

# Gas Furnace Market Transformation: Experiences in Two States

Adam Bartini, Energy Trust



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*Experiences in Two States*

Adam Bartini  
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# Agenda

- Energy Trust of Oregon Background
- Furnaces in Oregon
  - Claiming Market Transformation Savings
- Furnaces in Washington
- Next Steps
- Questions

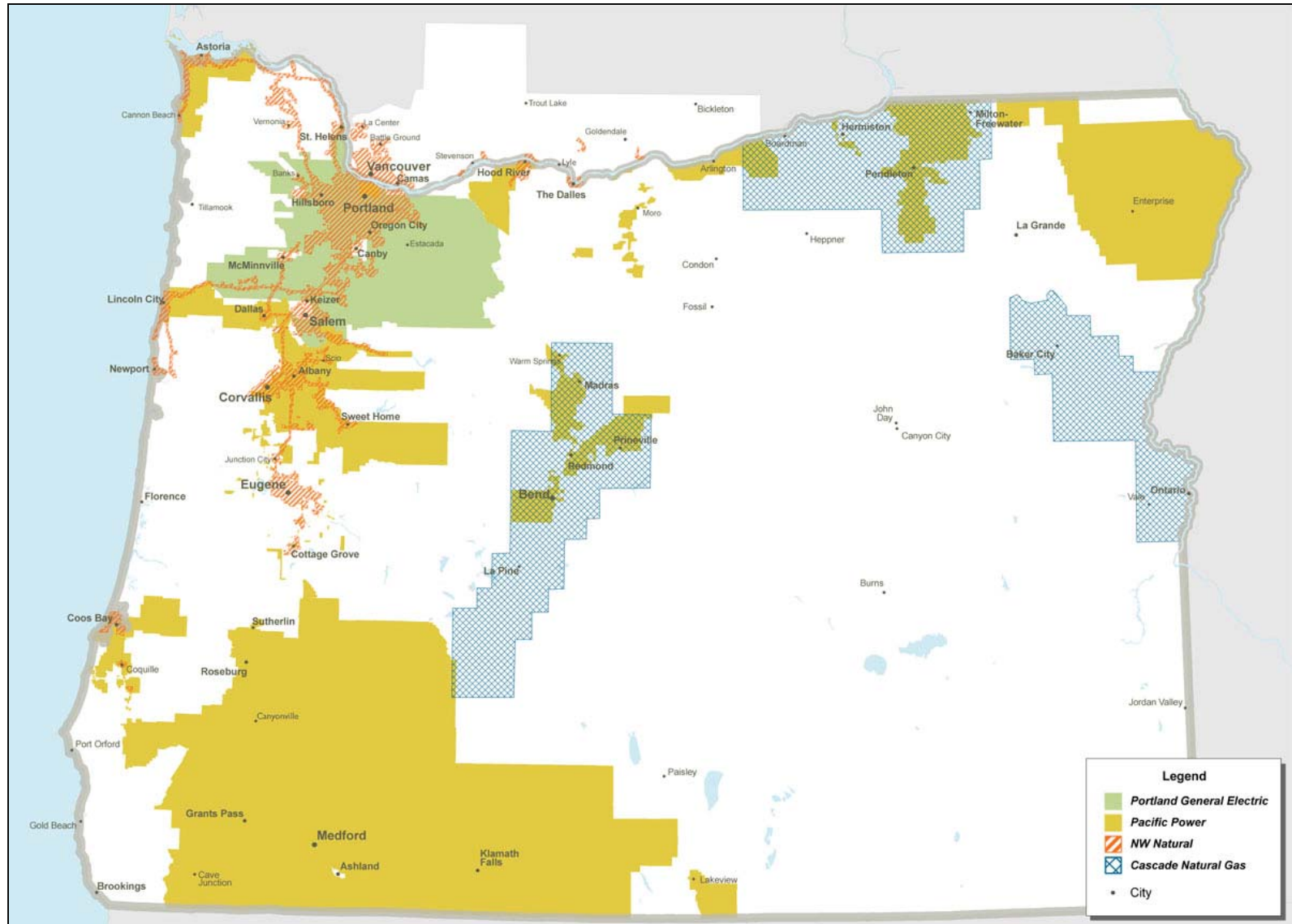


# Energy Trust of Oregon Background

- Independent nonprofit organization
- Helps utility customers:
  - Save energy
  - Invest in renewable resources
  - Manage costs in homes, businesses, industry and agriculture
- Serves customers of Portland General Electric, Pacific Power, NW Natural and Cascade Natural Gas in Oregon
- Serves customers of NW Natural in Washington
- Helps keep energy costs as low as possible, creates jobs and builds a sustainable energy future
- Participating customers have saved nearly \$800 million on energy bills



# Energy Trust Service Territory





# Existing Homes Program



- Home energy reviews
- Energy-saving recommendations
- Cash incentives for energy-efficient insulation, duct sealing, windows and heating systems
- Referrals to qualified trade ally contractors



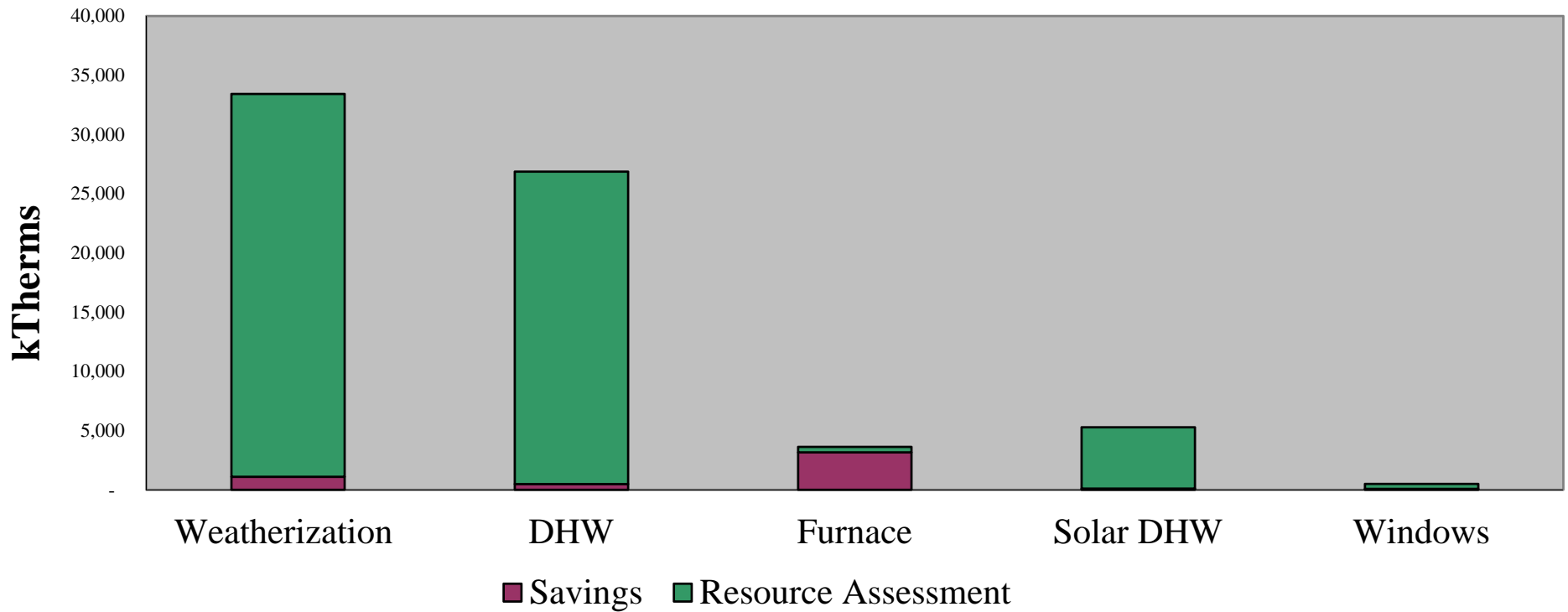
## Furnaces in Oregon

- 1996 - NW Natural began furnace incentive offering
- 2003 - Energy Trust took over, offering between \$100-\$200 until early 2010
- Always viewed as Market Transformation effort
- Federal Standard change means success, but what happens now?



# Existing Homes 20 Year Gas Resource Potential

**Gas Savings Achieved vs. Resource Assessment**







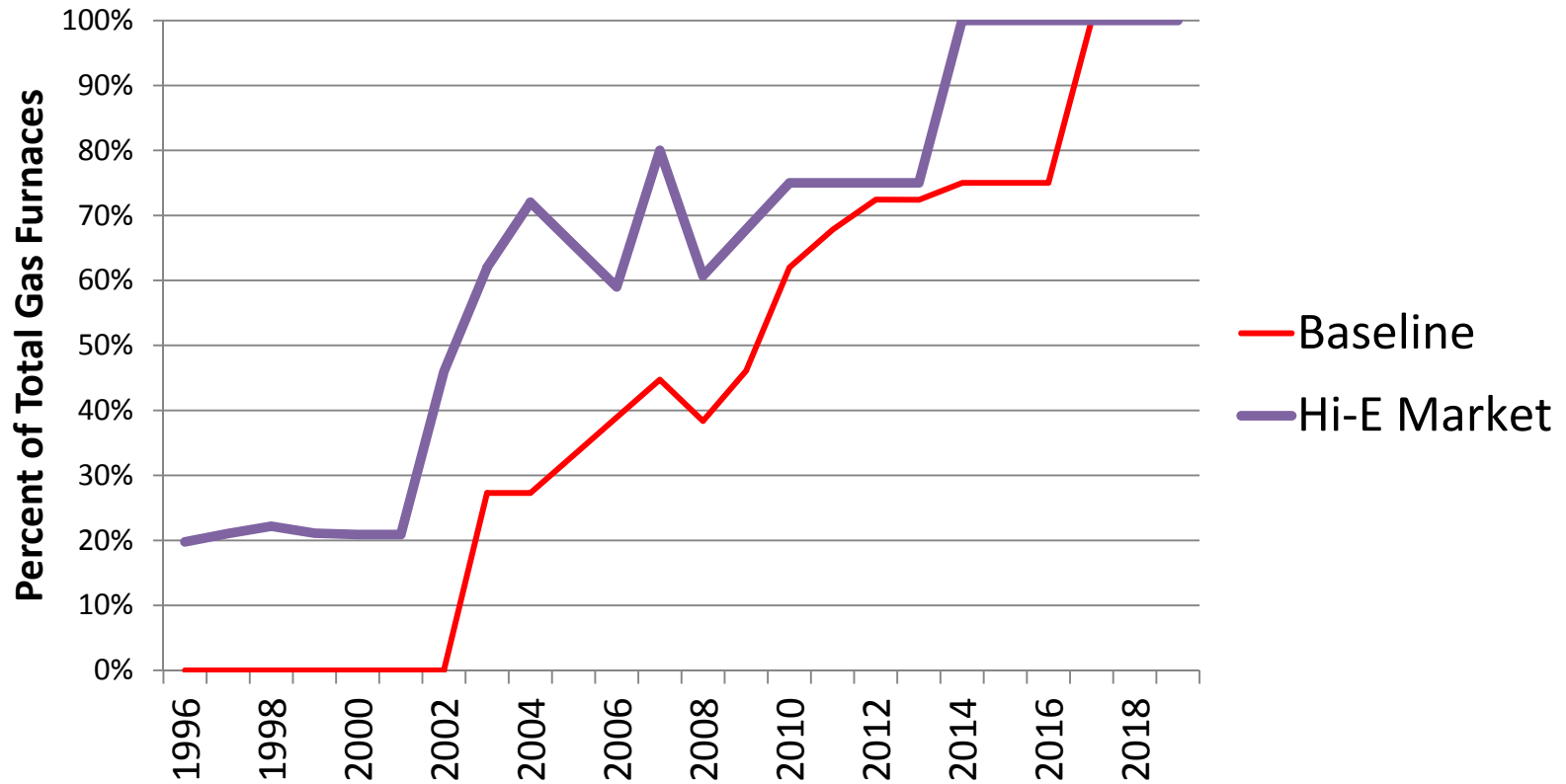
# Approach to Considering Incentive Changes

There is no precise data nor perfect sample, ***and never will be***, yet we need to make decisions to spend funds prudently and strategically.

- Incentives seem less critical when
  - Multiple sources agree that market share is high.
  - Nonparticipant vendors show high market share
  - Surrounding territories show high market share
  - Data over several years shows high market share.
  - A small fraction of in-territory sales use our incentives.



# The Gas Furnace Market Over Time





## Estimating the High Efficiency Market

- Used data from:
  - Existing Homes evaluations
  - Annual trade ally surveys
  - Third party conducted additional surveys with vendors and distributors in NWN territory
  - Long stable period of high market share



# Estimating the High Efficiency Market: Contractor Surveys

| <b>Year/Study</b>                            | <b>&gt;90% EF</b> | <b>N</b> |
|--|-------------------|----------|
| 2005-06 EH Eval – Participating Trade allies | 64%               | 70       |
| 2005-06 EH Eval - Non Trade allies           | 88%               | 13       |
| 2006 Trade ally survey                       | 80%               | 17       |
| 2007 Trade ally survey                       | 59%               | 18       |
| 2008 Trade ally survey                       | 80%               | 15       |
| 2009 Trade ally survey                       | 61%               | 19       |
| 2009 MKT Assessment – ETO Territory          | 61%               | 7        |

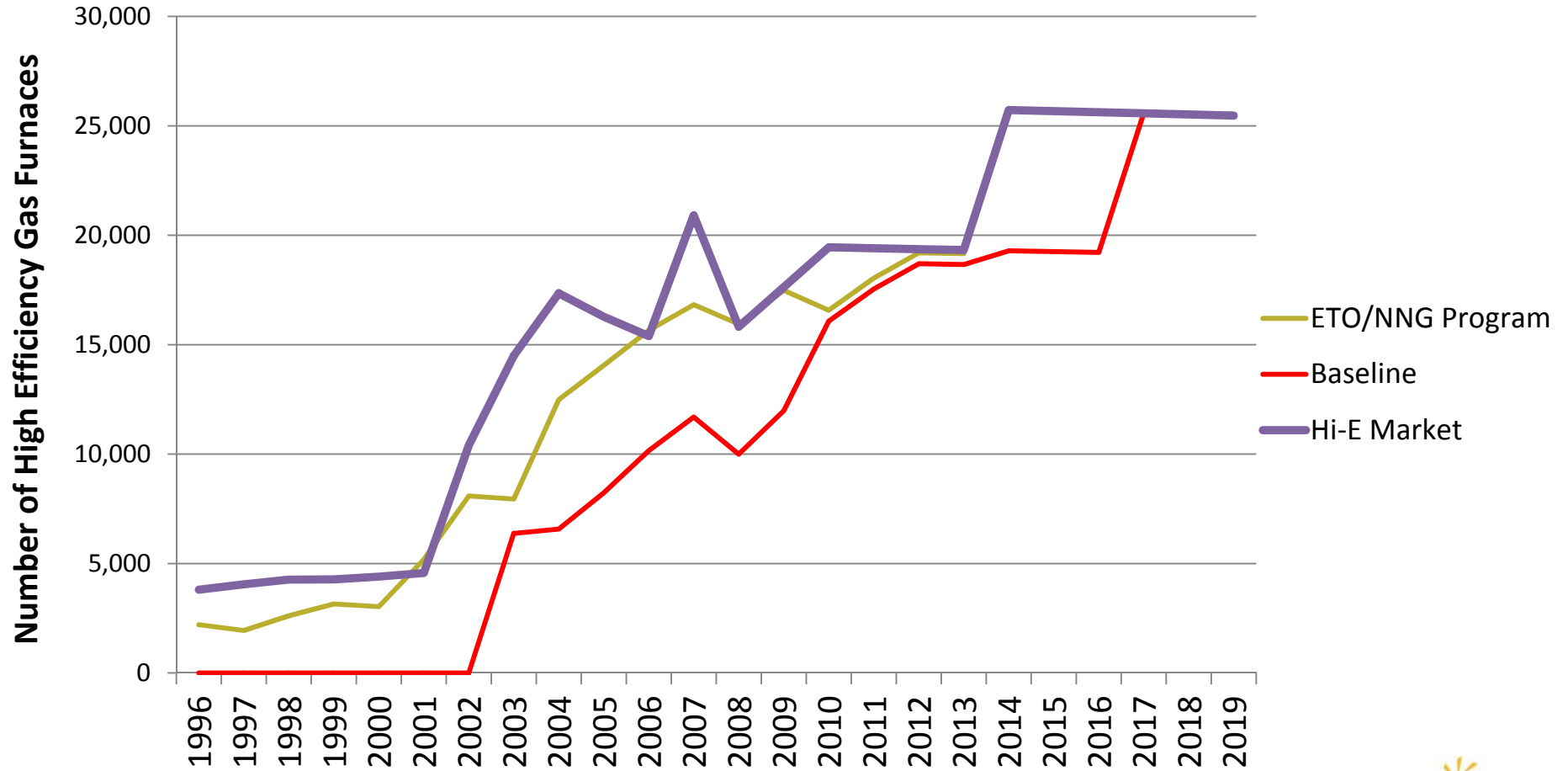


## Estimating the Baseline

- Difficult to find a proper control group
- Interviewed contractors and distributors in the Bend area and Clark County Washington
- Looked at national sales data
- Assumed that federal standard would change three years later without Energy Trust program



# The Gas Furnace Market Over Time





# Savings Impacts

|             | <b>Baseline</b> | <b>Energy Trust /<br/>NNG Program</b> | <b>Hi-E Market<br/>Savings</b> | <b>Market Savings<br/>Attributable to<br/>Energy Trust</b> |
|-------------|-----------------|---------------------------------------|--------------------------------|--|
| <b>Year</b> | <b>therms</b>   | <b>therms</b>                         | <b>therms</b>                  | <b>therms</b>  |
| 2003        | 450,063         | 110,709                               | 1,022,628                      | <b>461,856</b>   |
| 2004        | 463,957         | 417,292                               | 1,224,230                      | <b>342,981</b>   |
| 2005        | 580,463         | 410,800                               | 1,148,528                      | <b>157,264</b>   |
| 2006        | 716,377         | 388,503                               | 1,085,961                      | <b>0</b>   |
| 2007        | 825,162         | 362,184                               | 1,475,556                      | <b>288,210</b>   |
| 2008        | 705,336         | 419,620                               | 1,116,154                      | <b>0</b>   |
| 2009        | 845,430         | 388,080                               | 1,244,304                      | <b>10,794</b>  |
| 2010        | 1,134,267       | 35,280                                | 1,372,098                      | <b>202,550</b>   |
| 2011        | 1,237,564       | 35,280                                | 1,368,987                      | <b>96,143</b>  |
| 2012        | 1,319,184       | 35,280                                | 1,366,224                      | <b>11,760</b>  |
| 2013        | 1,316,595       | 35,280                                | 1,363,635                      | <b>11,760</b>  |
| 2014        | 1,361,024       | 0                                     | 1,814,698                      | <b>453,675</b>   |
| 2015        | 1,358,395       | 0                                     | 1,811,193                      | <b>452,798</b>   |
| 2016        | 1,355,743       | 0                                     | 1,807,657                      | <b>451,914</b>   |



# How did Energy Trust make this happen?

- Existing Conditions
- ETO Mandate / Senate Bill 1149
- Get in early
- Can be replicated with other technologies





## Involving Stakeholders

- Third Party study to support Energy Trust findings
- Roundtable discussions with contractors, distributors, participating gas companies
- Lengthy process
- Formal approval not required for Energy Trust to move forward



## Washington Program Summary

- 65,000 Residential Customers
- Extension of NW Natural territory into WA
- Separate funding agreement – program cost recovered through WA ratepayers
- On-site home assessments
- Cash incentives for qualified energy-efficiency upgrades
- Referrals to qualified contractors



## Furnaces in Washington

- \$100 baseline incentive for 90% AFUE
- Bonuses previously offered in conjunction with utility
  
- 42% of total savings in pilot year
- 18% of total savings in 2011
- 12% of total savings in 2012 budget



## Federal Standard Impacts

- In OR:  
Market Transformation savings attributed to program going forward five years
- In WA:  
Need to alter program design to offset loss of savings



## Washington Program Design

- Direct Install Initiatives
- Build-Your-Own Energy Saver Kits
- 0.67 EF Water Heaters
- Gas Fireplaces
- Continue general program awareness campaigns



## Next Steps

- Validate high efficiency market share in OR
- Consider bonus incentives in WA before federal standard change?
- Furnaces not the focal point of programmatic design decisions



Questions?

Adam Bartini

503.445.2950

[Adam.Bartini@energytrust.org](mailto:Adam.Bartini@energytrust.org)