Energy Trust Pilot Projects

A Summary

2/10/16 Fred Gordon

EnergyTrust of Oregon

Goals for Today's Discussion

We want to provide an overview of pilots at ET- what we're doing, how it's going

1. Pilots- What? How?
2. Describe the review
3. Observe range of pilot experience
4. What were the pilots?

- Happy example
- Less happy but we still learned example
- List of pilots- will not discuss each

Why Do Pilots?

- To develop new efficiency and renewable measures and program approaches
- To find best way
- To better quantify cost, savings and/or generation

What's a Pilot?

1. An *experiment*
2. Addresses a critical question or questions. E.G. *:*
   a. is measure cost-effective?
   b. the best technical or marketing approach
   c. should Energy Trust continue to experiment, or scale up or quit?
3. Test is feasible, necessary, affordable.
4. Requires a research design and/or major cross-departmental coordination

Managing Pilots

- Energy Trust has a published management process
- Cross-functional teams- engineering, planning, programs, evaluation, communications, etc.
- To proceed a pilot must be high priority and ET must have resources to cover all key functions.
- Contractors often play key roles but coordination is at Energy Trust.
- Management Team approves all pilots.

Pilot Review Results

- 21 pilots at some stage in Aug 2014-July 2015
- Pilots were in all sectors
- Overall, pilots are a tiny fraction of Energy Trust efficiency funding- perhaps 2 or 3 percent.
- Pilots for prescriptive measures, but many also for behavioral approaches for home and business

Pilot Review

- Pilots take a few months in some cases and several years in others
- Five of 21 pilots active between Aug14-July15 were completed in that period
- Six were largely completed but still undergoing evaluation
- Others were in various scoping, planning, and implementation stages

Pilot Success Leading to Cost-Effective Measures

- Smart Thermostats
- Heat Pump Water Heaters (with NEEA)
- Strategic Energy Management for Commercial and for Small Industrial
- Path to Net Zero for Commercial Buildings
- Commercial Energy Info/control systems
- Multifamily Smart Power Strips

Sometimes “success” is learning “why not” without a large-scale investment

- Inadequate or erratic savings
- Contractor motivation
- Customer interest
- High costs
- Quality control problems

Example- Smart T-stat for Heat Pumps

- Installed in 185 homes
- User feedback
- Billing analysis aided by data from Tstats, surveys
- A better way to control the cut-over temperature from heat pump to backup resistance heat.
- Saved average of 3.5% of electricity/12% of space heat
- Users value for energy and other reasons
- Cost-effective for self-install or contractor install

Example

Prescriptive Air Sealing Pilot

- Install at same time as ceiling insulation
- Pay fixed fee
- Blower door only for a sample

Results

- Contractors need a higher incentive than is cost-effective.
- Verification is problematic
- Limited contractor interest
- Savings less than we had hoped
- No promising path forward

Commercial and Industrial Pilots

COMMERCIAL
Commercial ductless heat pump
Building Performance and Tracking Systems (concluded)
Pay for Performance
Commercial SEM (concluded)
Path to Net Zero (concluded)
New building VRF
Luminaire level lighting controls

INDUSTRIAL
Small Industrial SEM (Core)
Continuous SEM (not exactly a pilot)

Multifamily Pilots

Multifamily ductless heat pump

Multifamily power strips (one concluded, another starting)

Multifamily advanced cadet heaters (on to phase II)

Multifamily Mpower

Multifamily Water submetering

Memory care (concluded)

Residential Pilots

Prescriptive Air Sealing (concluded)
Gas Smart Thermostat (concluded)
Gas savings from PGE's DR Tstat pilot
Smart Thermostat connected load trimming
OPower high user/electric (concluded)
Advanced Power Strip tier 2
Heat Pumps in existing manufactured homes
New Home Air Sealing
Enervee

Not-A-Pilots

Pilots are for where coordination and research design is key. Energy Trust

- Runs research without all the coordination where it's simple to coordinate and analyze. E.G., increase incentive.
- Tests things through programs where the new element is part of complex of program actions and can't be individually tested. E.G., new marketing message with new incentive and revised measure list.
- Does some exploration "pre-pilot" to understand an opportunity well enough to know what to test. E.G. Home Energy Management systems. These are rare.

Questions? Comments?

Thank You

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