Board Retreat

June 3, 2011

EnergyTrust of Oregon

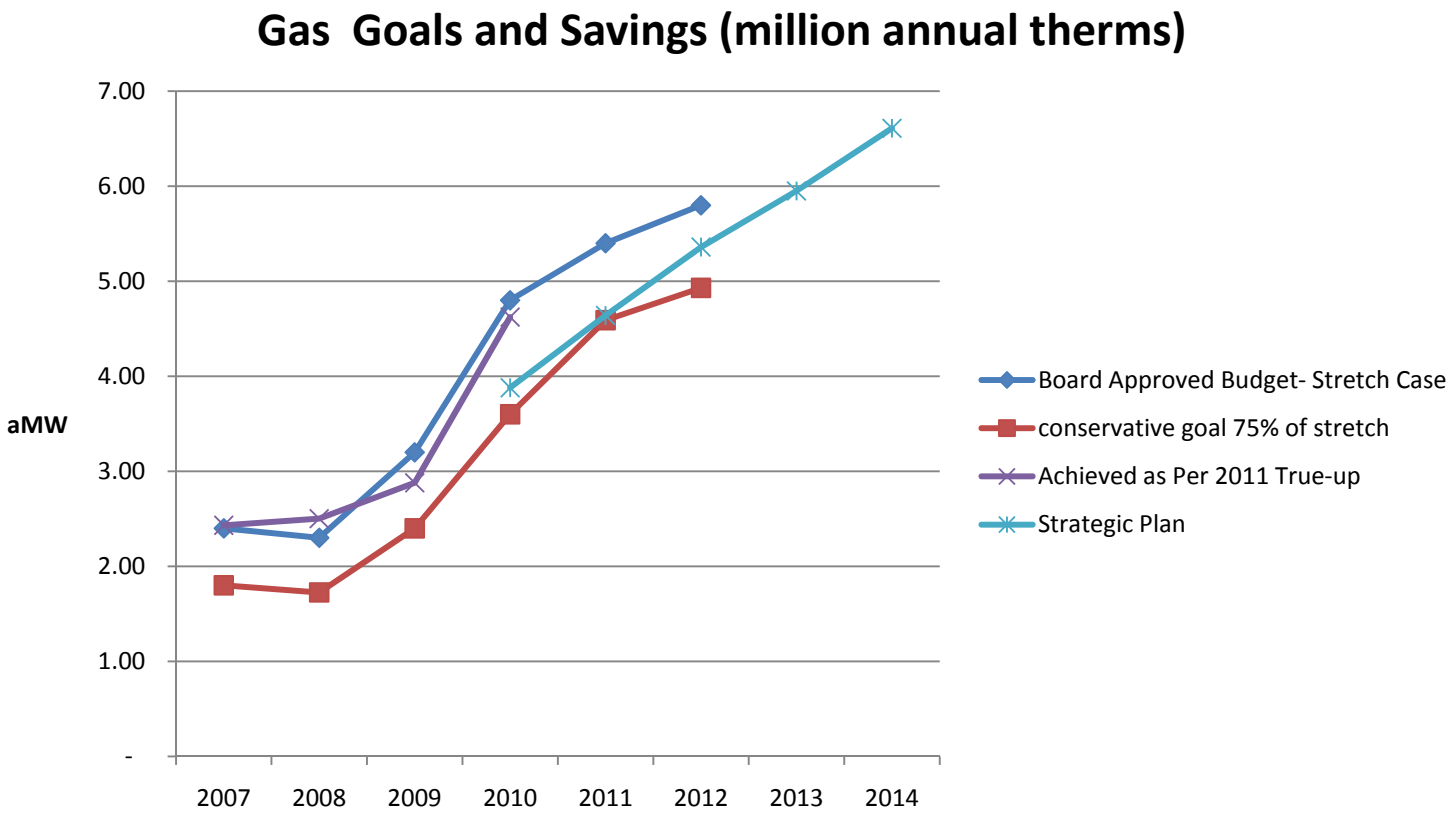
Programs

EnergyTrust of Oregon

Gas Analysis

EnergyTrust of Oregon

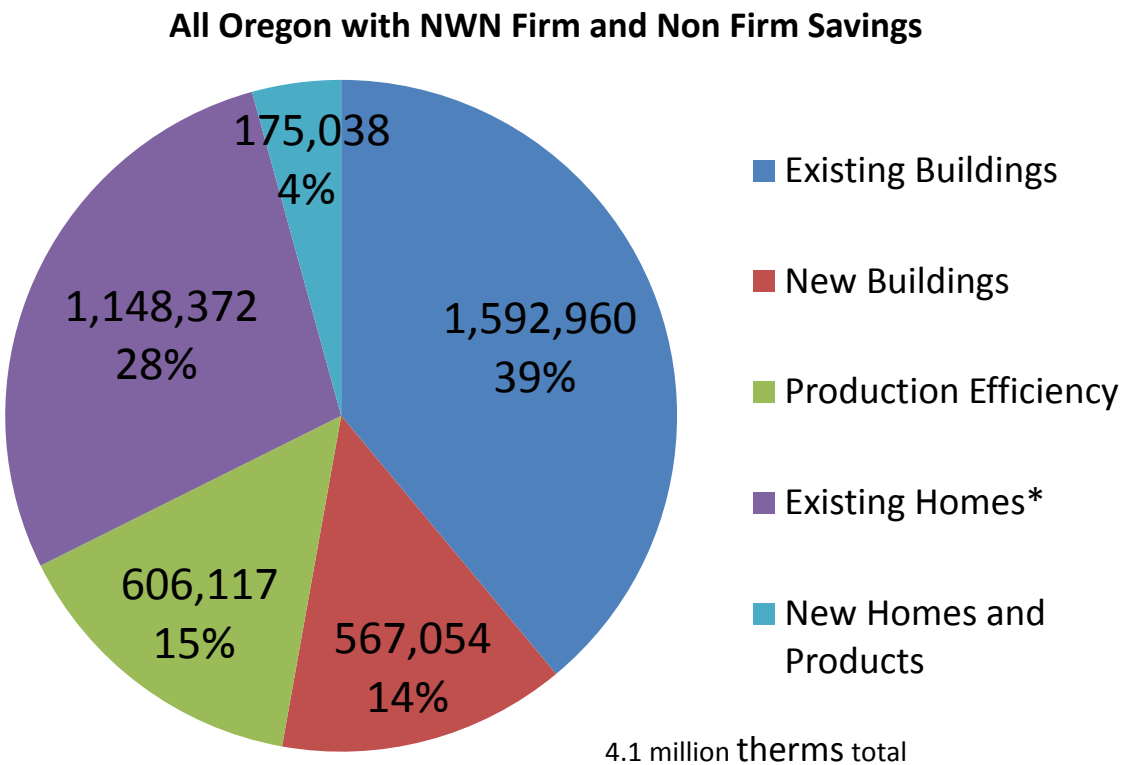
Taking Stock:
Gas Efficiency Performance vs. Goals



EnergyTrust of Oregon

Taking Stock: Gas Efficiency

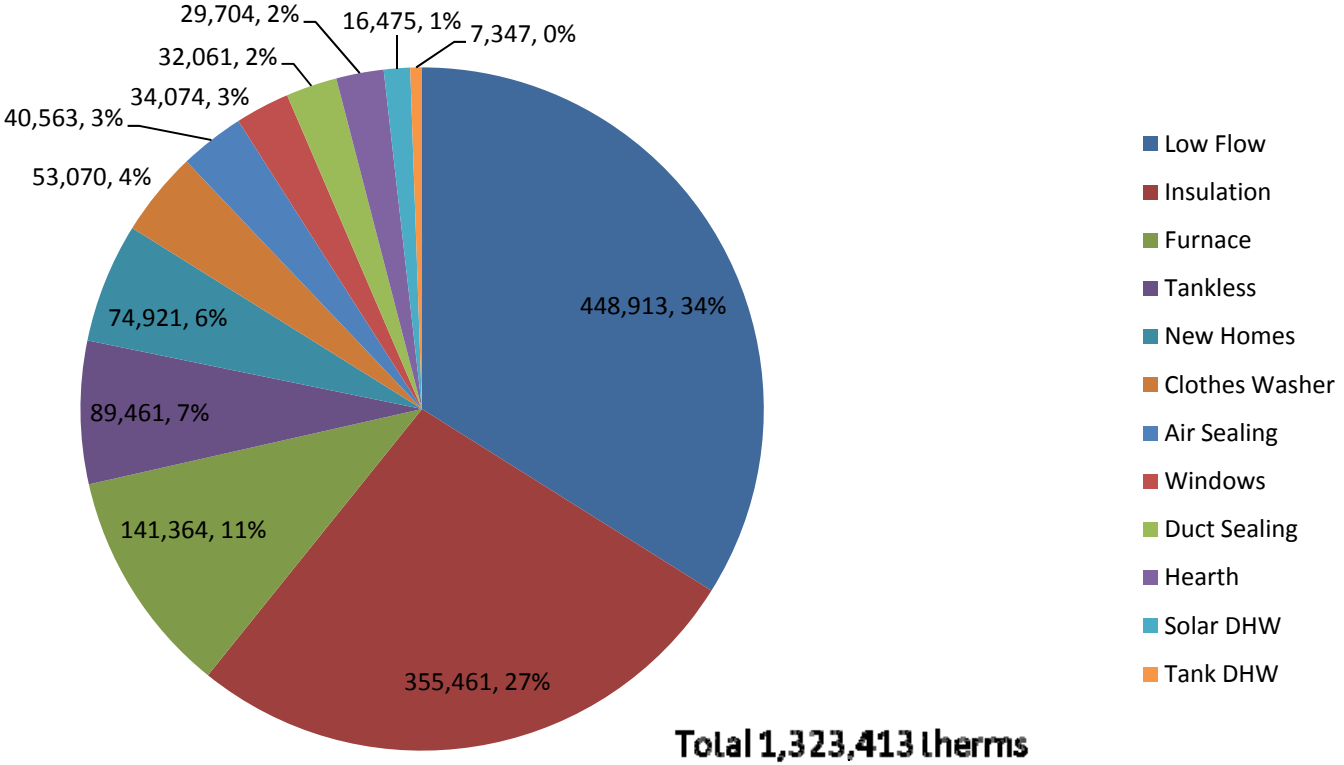
2010 Gas Savings (annual therms) by Program



4.1 million therms total

EnergyTrust of Oregon

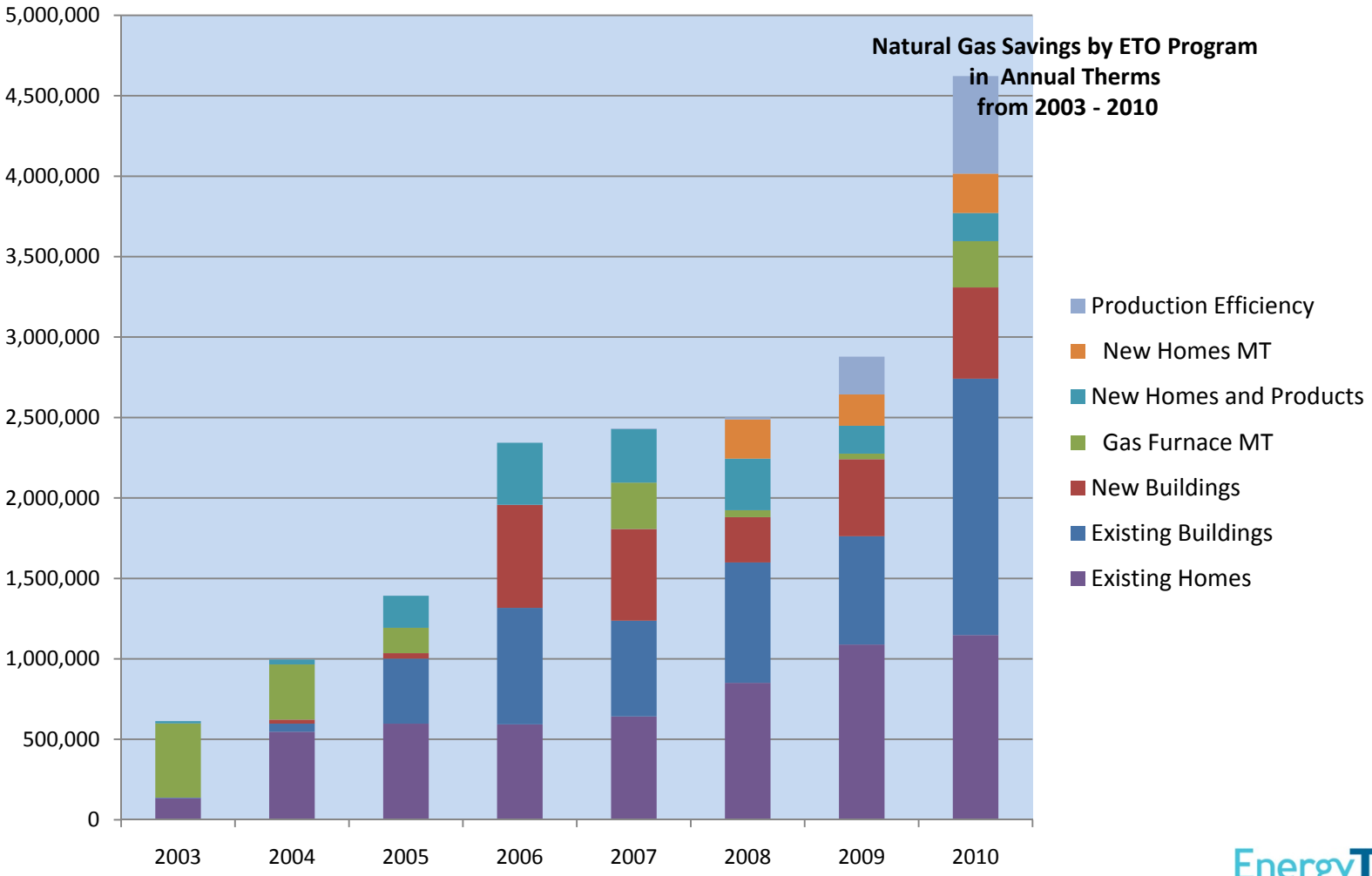
2010 Residential Gas Savings (annual therms) by Measure



Total 1,323,413 therms

EnergyTrust of Oregon

Annual Gas Savings Over Time



EnergyTrust of Oregon

Gas Program Market

Gas efficiency is at an earlier stage of development, a lot is available:

- 2010: 0.6% of gas load saved/year, compared to 1.3 % of electric load

Challenges:

- Expanding our customer base
- Gas Price Fluctuations
- Shower head market will become saturated
- Keeping programs cost-effective

EnergyTrust of Oregon

Expanding Gas Customer Base While Hedging Against Uncertainties

- Focus on broadening participation, particularly among medium-motivation market segments
- Continue to push for comprehensiveness, while managing costs
- Persistently test and evolve approaches for new opportunities, including behavior, home water heat, and commercial rooftop heating

EnergyTrust of Oregon

Challenges

- High-service/deep retrofit approaches to home retrofit increase both delivery and contractor bid cost
- Evaluations are showing some measures save less than we thought
- Once we are done with shower heads, average costs for existing homes will be much higher
- Identify new equipment for markets where options are limited, especially home water heat and commercial rooftop heating.

EnergyTrust of Oregon

Keeping Gas Programs Cost-Effective

- Consider non-energy benefits
- Focus even more on cost management
- Focus on installation quality to improve savings
- Continue to assess value and cost of deep retrofit/finance approaches and higher-service outreach approaches.

Details will be addressed in budget and action plan

EnergyTrust of Oregon

Electric Analysis

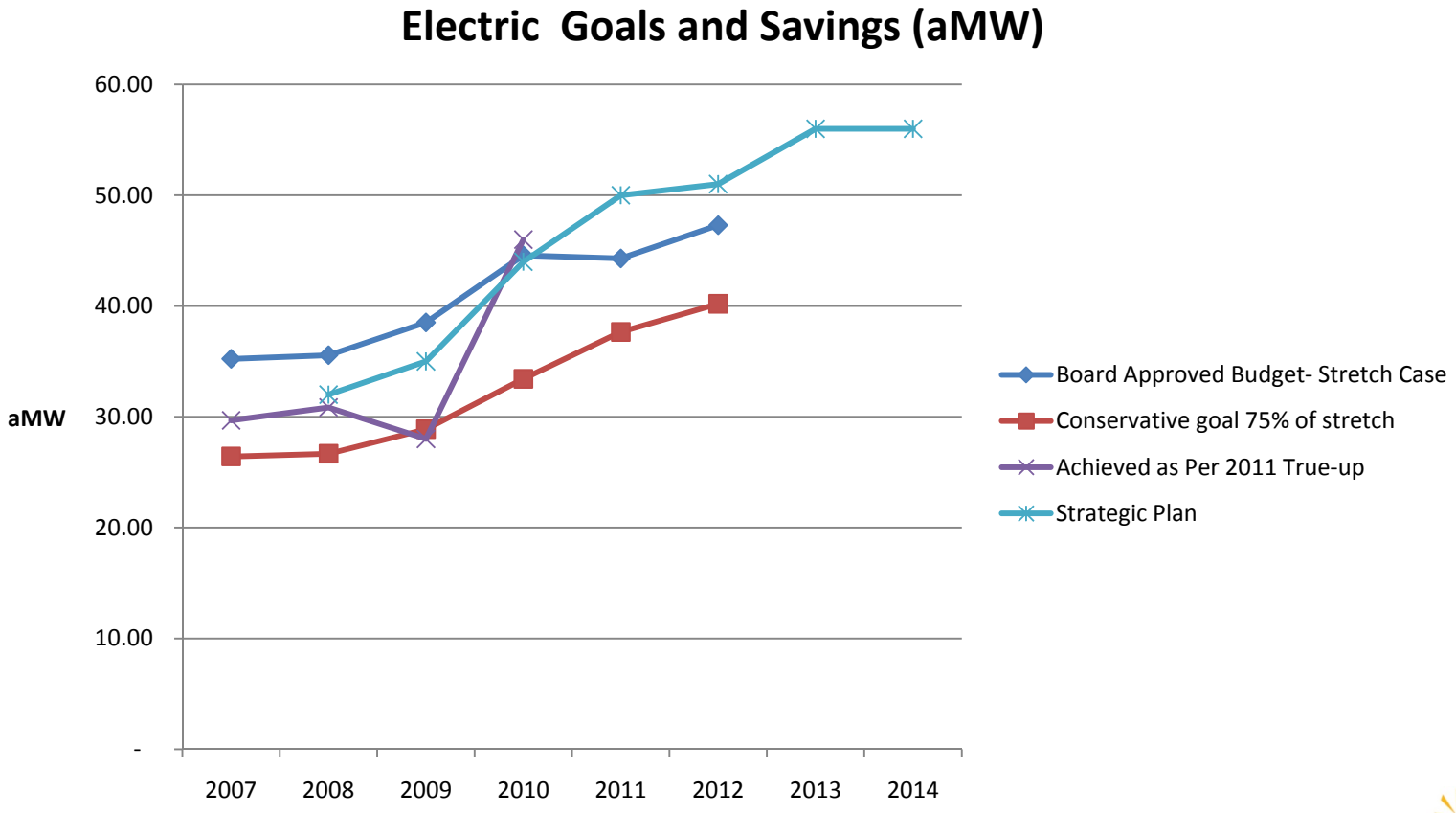
EnergyTrust of Oregon

Electric Analysis: Context

- Electric efficiency programs face challenges we are familiar with:
  - Future of tax credits in Oregon and US
  - Lower forecasted avoided costs may make fewer efficiency measures cost-effective
  - Limitations on funding for customers > 1aMw
  - Marketing to less-engaged customers, getting deeper savings
- On the positive side, recovering economy likely to increase efficiency opportunities
- Managing these factors remains important to meet goals
- However, in this analysis we are raising an additional issue that has not been as extensively discussed

EnergyTrust of Oregon

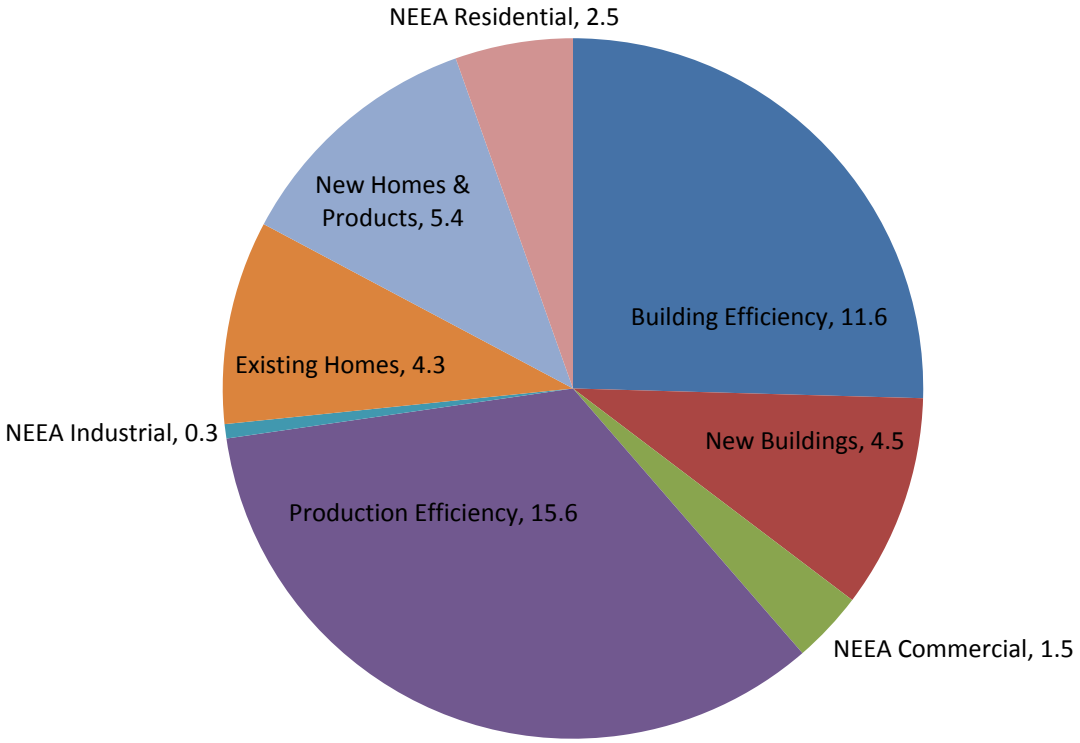
Taking Stock:
Electric Efficiency Performance vs. Goals



EnergyTrust of Oregon

Taking Stock:
2010 Electric Savings by Program

Reportable Savings for Electric by Program 2010 (MWa) Total = 45.6



EnergyTrust of Oregon

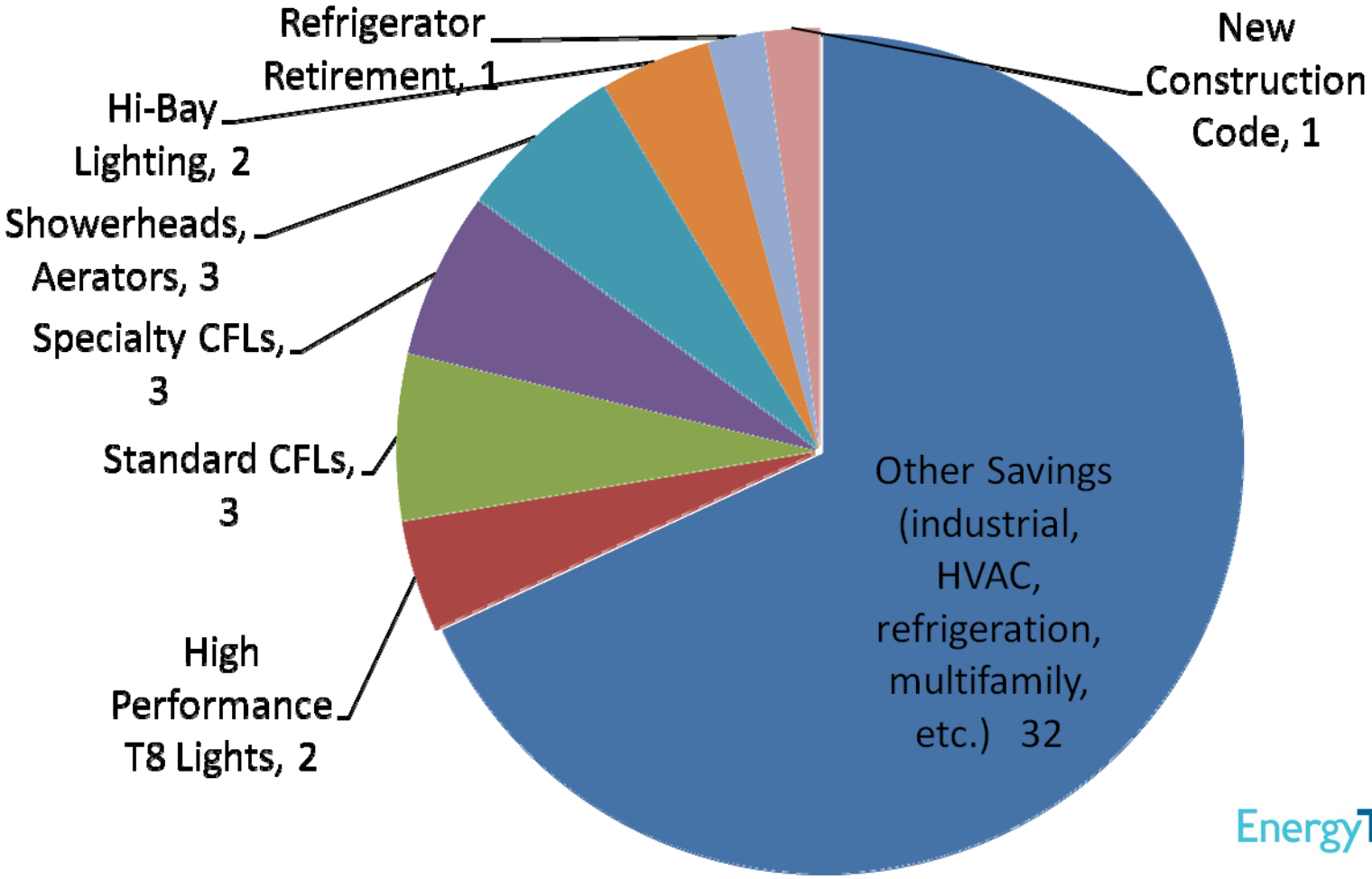
Electric Analysis Preview

- This analysis concerns the likelihood that current measures drop out of our portfolio
- Important to “size” the resulting gap, improve the odds of replacing them with new measures/approaches
- This is happening for electric efficiency, less so for gas

EnergyTrust of Oregon

Taking Stock: Electric Efficiency

2010 Savings (aMW) from measures that may not be available to programs in future years



EnergyTrust of Oregon

Most Significant Measures That Will Drop Out

Measure	aMW saved 2009	2010	When it may drop out	Cost of measure
PROBABLY GONE BY 2013				
High Performance T8 lamps*	1	2	Mostly 2013- fed standards	low- $.01
Twister CFLs**	3	3	2012-14- fed standards	low <$.02
Specialty CFLs**	3	3	Market may transform by 2012-14?	Low- $.01
Shower Heads, aerators	1	3	2013? Market saturation	low $.01, $.03
Other New home & building measures	2 ?	2 ?	Buildings: 2011-13 Homes: 2014	Medium/high $.03-5
Total	**10**	**13**		
PROBABLY GONE BY 2016				
High Bay commercial & industrial lighting	1	2	2016? Fed equipment standards	Low $.01
Refrigerator Retirement	1	1	When the worst are gone	Medium $.04
Total	**2**	**3**		

* We are studying whether we should claim 4 aMW of market transformation/year in 2013-17
**We are counting on market transformation savings from this measure in NEEA forecast

New Electric Measures

Measure Category	What Is It?	Possible 2013 savings	Levelized Cost/kWh	Confid.
Offered now, getting started	• Ductless heat pumps • Commercial rooftop efficiency/economizer tune-up • Some commercial windows • Commercial screw-in LEDs	3.2 aMW	Medium- $.03	Medium-high
Technically ready, thorny sales issues	• Restaurant EMS • Water heater loop controls • Solar hot water for large users • Commercial heat pump water heater • Waste water heat exchange • Ozone commercial laundry • Grocer refrigeration heat recovery space heat	1 aMW	High- $.04-5 including special tech services & marketing?	Medium for half, low for others
Maybe ready in 1-3 years	• Most O-Power • heat pump water heater • LEDs for streets, parking, external buildings • Commercial behavioral programs • Commercial lighting retrofit design • New commercial HVAC approaches • Building optimization • Many other measures	7-10 aMW	High- Perhaps $.05	Medium for 3-5 aMw, low for the rest
Maybe in 5 years?	• General-purpose LEDs • Advanced chromatic windows • Affordable heat recovery ventilation for home • Additional behavioral approaches	Perhaps 5 aMW or not	Cost and savings speculative	Who knows?

Gap Between Old and New Opportunities

- In 2013, strategic plan calls for saving 56 aMW, ~ 10 aMW more than achieved in 2010
  - We may be able to address this growth by entering more markets, marketing to more customers, deeper savings/site
- We expect to lose 13 aMW of measures, replaced by only 3 aMW of high-confidence new measures
  - We are watching and developing a number of additional new technologies and approaches which may add savings
- Market transformation savings that we can claim ***may*** reduce gap to about 4-5 aMW
- Net: About 4-10 aMW gap in 2013
- Expect that average *cost/kWh will increase* as more expensive measures enter the mix
- *Programs volume may dip"* around 2013, depending on speed of innovation- consider this in developing the conservative case for IRP and budget planning.

EnergyTrust of Oregon

Filling the Measure Gap

Accelerate new technologies and delivery approaches:

- Focus first on the certain/relatively easy opportunities, but go farther
- With NEEA, focus on 3-5 year big risk/high payoff
- Identify technologies where our engagement is most crucial, and . . .
- Support national and regional initiatives to improve testing and rating of innovative products

Create *Technology Action Plan*

- *Triage: ID technologies that are critical and not being addressed elsewhere*
- *Identify EnergyTrust role*
- *Designate lead (Planning/PMC/PDC/NEEA/RTF/Other)*
- *Reconsider resources as necessary*

***Behavioral approaches*:**

- Need government and other efficiency organizations to help test and sort through the many unproven approaches
- Validate strategies that have succeeded elsewhere – test them in the context of our rates, climate and culture

Invest in market evaluation to prove market transformation influence

EnergyTrust of Oregon

Other Solutions

Measure	Limits and Risks?	Confidence
Industrial measures: more effort may increase volume	- Capital measures depend on improved economy - O&M: we do not know the limits to our current successful approach	Medium/high- but not sure how much, or for capital measures, when
New Res and Commercial construction growth, marketing	- May balance impact of codes on these programs, but that's a modest part of the whole picture	Medium
Book market transformation savings from new codes and standards- could be as much as 3-5 AMW	- We do not claim to influence all codes and standards - Some of this is already in NEEA forecast - We claim only for a few years	Medium confidence, not sure how many AMW

EnergyTrust of Oregon