Data: Kindling for Fire(places)
Using Data to Inform Program Design for Gas Fireplaces

Erika Kociolek, Evaluation Project Manager
How data informs programs

- 2009 Vendor Study
- 2013 Vendor Study
- 2014 Market Actor Study
- 2014 Metering Study

Changes to gas fireplace measure and program design
A bit of terminology & background

Fireplace Efficiency

Fireplace efficiency, or FE

Standing pilot lights

Electronic ignition
- Intermittent pilot ignition (IPI)
- Others . . . (it’s complicated)

Energy Trust has been offering incentives for high-efficiency gas fireplaces since 2009
2009 Vendor Study

- **Goal**: Estimate key parameters to calculate savings
- **Method**: Survey of 20 Oregon hearth vendors
Results . . . provided a baseline

20 average hours of use per week during the heating season
Measure Assumptions

- Baseline fireplace efficiency (61% FE) and IPI prevalence (39% of fireplaces)
- Hours of use (20 hours per week during the heating season)

New Offering

- Two-tiered incentive structure:
  - 65-69% FE and 70%+ FE
  - Nominal → annual savings of 75-90 therms
  - Promotion of IPI through incentives
Growth in fireplace measure

Number of Measures Incentivized

- 2010
- 2011
- 2012
- 2013
- 2014
2013 Vendor Study

- **Goal**: Assess changes in the hearth market
- **Method**: Survey of 20 Oregon hearth vendors
Results . . . showed market changes.
Impacts

Updated Assumptions
• Baseline fireplace efficiency (68% FE) and IPI prevalence (76% of fireplaces)

Revised Offering
• Increased efficiency tiers
  • 70-74.9% FE and 75%+ FE
  • New program requirement for IPI

New Questions
• What is driving the observed changes in the market?
• How good is our estimate of hours of use?
• **Goal**: Assess influence of Energy Trust on hearth market
• **Method**: Survey of three market actors
Results . . . were mixed

- Significant impact
- Minimal impact
Impacts

Mixed Messages

• Inconclusive findings and small sample size (n = 3)

More Questions

• Commissioned a larger market study

2014 Market Actor Study
• **Goal**: Verify hours of use of fireplaces
• **Method**: Metering study involving 49 homes
Results . . . were similar to estimates

26
average reported fireplace use per week during heating season (in hours)

17
average metered fireplace use per week during heating season (in hours)
2014 Metering Study

---

![Bar chart showing number of sites against hours of use per week, with sources indicated.](image)
Impacts

Updated Assumptions

- Updated hours of use assumption (17 vs. 20 hours per week)

Other Findings

- When fireplaces are used, what they replaced, and how they are used in conjunction with other heating systems
How data informs programs

- 2009 Vendor Study
- 2013 Vendor Study
- 2014 Market Actor Study
- 2014 Metering Study

Savings
Program Requirements
Program Impact on Market
Baselines
Incentive Levels
Future Fireplace Work

- Recently completed market transformation study
- Market tracking
- DOE rulemaking
  - If this takes effect (in 2021), what will the standard cover?
- Fireplaces in new homes
  - How often are they installed in new homes, how often do residents use them, what types of fireplaces are installed in new homes, what are builders looking for in fireplaces, and where do builders purchase fireplaces?
Kudos to Co-Authors

Phil Degens, Energy Trust
Adam Shick, Energy Trust
Bob Davis, Ecotope
Linda Dethman, Research Into Action
Thank You

Erika Kociolek
Evaluation Project Manager
erika.kociolek@energytrust.org
Additional Slides
Energy Trust: IPI required starting in 2013

Fortis BC: No IPI requirement

Puget Sound Energy: IPI required since 2010

ODOE Tax Credit: No IPI