# Energy Efficiency of Energy Trust of Oregon Residential Solar PV Participants

EnergyTrust of Oregon

# Background

- Purpose
  - Characterize and compare electric and gas consumption of residential energy efficiency and solar PV participants
- Motivation
  - Questions concerning the best use of Energy Trust funds; should PV participants be required to do energy efficiency first?
- Methodology
  - Univariate analysis of billing data for ‘new’ participants
    - Geographically stratified samples of 2008-2009 participants
    - Uses annualized 2007 consumption, normalized by home size

# Descriptives

- Across all years, 904 residential PV participants
  - 33% have also implemented energy efficiency measures prior to solar installation

- On average, first time PV participants use slightly less electricity and slightly less gas than their first time EE counterparts

## Average Home Size of First Time Participants

| Participant Group | N Sites | Mean | Median | Minimum | Maximum |
|---|---|---|---|---|---|
| PV Participant | 107 | 2,007 | 1,928 | 720 | 3,763 |
| EE Participant | 13,674 | 1,719 | 1,594 | 660 | 3,988 |

# Results

First time participants were grouped by having electric accounts only, or both electric and gas accounts

**Mean Energy Consumption per Square Foot**

| **No Gas Account** | **PV Participants** | **EE Participants** |
|---|---|---|
| *Electricity Consumption (kWh)**** | 7.50 | 9.57 |
| **Yes Gas Account** | | |
| *Gas Consumption (therms)* *** | 0.37 | 0.43 |
| *Electricity Consumption (kWh)**** | 4.84 | 6.06 |

Estimated annual consumption for electrically heated home at the mean home size

- PV participant - 12,908 kWh/year
- EE participant - 16,470 kWh/year