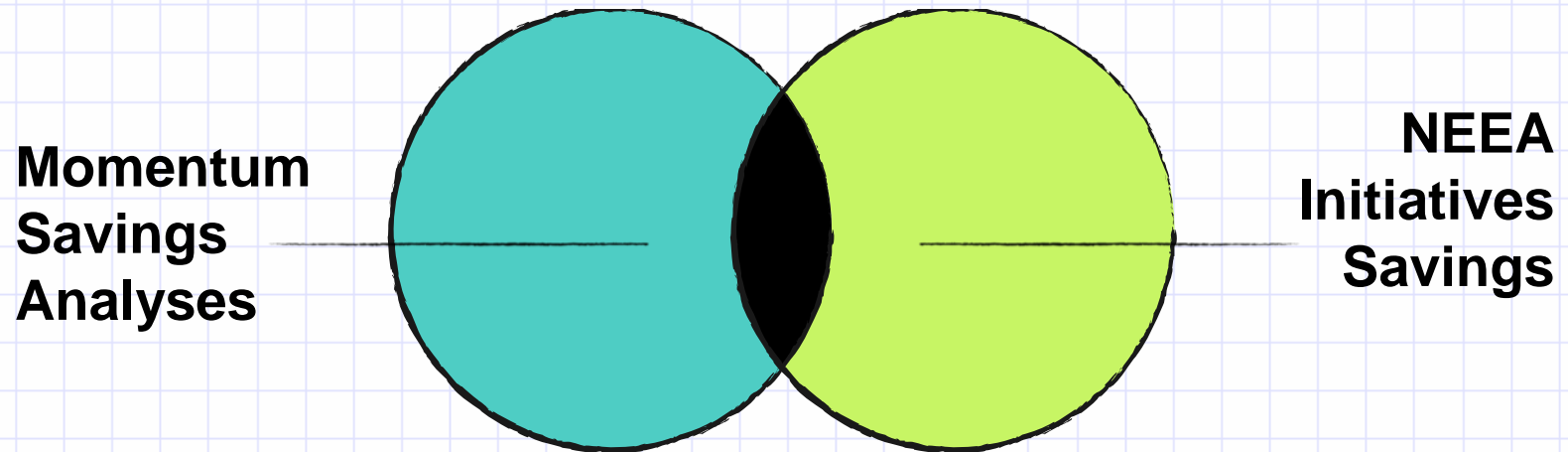
Program
Savings




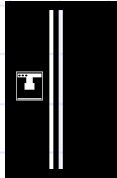
**NEEA
Program
Savings**



Overlap Between Momentum Savings Analyses and Savings from NEEA Initiatives



Example: Refrigerators

	NEEA Savings from Energy Star 4.0	Momentum Savings from Refrigerator Standards	Overlap?
Technology			✓
Efficiency Levels	Baseline to EnergyStar 4.0	Baseline to Federal Standard (> EnergyStar 4.0)	✓
Time	2010-2015	2015	✓

Correcting for Overlap

IDENTIFY

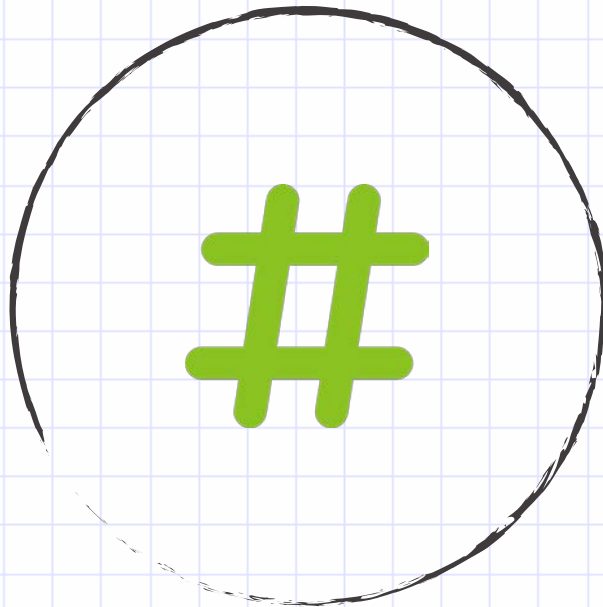
QUANTIFY

DEDUCT

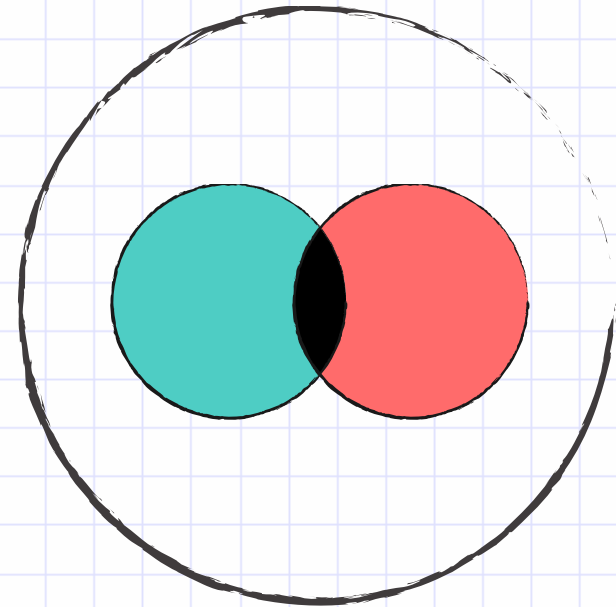


Two Key Numbers

Quantity of Units



Efficiency Levels



Correcting for Overlap

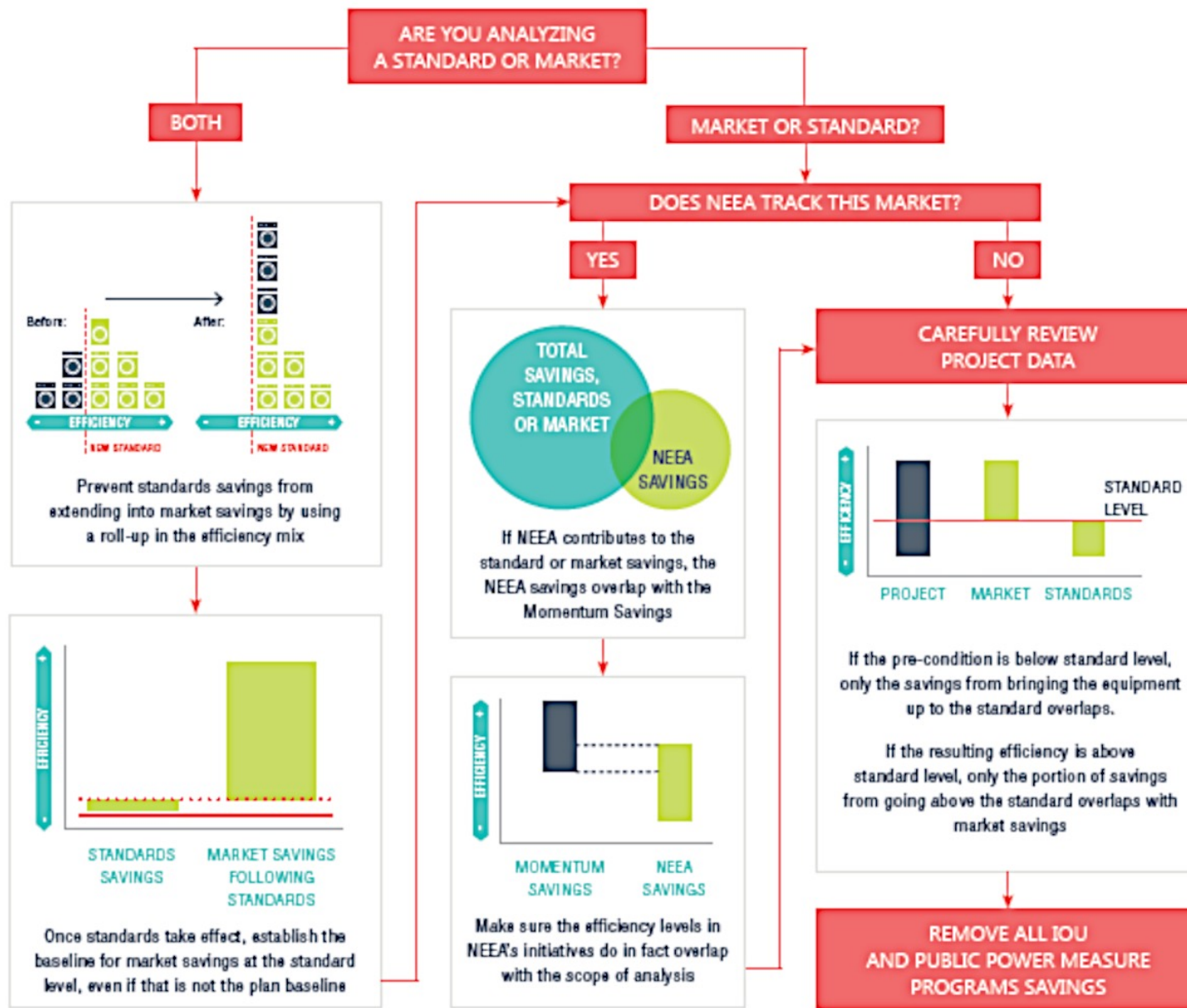
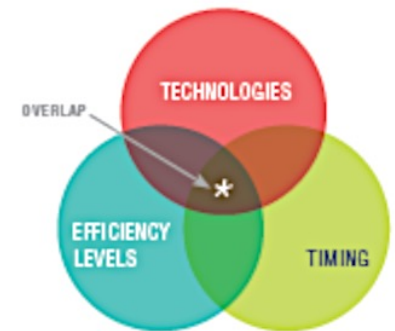
IDENTIFY

QUANTIFY

DEDUCT

A GUIDE TO AVOID DOUBLE COUNTING MOMENTUM SAVINGS

Overlap occurs when two analyses find savings from the same efficiency levels, of the same technology, at the same time. This graphic will help analysts avoid and correct for this type of overlap when estimating momentum savings from standards and markets.

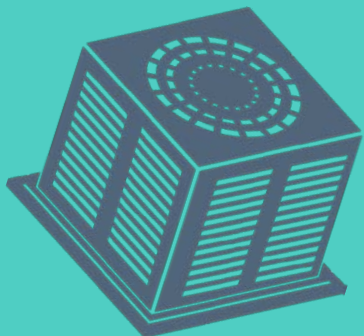


TRUING-UP BASELINES

BPA and other entities must claim energy savings—programmatic, momentum, or otherwise—against a predetermined baseline. Most often, entities in the Northwest use the baseline as defined in the Northwest Power and Conservation Council's (the Council) current power plan. Unfortunately, not all analysts in the energy efficiency industry interpret the Council's defined baselines in the same way, or in some instances, use them at all. This complicates savings estimates, and may result in double-counting or lost savings opportunities. To avoid this pitfall, analysts must first identify and reconcile the baselines used in each analysis. Doing so will ensure analysts count savings from a common starting point and accurately capture overlap.

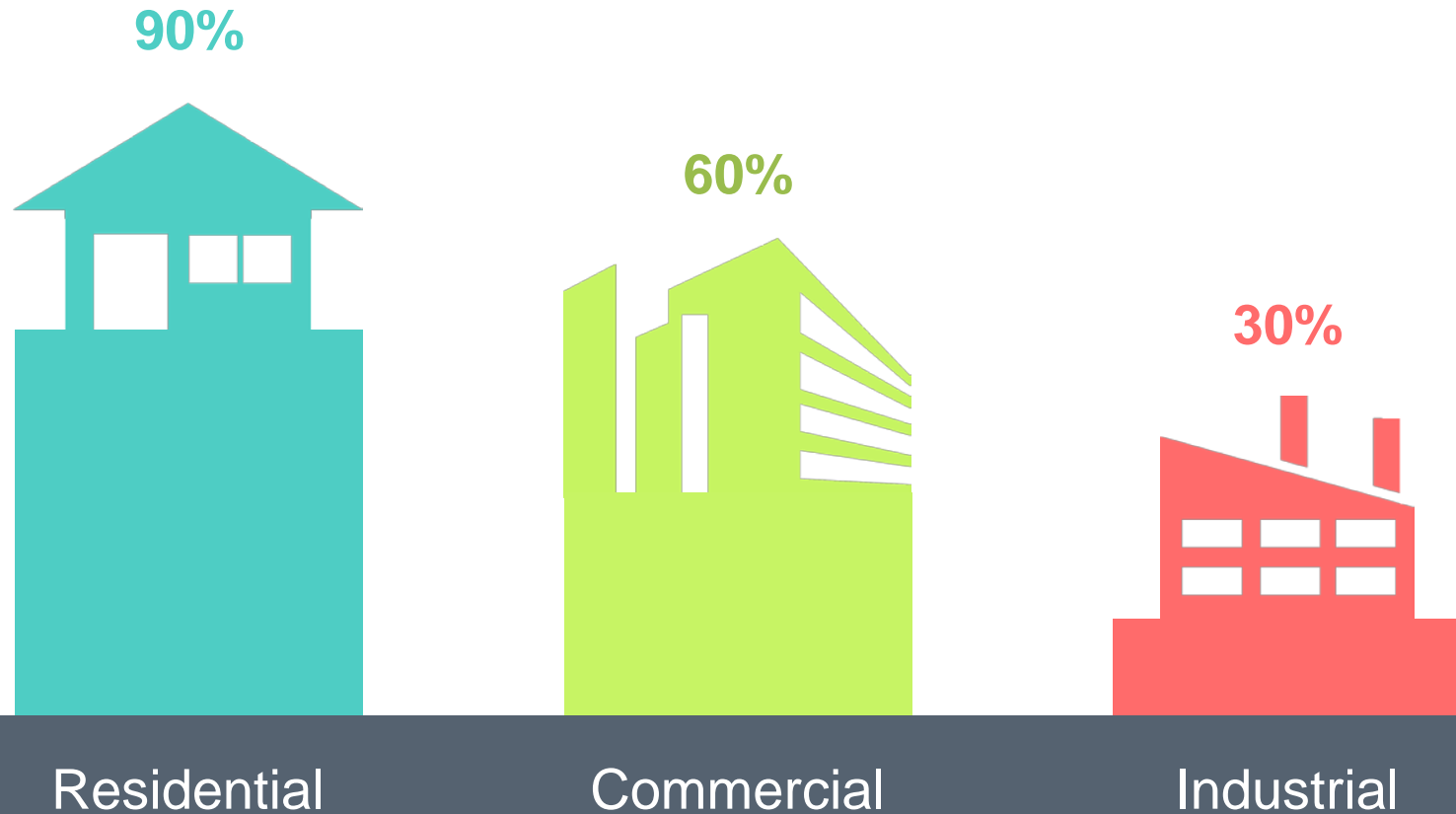
STANDARDS

The next wave of big savings



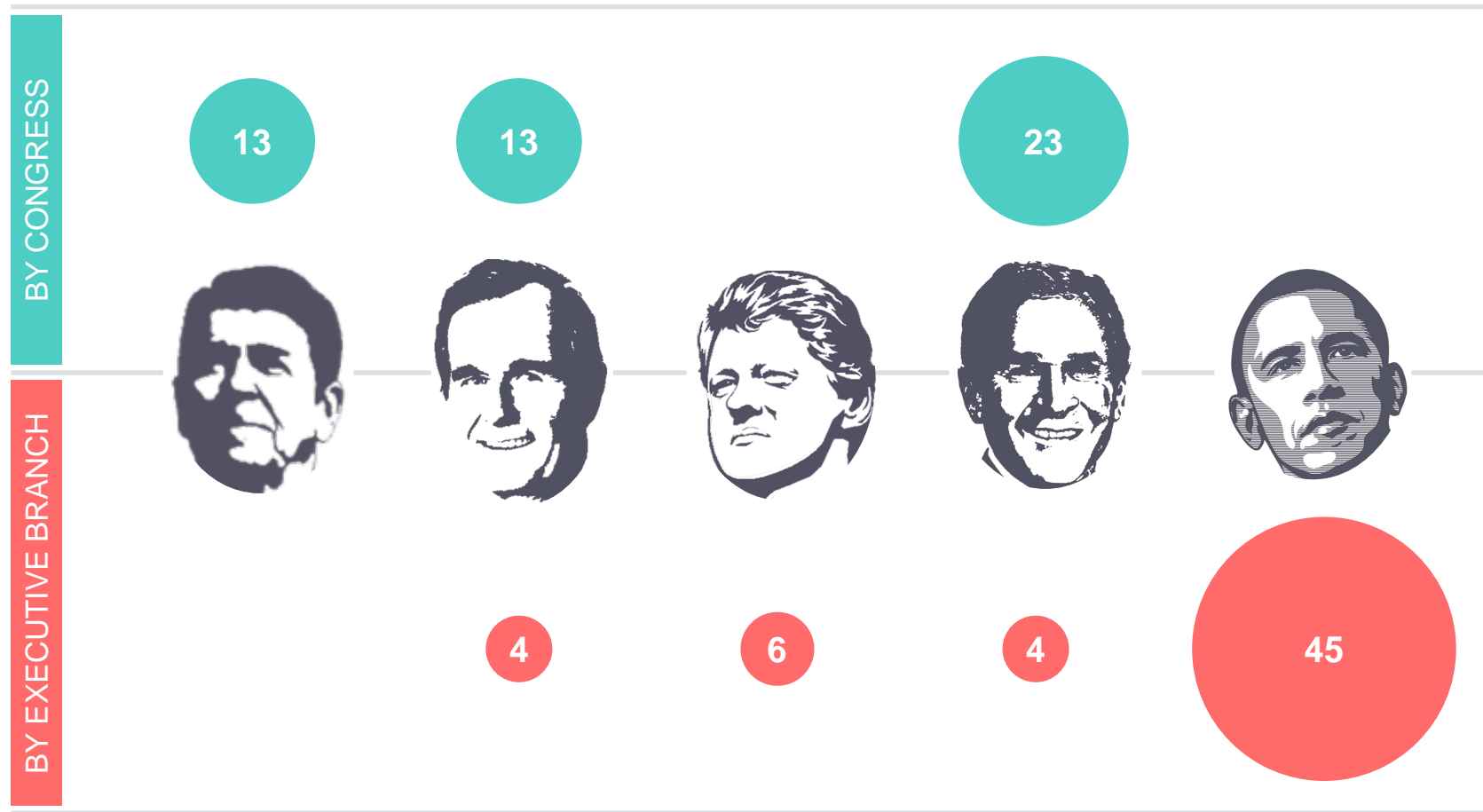


SHARE OF BUILDING ENERGY USE SUBJECT TO STANDARDS



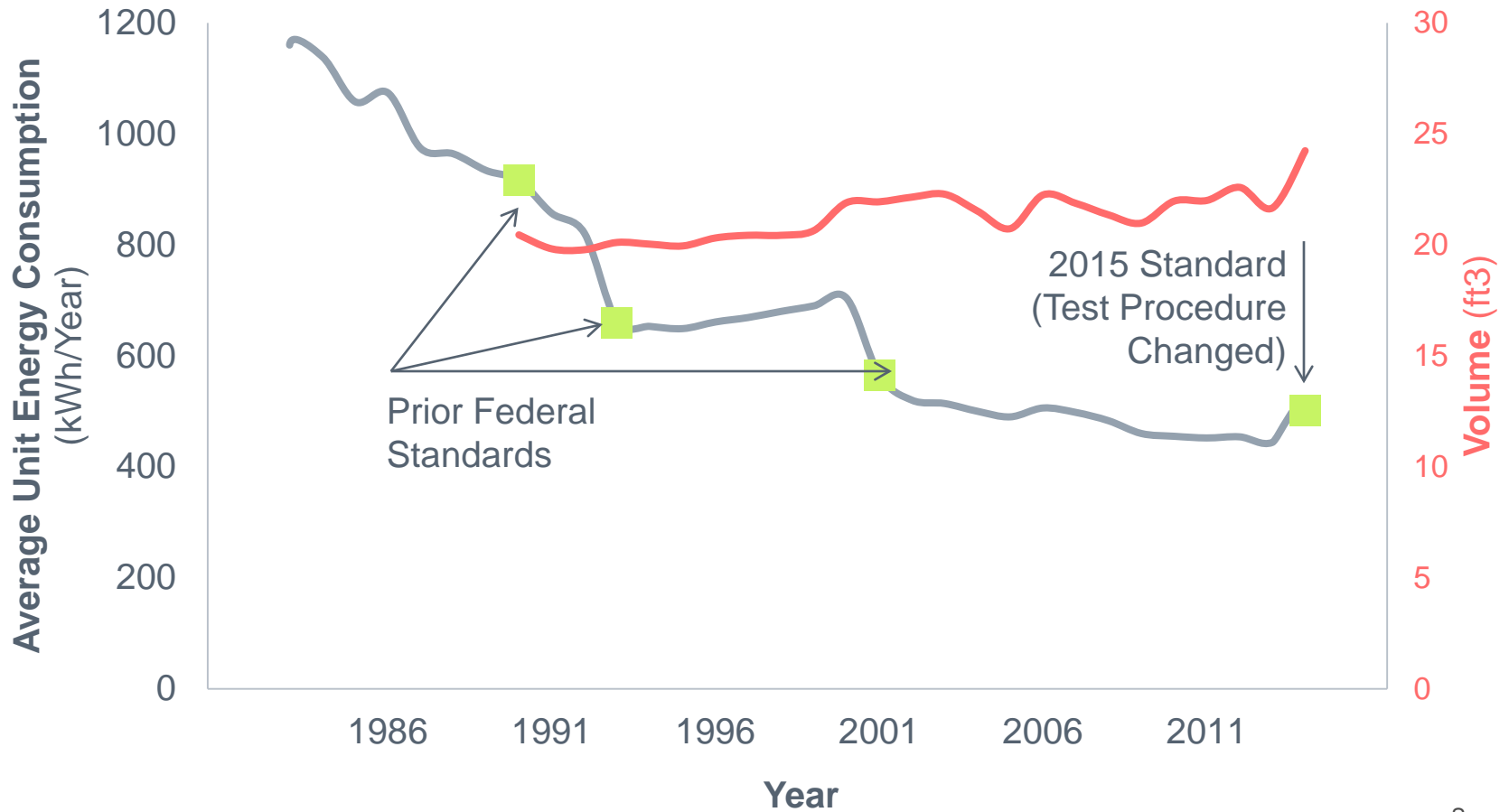


STANDARDS ADOPTED BY ADMINISTRATION



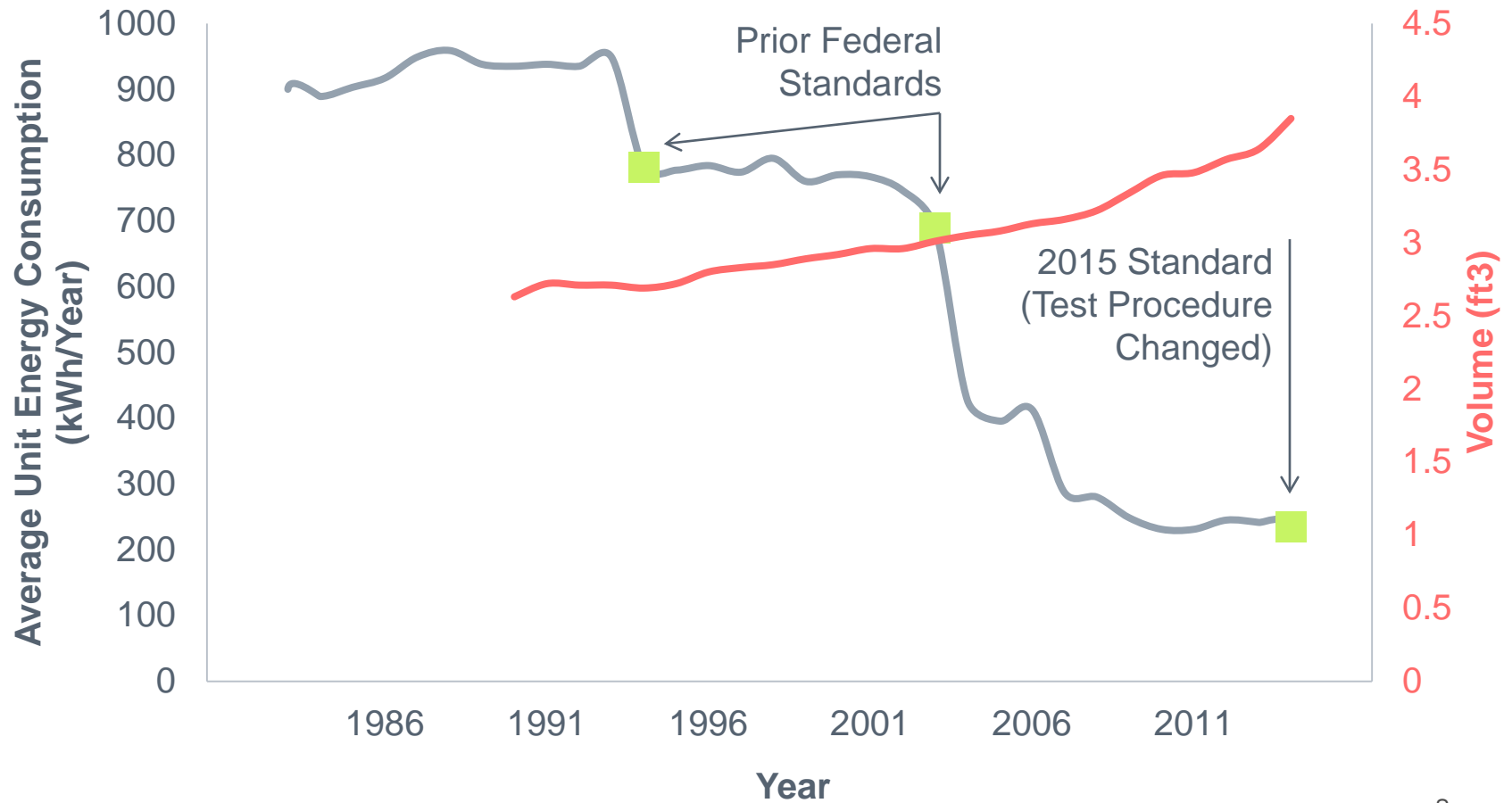
*As of June 20, 2016
Source: ASAP/ACEEE

RESIDENTIAL REFRIGERATORS STANDARDS IMPACT OVER TIME



Source: AHAM

RESIDENTIAL CLOTHES WASHERS STANDARDS IMPACT OVER TIME



Source: AHAM

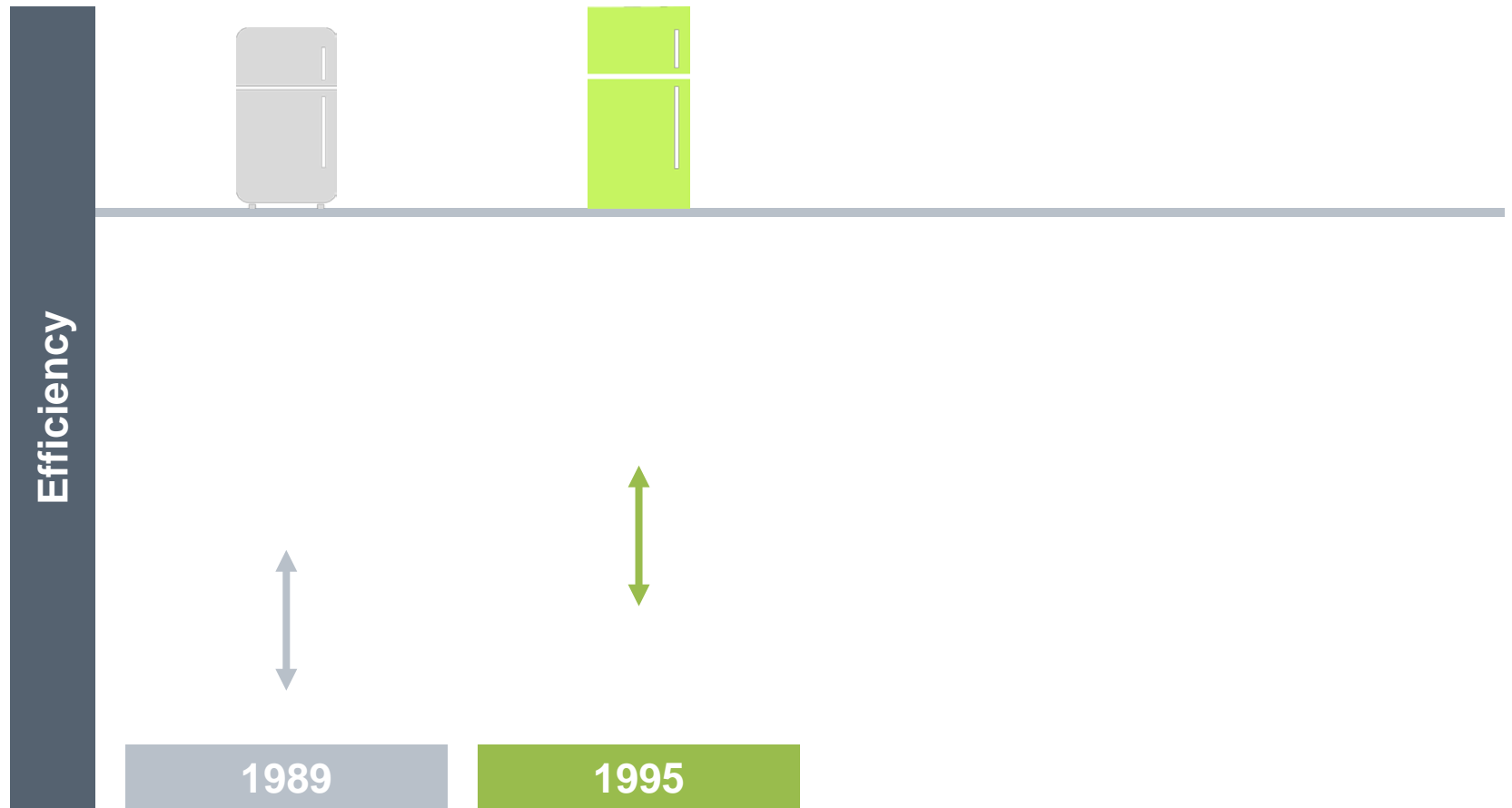


EVOLUTION OF MAX TECH



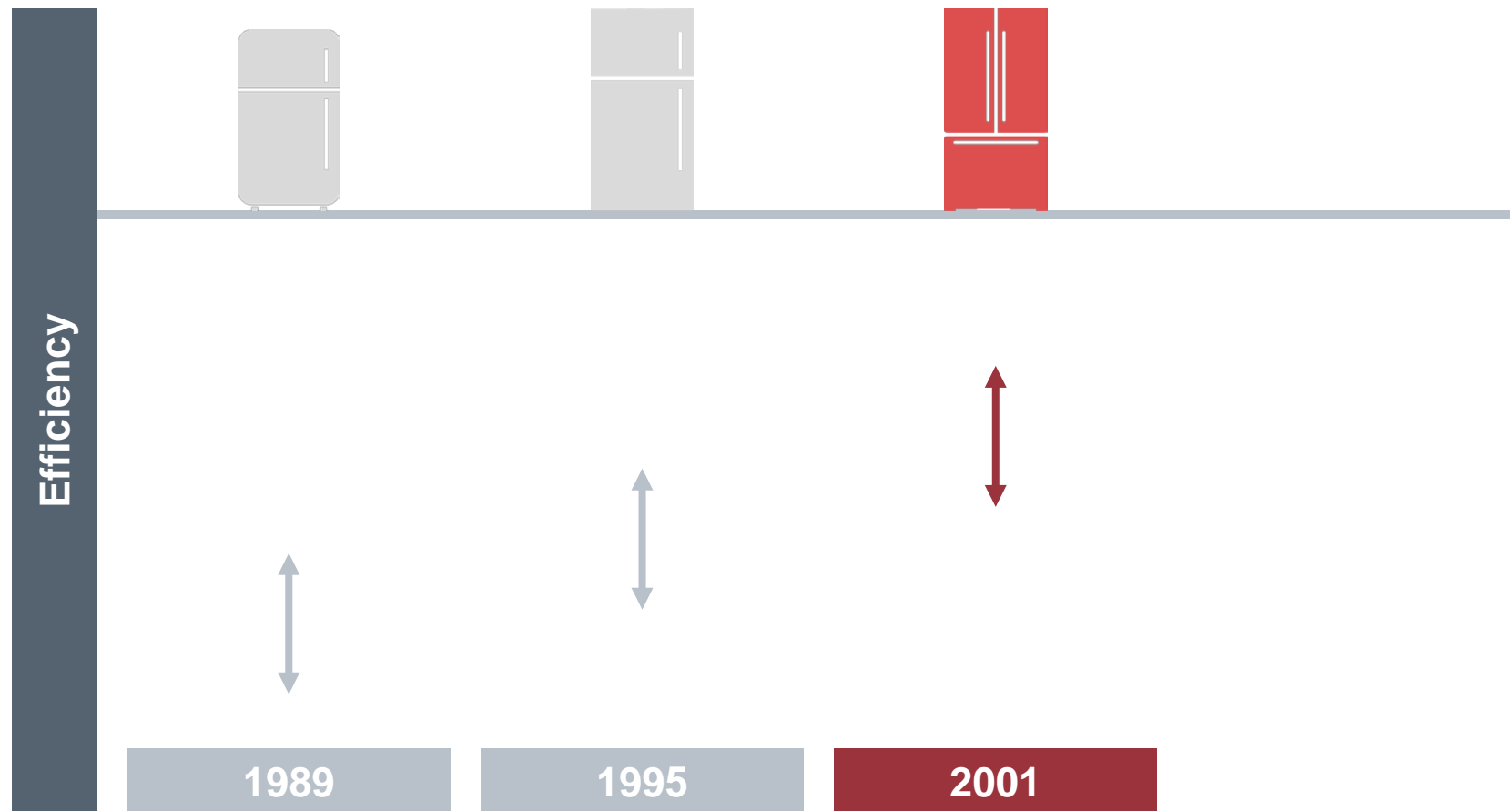


EVOLUTION OF MAX TECH



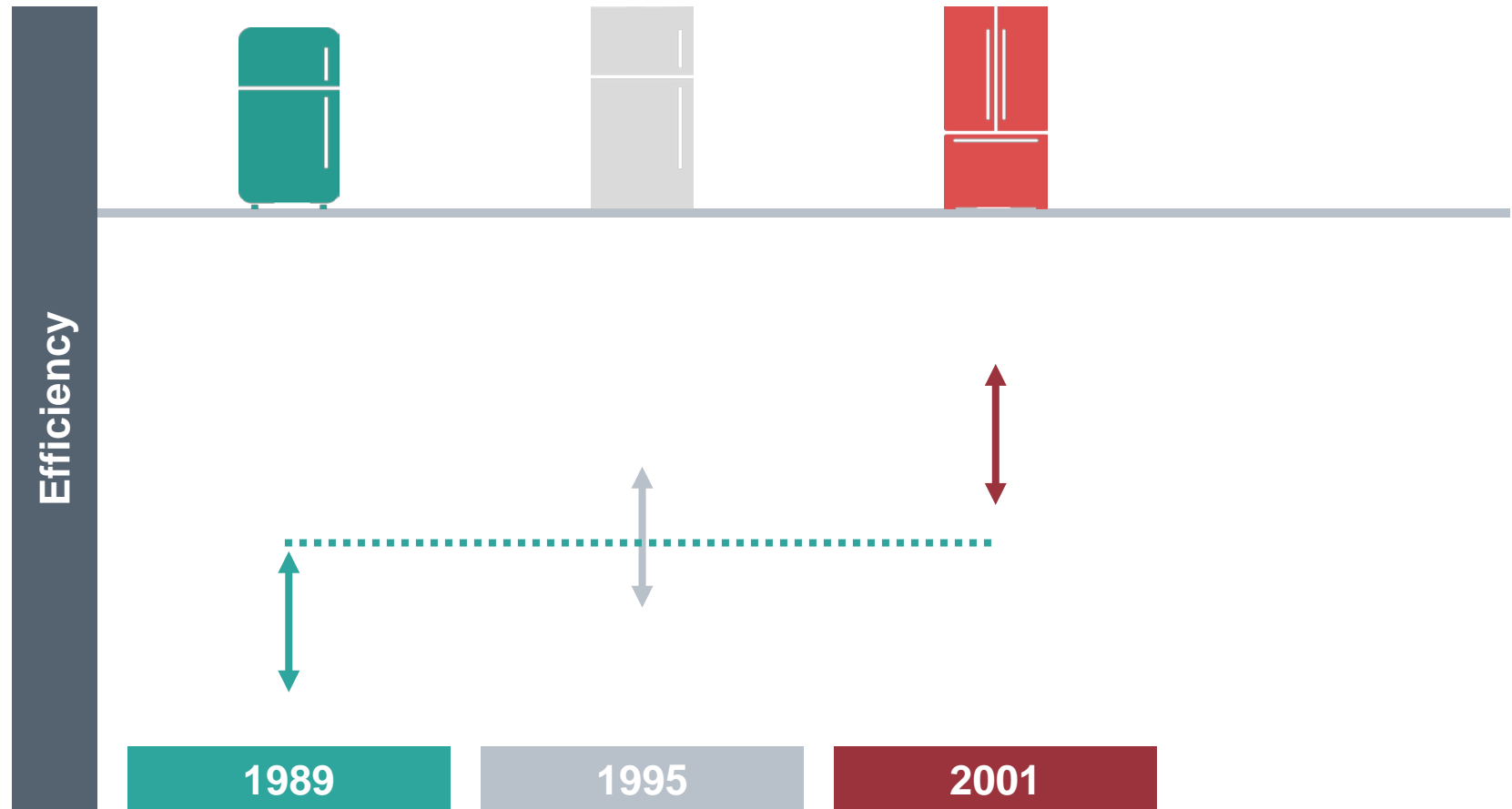


EVOLUTION OF MAX TECH



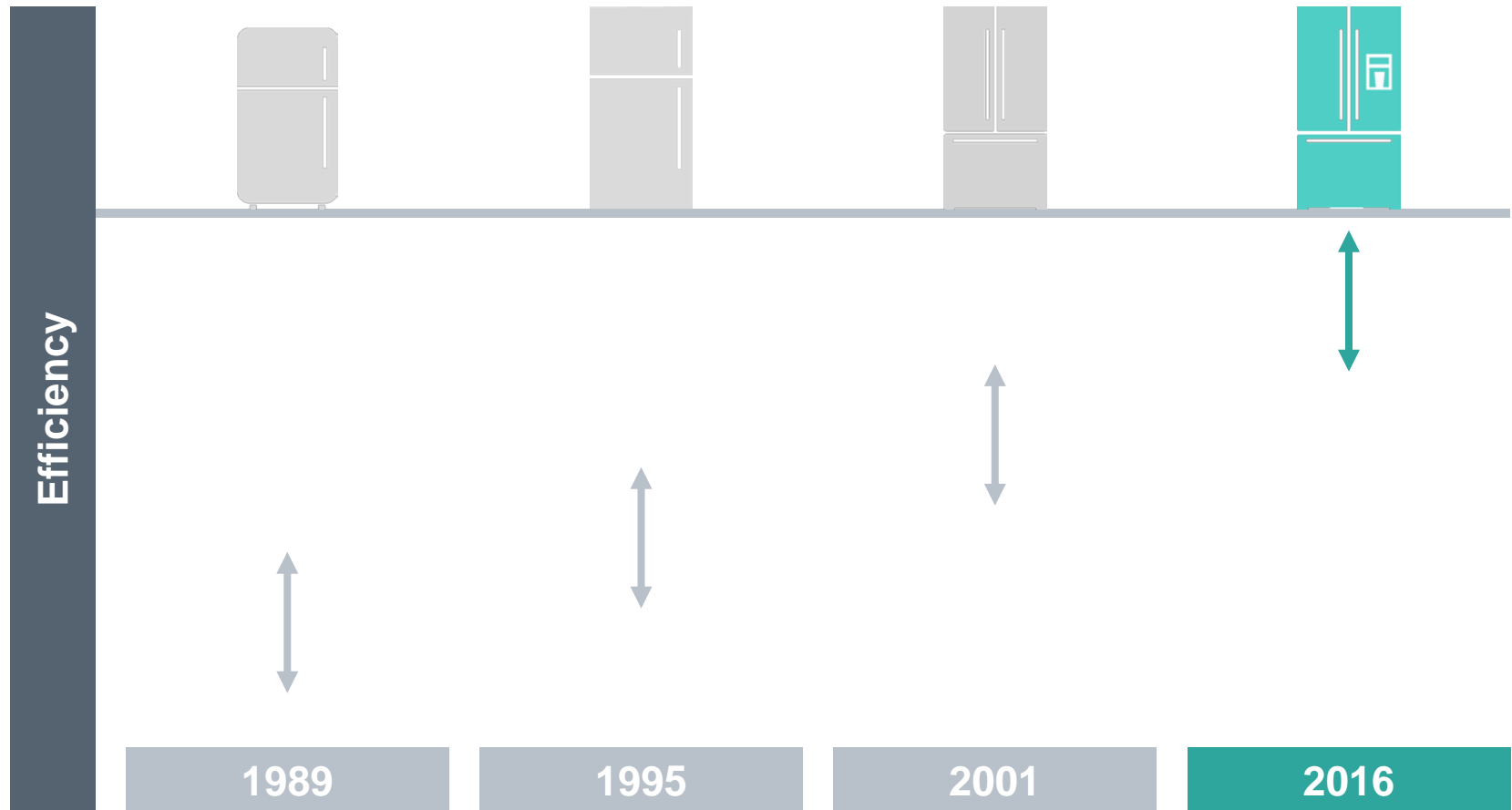


EVOLUTION OF MAX TECH

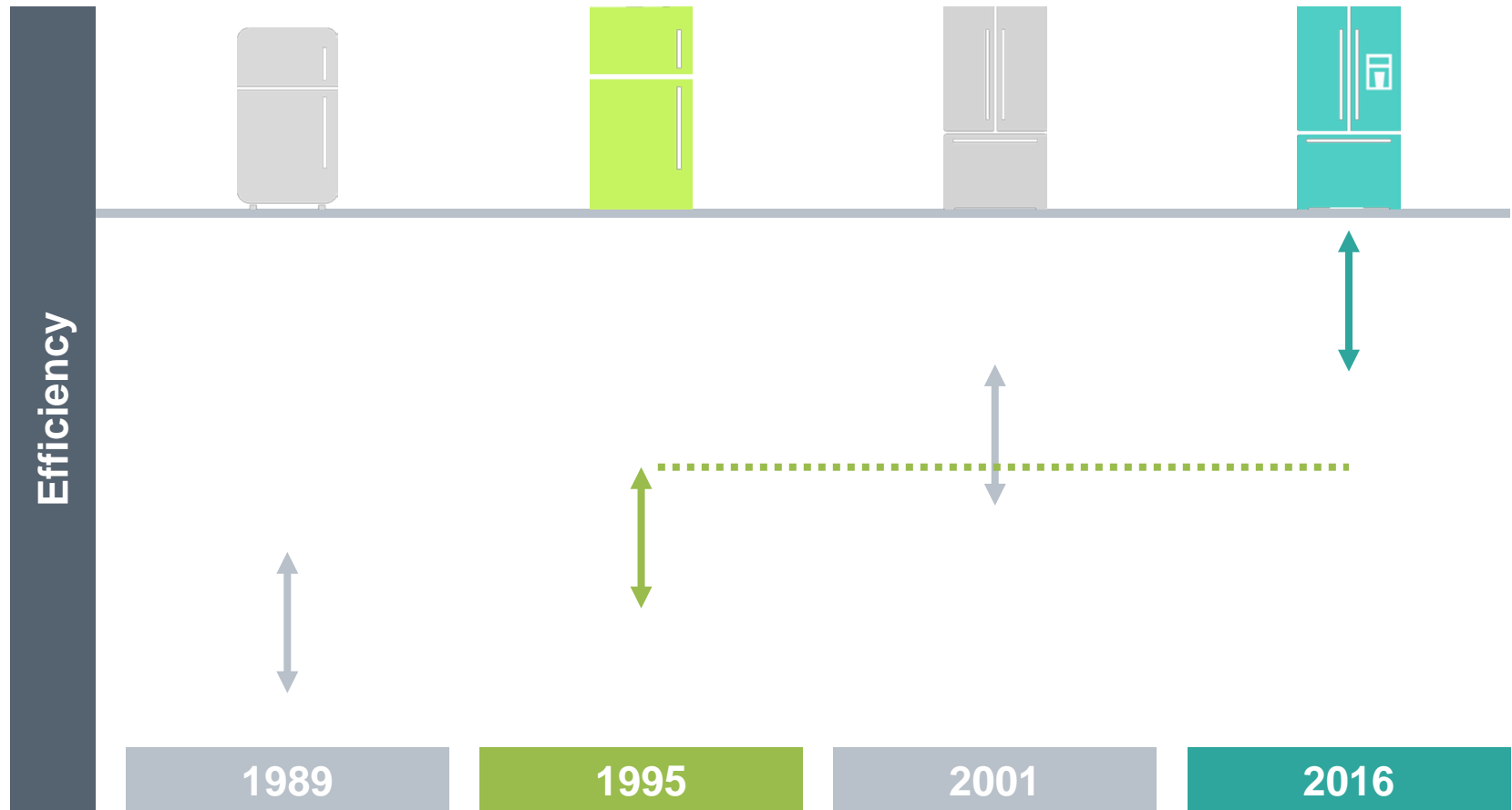




EVOLUTION OF MAX TECH



EVOLUTION OF MAX TECH





19 NEW STANDARDS SINCE JANUARY 2015



7 Consumer Products



8 Commercial Equipment



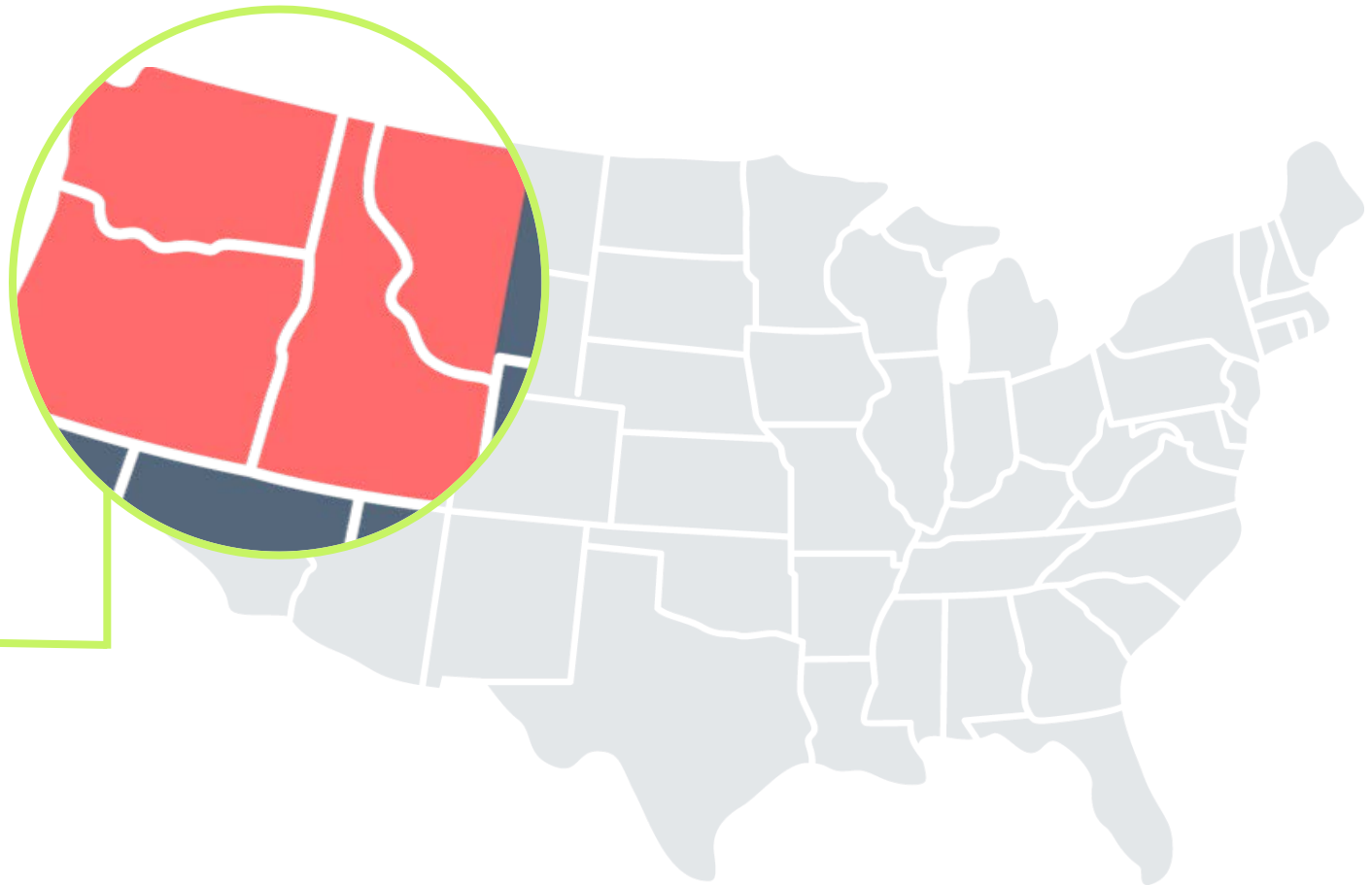
3 Lighting



1 Manufactured Housing



THIS ESTIMATE IS BASED ON NATIONAL ANALYSES



1451 aMW

4% of National
Savings X
Busbar Factor



7P Baseline

6P Baseline

2010

2015

2020

2025

2030

2035

116

1295



7P Baseline

1451

6P Baseline

116

1295

2010

2015

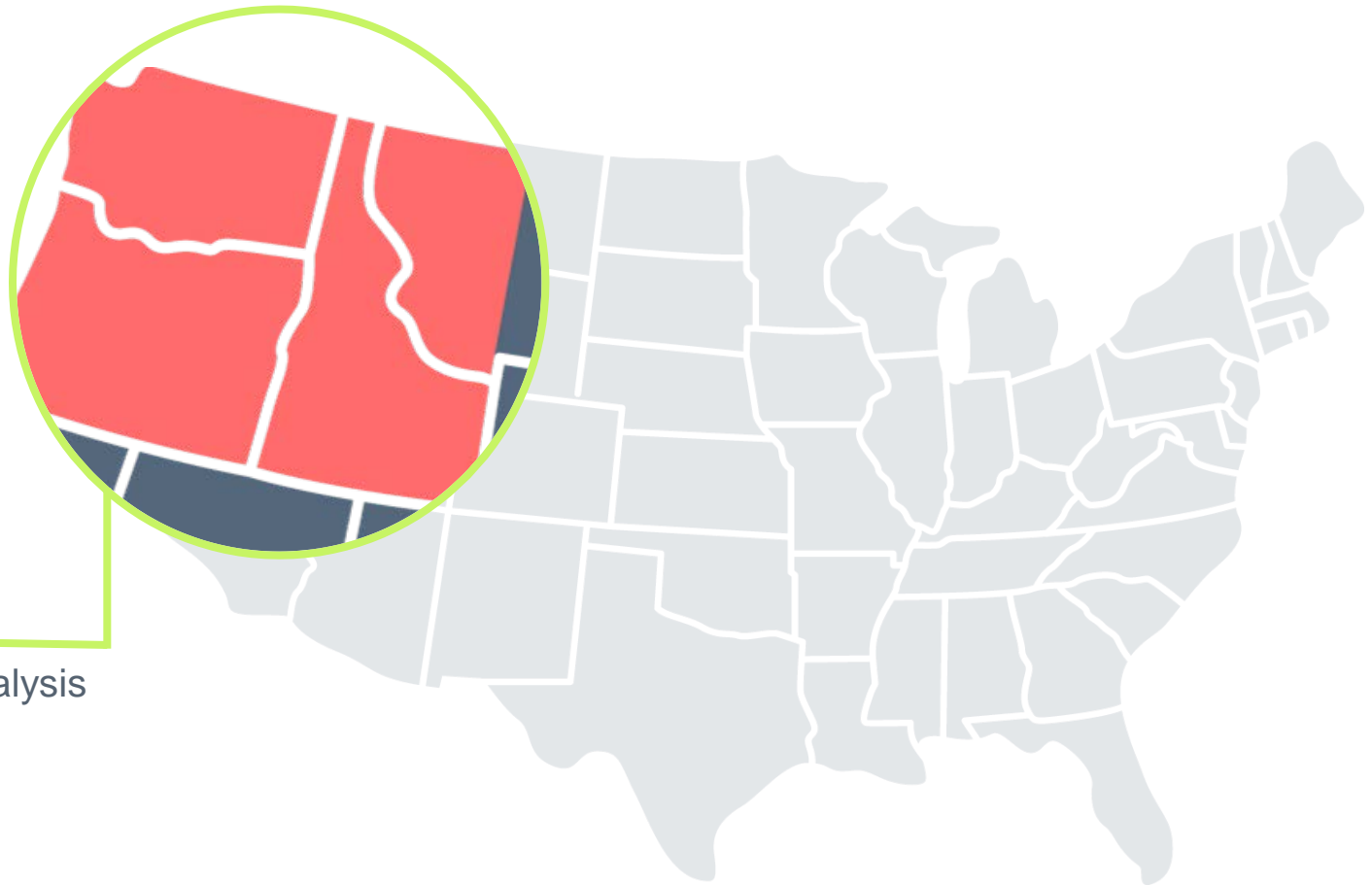
2020

2025

2030

2035

NEXT GENERATION STANDARDS



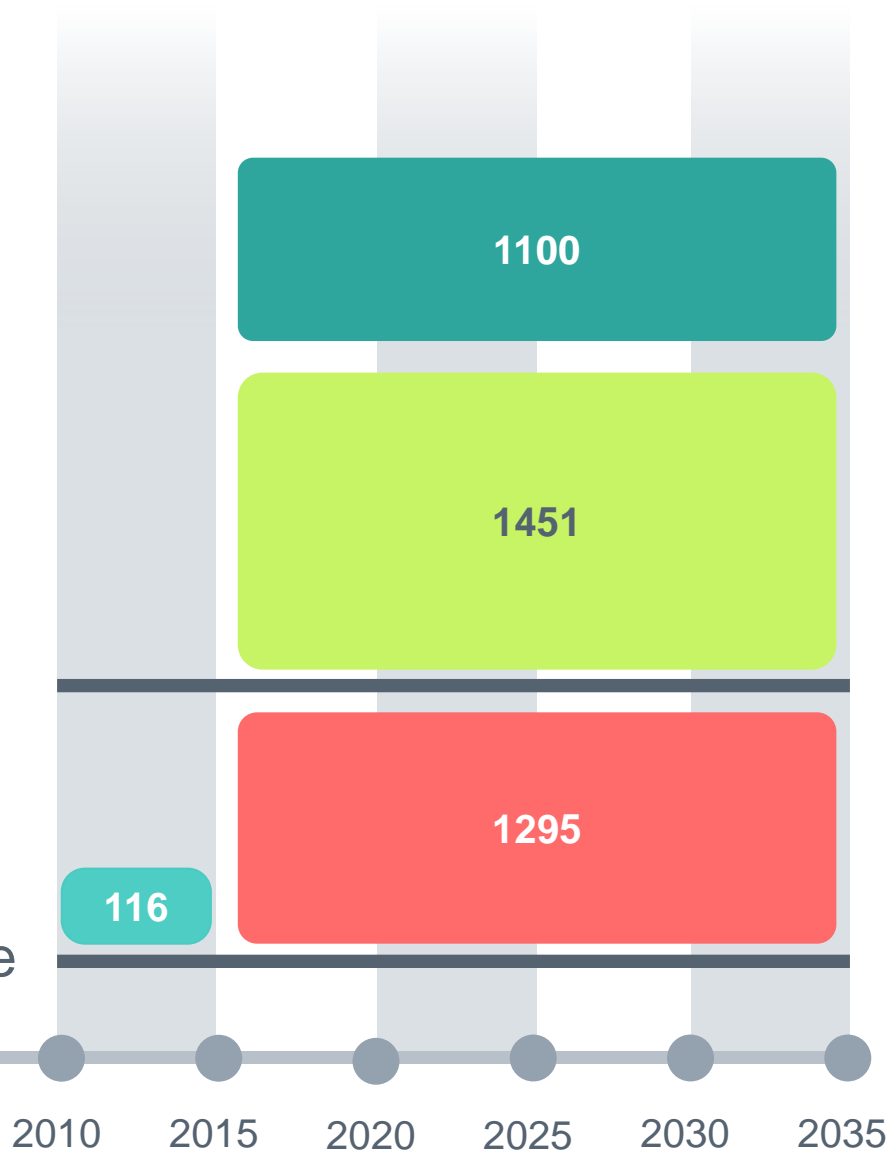
1100 aMW

Tom Eckman analysis

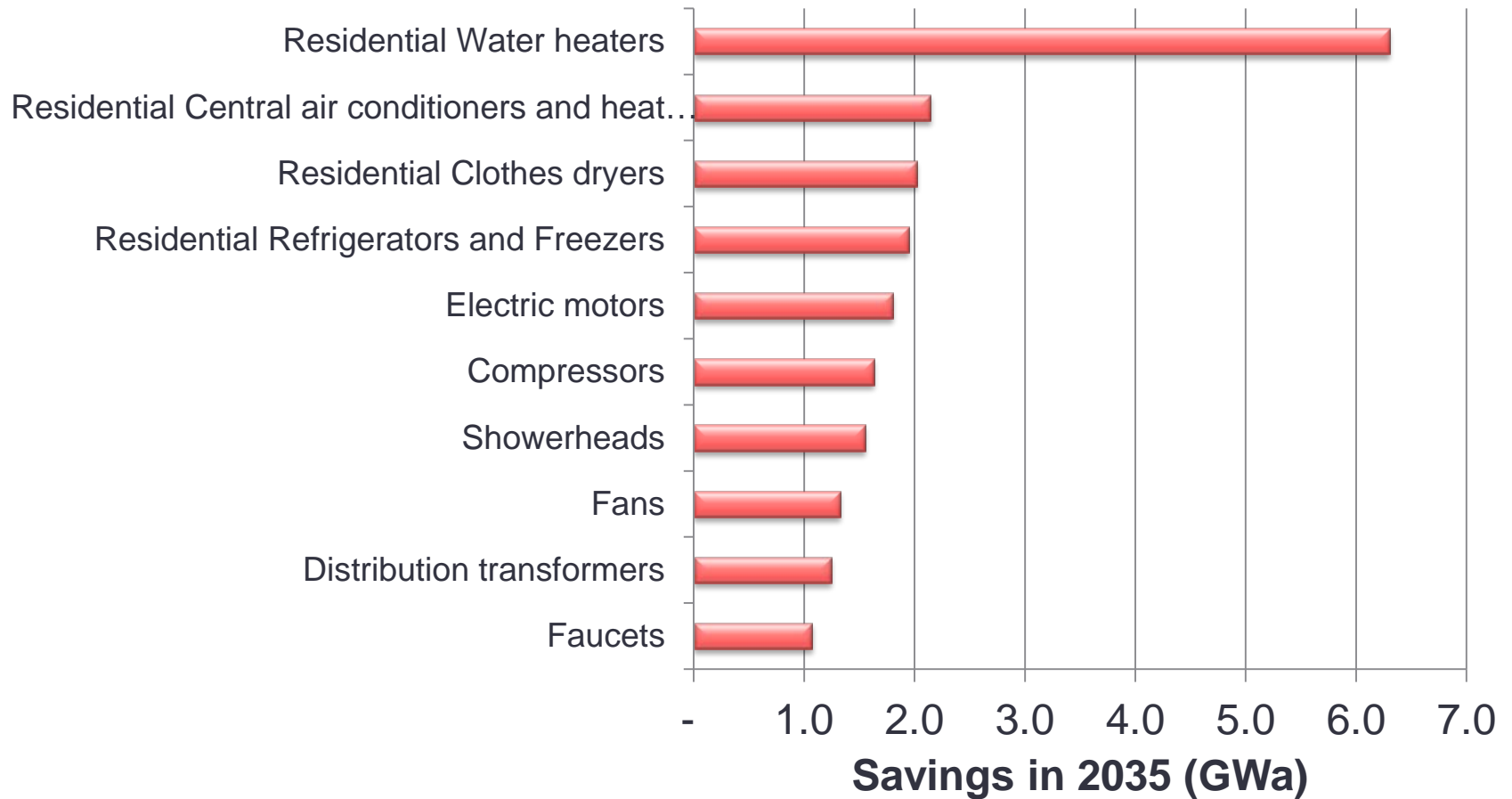


7P Baseline

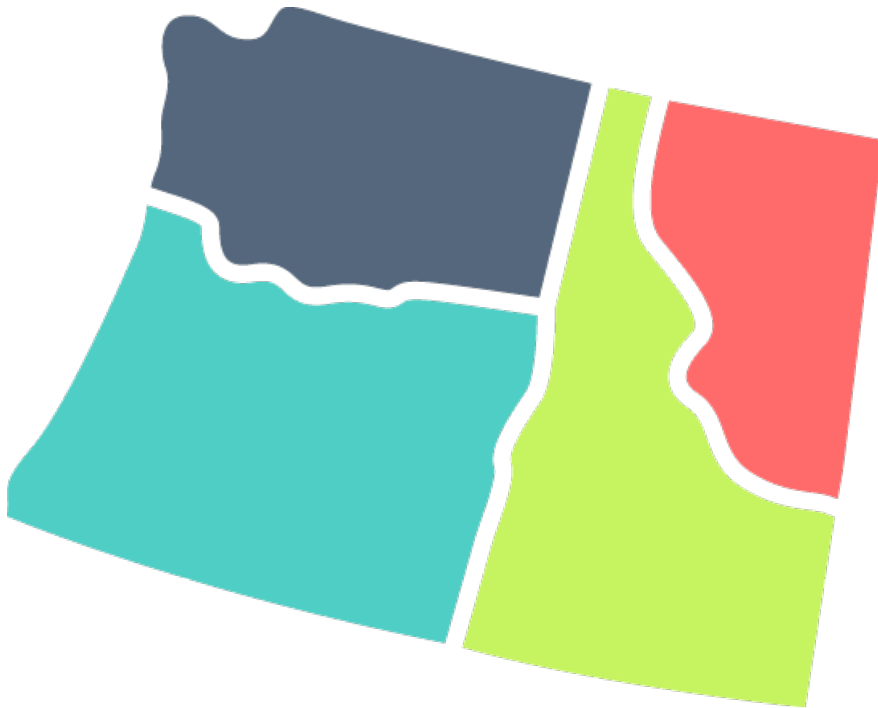
6P Baseline



NEARLY 80% OF THE POTENTIAL ELECTRICITY SAVINGS COMES IMPROVING THE EFFICIENCY OF 10 PRODUCTS



FUTURE MODELING EFFORTS WILL REFINE THIS ESTIMATE



Focus on PNW Data

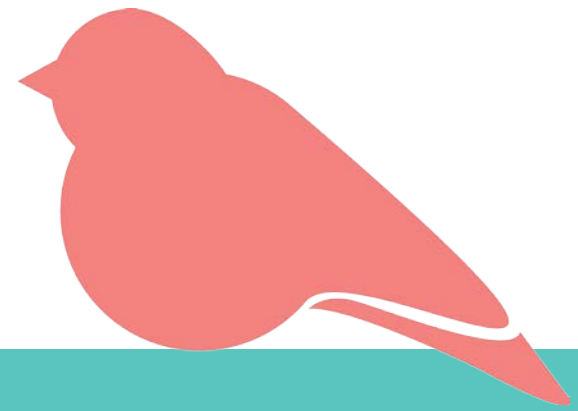
Stock Turnover

Regional Collaboration

WATCH FOR

1. Residential Lighting Final Results
2. Non-residential lighting draft results
3. Agriculture Market Study Final report and presentation
 - » PART ONE – 11/29 10-11:30am
 - » PART TWO – 12/13 10-11:30am
4. Lighting Market Analysis Booklet
5. EEI trade show interview findings





Next meeting: **December 7th at 9am**