



For Businesses



For Homes



Renewable Energy



For Trade Allies



About Us

# Analyzing Program Results to Strategize for the Future of the Energy Trust New Buildings Program

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# New Buildings Program

## Purpose

- Acquire cost-effective electric and natural gas savings by providing technical assistance and financial incentives for high-efficiency design and equipment in commercial and industrial new construction and major renovation projects

## Market

- Commercial new construction
- Electric and natural gas energy efficiency
- Multi-family buildings more than 3 stories tall
- Mixed-use buildings
- Major renovations – 2 or more energy systems
- New industrial buildings, no manufacturing equipment

# New Buildings Program Offerings

## Program Offerings

- Standard Track – prescriptive incentives, \$100,000 (up from \$50,000)
  - Lighting fixtures and controls, air conditioners, motors, variable speed drivers, natural gas equipment
- Custom Track – custom incentives, \$300,000 (up from \$200,000)
  - Systems based approach, \$0.10 per kWh and \$0.80 per therm
  - Additional Incentives for Commissioning and Design
- LEED Track – \$300,000 (up from \$200,000)
  - Incentives for EA credit 1 points depending on building size and occupancy
  - Incentives based on unit savings from LEED energy model
- ENERGY STAR® Track - \$15,000
  - Incentives for ENERGY STAR certification based on building size and occupancy
- Standard Track + Custom Track + Design Incentives + Commissioning = \$465,000
- Oregon energy code is baseline

# Electric Results

## New Buildings Program Electric Results by Year through 11/1/07

Electric					
	Savings	Total Costs	Incentives	Weighted Average Measure Life	Levelized Cost 3% DR (\$/kWh)
2004	2,884,006	\$1,347,184	\$57,616	12.3	\$0.046
2005	6,567,848	\$2,421,939	\$784,144	16.2	\$0.029
2006	17,474,636	\$3,449,182	\$1,944,271	18.1	\$0.014
Projection for 2007	19,908,711	\$4,750,000	\$2,553,233	19.0	\$0.017
<b>2004-2007</b>	<b>46,835,201</b>	<b>\$11,968,305</b>	<b>\$5,339,264</b>	<b>17.9</b>	<b>\$0.019</b>

- Savings increasing
- Costs increasing
- Measure lives increasing
- Levelized cost decreasing and then increasing

# Gas Results

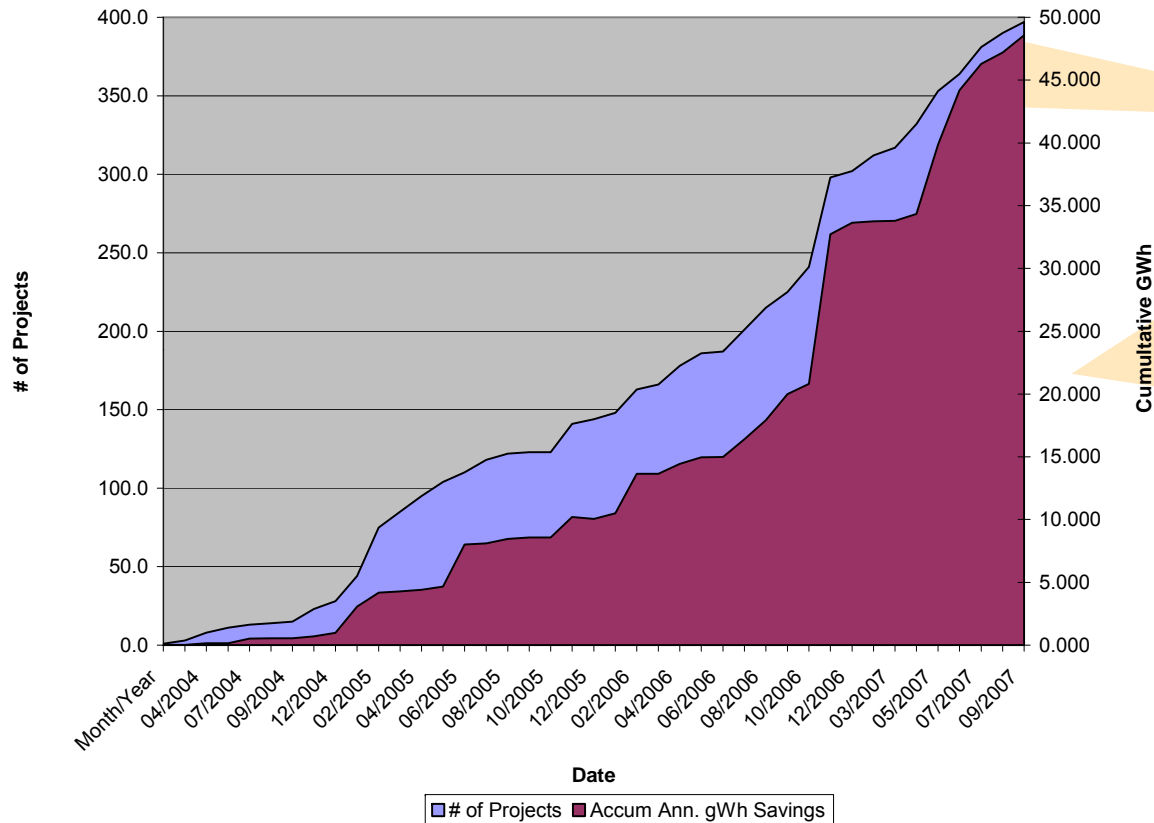
## New Buildings Program Gas Results by Year through 11/1/07

Gas					
	Savings	Total Costs	Incentives	Weighted Average Measure Life	Levelized Cost 3% DR (\$/therm)
2004	22,296	\$151,338	\$28,005	11.8	\$0.69
2005	80,078	\$257,639	\$403,916	10.6	\$0.36
2006	604,742	\$696,962	\$383,829	16.9	\$0.09
Projection for 2007	530,000	\$820,000	\$535,623	17.7	\$0.11
<b>2004-2007</b>	<b>1,237,116</b>	<b>\$1,925,939</b>	<b>\$1,351,373</b>	<b>16.8</b>	<b>\$0.12</b>

- Savings increasing
- Costs increasing
- Measure lives increasing
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# Savings vs. Number of Projects

Program History



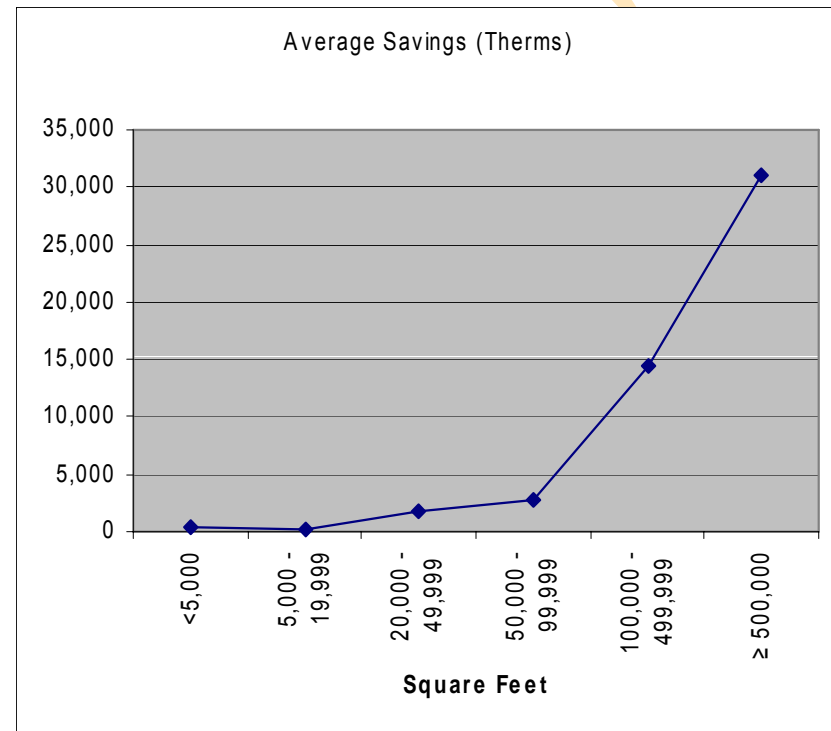
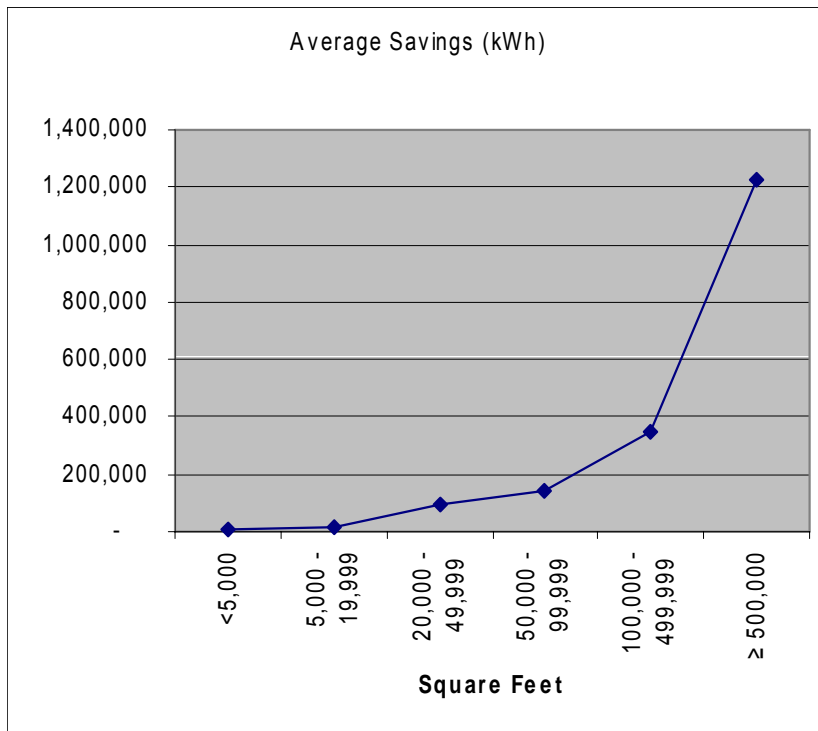
- To date this relationship has been surprisingly linear
  - This trend may start to flatten out as we try to recruit more small and medium-size projects

# Project sizes and attributes

Building Area (sq. ft.)	Total number of buildings	Percentage of total buildings	Electric Savings (kWh)	Percentage of Total Electric Savings (kWh)	Gas Savings (Therms)	Percentage of Total Gas Savings (Therms)
<5,000	30	9%	128,595	0.4%	13,383	1.2%
5,000 - 19,999	126	36%	1,979,207	5.4%	27,513	2.6%
20,000 - 49,999	104	30%	9,482,720	26.1%	190,661	17.8%
50,000 - 99,999	45	13%	6,577,298	18.1%	125,024	11.7%
100,000 - 499,999	45	13%	15,763,142	43.3%	652,030	60.9%
≥ 500,000	2	1%	2,454,163	6.7%	62,248	5.8%
	<b>352</b>	<b>100%</b>	<b>36,385,125</b>	<b>100%</b>	<b>1,070,857</b>	<b>100%</b>

- 86% of projects have been buildings under 100,000 sq. ft.
- The other 14%, buildings over 100,000 sq. ft.
  - 50% of the program’s total electric savings and
  - 67% of the program’s total electric savings

# Average Savings per Project vs. Buildings Size



- This trend is definitely not linear
- Big buildings in Portland are pushing the envelope with integrated designs



# Performance By Program Track

Building Area (sq. ft.)	Custom Track			Standard Track			Standard-Custom Track			LEED-NC Track		
	#	kWh	Therms	#	kWh	Therms	#	kWh	Therms	#	kWh	Therms
<5,000	0	0	0	30	128,595	13,383	0	0	0	0	0	0
5,001 - 19,999	15	502,087	237	108	1,274,225	19,632	3	202,895	7,645	0	0	0
20,000 - 49,999	34	4,328,227	49,319	59	2,149,034	16,749	9	2,893,628	118,674	2	111,831	5,919
50,000 - 99,999	18	4,301,965	72,764	21	1,907,311	8,966	5	188,186	35,923	1	179,836	7,370
100,000 - 499,999	15	8,177,341	594,302	23	2,419,831	51,194	7	5,165,970	6,534	0	0	0
≥ 500,000	2	2,454,163	62,248	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>84</b>	<b>19,763,783</b>	<b>778,869</b>	<b>241</b>	<b>7,878,996</b>	<b>109,923</b>	<b>24</b>	<b>8,450,679</b>	<b>168,775</b>	<b>3</b>	<b>291,667</b>	<b>13,290</b>
Percent of whole	24%	54%	73%	68%	22%	10%	7%	23%	16%	1%	1%	1%

- Custom Track has been big provider
  - Especially on gas side (difficult to find cost-effective prescriptive gas measures)
- LEED-NC is increasing

# What does it all mean?

- It is important to recruit as many large project as possible to reach savings objectives
- Large projects produce highly cost-effective savings
  - Direct marketing
  - Large savings
- Portland developers, architects and engineers are aggressively pursuing green building practices and the incentives that facilitate them
- Program has enjoyed a surge in hospital construction
- However, the number of large projects is limited and Energy Trust expects to invest more in this market

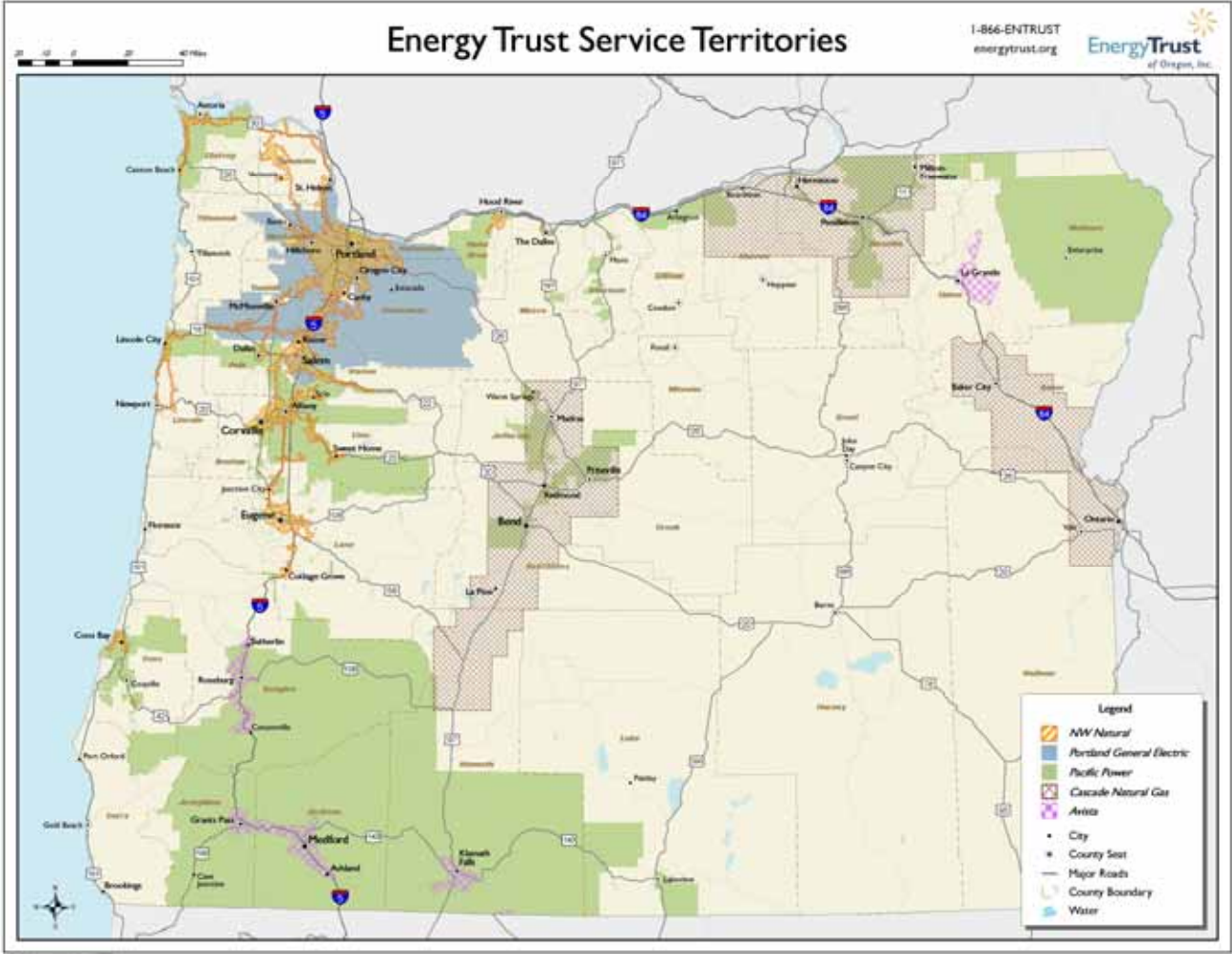
# Moving forward

- Continue to aggressively enroll large projects
- Encourage participating projects to go further
  - Increased caps for Custom, Standard and LEED-NC Tracks
  - Offer more measure opportunities (e.g. Prescriptive measures for multi-family buildings)
  - Consider an integrated design incentive
- Increase outreach to recruit more Small- to Medium-Size Projects
  - Use proven marketing channels: Architects and Engineers
  - Penetrate design-build market?
- Expect levelized costs to increase with increased marketing to achieve deeper penetration

# Thank You

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# Our Territory



# Mission

## Mission

To change how Oregonians produce and use energy by investing in efficient technologies and renewable resources that:

- Develop new sources of clean energy
- Help Oregonians lower their energy bills
- Stimulate the economy
- Protect the environment



# Goals

By 2012...

- Save 300 average megawatts of electricity  
*Enough to power two cities the size of Bend*
- Save 19 million annual therms of natural gas  
*Enough to meet the annual needs of 26,000 homes*
- Meet 10 percent of Oregon's energy requirements  
*450 average megawatts*