Conservation Advisory Council Agenda

Virtual meeting

Wednesday, September 16, 2020
1:30 p.m. – 4:30 p.m.

To join the Zoom meeting, register at this link:
https://zoom.us/meeting/register/tJwlcemsrj0uHtBGI8hx9HmQbrJMOpnmyf8l

After registering, you will receive a confirmation email containing information about joining the meeting.

1:30 Welcome

- Zoom housekeeping info
- Introductions (host will list who is attending the meeting, unmute yourself when called on and say hi)
- Approve July meeting notes
- Member updates

1:45 Year-end Updates: Goals Forecast and Measure Changes *(Q&A)*
Staff will highlight progress to achieving the 2020 annual energy efficiency goals, and provide an update on measure changes being considered for 2021.

Presenters: Peter West and Alex Novie (30 min)

2:15 2021 Action Plans Preview *(Q&A)*
The council will hear about 2021 action plan development for each sector, including overarching context, new strategies for 2021 and any significant changes from 2020. This information will prepare the council for the public budget workshop in October.

Presenters: Thad Roth and Marshall Johnson (residential), Wendy Gibson and Jay Olson (commercial), Amanda Potter (industrial) (45 min)

3:00 Break (10 min)

3:10 Utility Demand-side Management Collaborations *(information)*
Staff will present on how Energy Trust and utilities are collaborating on serving customers and bringing additional value to utility systems through deploying geographically targeted programs. This includes targeted load management pilots with Pacific Power and with NW Natural, and PGE's Smart Grid Test Bed pilot.

Presenters: Quinn Cherf and Jeni Hall (25 min)

3:35 Manufactured Home Replacement Pilot *(information)*
The council and invited stakeholders will hear an update on this pilot, which was recently extended through the end of 2021. Activity to date and efforts to coordinate with the in-development Oregon Housing and Community Services program will be discussed.

Presenter: Mark Wyman (20 min)

3:55 Existing Buildings and Commercial Lighting RFP *(information)*
Staff will provide an update on the RFP and the board of directors' review of staff's recommendation for program management and delivery contractors for these programs and offers.

Presenters: Oliver Kesting, Amanda Potter and Tyrone Henry (20 min)

4:15 Large Electric Customer Funding Reports *(Q&A)*
The annual reports on Energy Trust's incentive spending for large electric utility customers (those using 1 aMW or more of electricity per year) are completed and indicate spending remained below the individual caps set for each utility territory. The reports are provided for the council's reference. Questions welcome from the council.

Presenters: Steve Lacey and Amanda Potter (10 min)

4:25 Public Comment

4:30 Adjourn

Meeting materials (agendas, presentations and notes) are available online.

Next meeting: Our next meeting is October 14, 2020, from 9 a.m. – 12 p.m. and a hold from 12 – 1 p.m. for a potential meeting extension. This is a different time than usual, please check your calendars.

Conservation Advisory Council Meeting Notes

July 29, 2020

Attending from the council:

Alyn Spector, Cascade Natural Gas
Anna Kim, Oregon Public Utility Commission
Julia Harper, Northwest Energy Efficiency Alliance
Jess Kincaid (for Dave Moody), Bonneville Power Administration
Cristian Salgado (for Jason Klotz), Portland General Electric
Kari Greer, Pacific Power
Kerry Meade, Northwest Energy Efficiency Council
Lisa McGarity, Avista
Rick Hodges, NW Natural
Tim Hendricks, BOMA
Wendy Gerlitz, NW Energy Coalition
Warren Cook, Oregon Department of Energy
Charlie Grist, Northwest Power and Conservation Council

Attending from Energy Trust:

Caryn Appler
Melanie Bissonnette
Amber Cole
Michael Colgrove
Ryan Crews
Hannah Cruz
Amanda Davidowitz
Becky Engel
Sue Fletcher
Fred Gordon
Jeni Hall
Marshall Johnson
Steve Lacey
Spencer Moersfelder
Alex Novie
Jay Olson
Kirstin Pinit
Thad Roth
Dan Rubado
Peter Schaffer
Abby Spegman
Kenji Spielman
Julianne Thacher
Jay Ward
Kate Wellington
Peter West
Amanda Zuniga

Others attending:

Dave Backen, Backen Consulting
Shelly Beaulieu, TRC
Tina Brooks, Pacific Power
Jon Eicher, ICF
Laura Hall, ICF
Lindsey Hardy, Energy Trust board
Elee Jen, Energy Trust board
Joe Marcotte, TRC
Alan Meyer, Energy Trust board
Whitney Rideout, Evergreen Consulting
Kevin Smit, NW Power and Conservation Council
Jenny Sorich, CLEAResult
John Molnar, Rogers Machinery
Cindy Strecker, CLEAResult
Angel Swanson, ICF
Nick Dreves, ICF
Misti Nelmes, CLEAResult
Brian Lynch, AESC

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1. Welcome and Introductions

Hannah Cruz, Energy Trust senior communications manager, convened the meeting at 1:30 p.m. The meeting was held as a video conference. Prior council meeting notes are posted online and the council accepted them with no changes. The meeting was recorded.

Hannah Cruz shared that Charlie Grist has announced his upcoming retirement. He has been on the council since 2015. On behalf of Energy Trust staff, Fred Gordon recognized his contribution to the industry and expressed gratitude for his counsel to Energy Trust.

2. Update on Residential Cost-Effectiveness Exception for Ductless Heat Pumps

Topic summary

Marshall Johnson of the Residential team provided background on the Oregon Public Utility Commission's approval of a residential ductless heat pump cost-effectiveness exception for units installed in homes with supplemental heat, which are to stay within a small percentage of overall ductless heat pump units installed by the program. Ductless heat pumps are the only measure in the Residential program with an exception.

Marshall Johnson gave an update on expected unit installations this year and a potential new collaboration in Southern Oregon. South Central Oregon Economic Development District (SCOEDD), with funding from the Environmental Protection Agency, plans to launch a program to support HVAC replacement and weatherization of 140 homes that meet federal low-income qualifications and that use wood for heating.

Marshall Johnson reminded council members incentives for this measure were updated in April and included increased incentives for community partners and a reduced standard incentive.

Discussion

Council members asked why standard incentives were changed in April (Wendy Gerlitz). Marshall Johnson explained it was related to equipment changes in ductless heat pump technologies and the fact that energy savings can be lower when replacing certain types of existing equipment, such as gas furnaces or wood-burning fireplaces. Members also asked whether there is confusion among trade allies with the different incentive levels (Lisa McGarity). Marshall Johnson said there could be and would like input from the council on how to mitigate this.

Members discussed whether to provide a higher incentive for ductless heat pumps installed in income-qualified homes. Marshall Johnson asked if council members felt there is benefit to providing a $1,000 incentive for ductless heat pumps installed in income-qualified homes participating in a program like SCOEDD's even though it means not meeting the Utility Cost Test. Members suggested if the cost to the customer and energy savings can be balanced, then an exception might be worth pursuing (Alyn Spector). Members wondered if the ductless heat pump is the most affordable option (Alyn Spector). Members also requested more information about the change-out requirements and whether the SCOEDD program would be run through a community partner (Cristian Salgado, Rick Hodges).

Members asked if there is analysis of whether a gas-heating source or ductless heat pump is the more cost-effective option (Wendy Gerlitz). Energy Trust does not have this analysis to compare heating options as the organization is not allowed to encourage customers to switch their home heating fuel. Some council members expressed concern that Energy Trust isn't looking at such measures the same way as customers and suggested further consideration on the cost-effectiveness assessment, especially in light of the governor's executive order on climate change and greenhouse gas reductions (Wendy Gerlitz, Cristian Salgado).

Members asked how SCOEDD's program may dovetail with low-income weatherization programs. The SCOEDD program has the potential to triple the number of income-restricted homes served by low-income weatherization programs and by Energy Trust's programs, although the types of measures provided through all these programs will vary.

Members asked if participation in the SCOEDD program could disqualify participants from getting future weatherization upgrades that improve both the efficiency and health and safety of the home (Alyn Spector). It's understood that participation would not disqualify a customer (Lisa McGarity).

Members discussed how to account for the non-energy benefits that come from replacing wood heat with ductless heat pumps and whether those benefits are accounted for in Energy Trust's cost-effectiveness calculations, such as the reduction of woodsmoke particulates in the air and reduction of house fires. Council members cited various related resources from Bonneville Power Authority and the Environmental Protection Agency (Charlie Grist, Rick Hodges, Jess Kincaid).

Next steps
None.

3. Recent and Upcoming Changes to Energy Efficiency Measures
Topic summary
Marshall Johnson and Kate Wellington discussed changes to incentive levels and equipment requirements in the Existing Buildings, Residential and Existing Multifamily programs. These include new bonus offers and new measures that can benefit low-income and small business customers. Changes were made in support of Energy Trust's continual measure improvement process and response to COVID-19. Some measures launched this year instead of next year to respond to market needs.

Discussion
None.

Next steps
None.

4. Next Steps For Showerheads
Topic summary
Alex Novie and Dan Rubado discussed Energy Trust's potential next steps for programs that include showerheads. Energy- and water-saving showerheads have traditionally been part of Energy Saver Kits, multifamily Instant Savings Measures and existing and new commercial building offers. Showerheads are some of the most equitable measures offered by Energy Trust, enabling the program to reach new customers who often go on to participate in other offers.

Potential changes are being considered by Energy Trust as the NW Power and Conservation Council's Regional Technical Forum recently deactivated the measure as savings per unit have decreased over time. In addition, Gov. Kate Brown's Executive Order 20-04 is anticipated to include showerheads in its retail appliance standard. Most significantly, Energy Trust is considering moving away from offering mass market and retail showerheads in 2021 across most of its programs and offerings. Recent evaluation results indicated that savings projections appear to erode over time for showerheads in Energy Saver Kits that are delivered to single-family customers.

Removing showerheads from Energy Trust's offerings will likely have a notable effect on savings. For the New Buildings program, showerheads delivered primarily in new multifamily construction projects accounted for approximately 12% of gas savings and 6% of electric savings in 2019. For the Residential program, showerheads delivered through Energy Saver

Kits and retail channels accounted for approximately 8% of electric savings and 7% of gas savings in 2019.

Discussion
Members offered suggestions for other organizations to play a role in identifying these lagging markets (Rick Hodges).

Next steps
Staff will revisit this transition with the council at its September meeting. Staff also will follow up on the estimated counts of customers who have been served with past showerhead measures.

5. New Buildings Cost-Effectiveness Workshops
Topic summary
Jay Olson from the Commercial sector provided an update on recent workshops with the OPUC, Oregon Department of Energy and Northwest Energy Efficiency Alliance being held to determine a cost-effective pathway forward for the New Buildings program as the state moves forward with higher efficiency levels in the energy code. The workgroup is considering using a proxy value for building-wide savings and currently estimating what this value might be for a multifamily new construction building. It remains to be seen whether separate modeling would need to be completed based on building type.

Discussion
Members asked about past project cost percentage increases when codes changed (Lisa McGarity). Cindy Strecker with the New Buildings program management contractor explained that estimating these percentages can be difficult because data typically is building-specific due to the variety of nuances and details for each building, and cost changes are not isolated to energy-efficient construction changes or equipment installation is only and are influenced by other cost changes, like in materials and labor. Members suggested other resources that may show market-wide cost trends with code changes (Warren Cook).

Next steps
Staff will return this fall to hold a more in-depth conversation with the council about the recommendations from the workgroup.

6. Community Engagement Guidelines Development
Topic summary
Energy Trust's Sue Fletcher and Ryan Crews presented work to establish Community Engagement Guidelines for the organization that will be used by staff to prioritize and determine how Energy Trust can support a community's clean energy goals. The guidelines will primarily focus on geographic communities and community organizations but could be applied to other types of communities. The goal is to help Energy Trust respond more effectively to opportunities that come to Energy Trust and to help staff be more proactive in its pursuit of relationships with communities.

Discussion
Asked to provide input about the community priorities council members are hearing and whether they relate to energy, members suggested priorities including diversity, equity and inclusion and budget shortfalls due to the economic stress of COVID-19 (Lisa McGarity). Members recommended success factors in engaging communities, including being humble, direct, communicating the benefit of the program or relationship to the organization, participation in local community council meetings to hear their priorities and recognizing leaders and influencers from communities (Cristian Salgado). Members also reinforced the importance of creating a customized approach to deploy services and meet community needs (Warren Cook).

Next steps
Staff will continue to update the council as guidelines are developed, as specified in Energy Trust's 2020 organization goals.

7. 2021 Budget Engagement Schedule
Topic summary
Melanie Bissonnette reviewed the 2021 budget engagement schedule and opportunities for council members to provide feedback during regularly scheduled council meetings in September, October and November.

Discussion
None.

Next steps
Council members were encouraged to participate in upcoming budget engagement opportunities. Reviewing and providing feedback to staff and the board on the budget and action plans are a primary responsibility of the council.

8. Energy Trust Support for PCEF Applicants
Topic summary
Hannah Cruz provided an update on the support resources Energy Trust is preparing for potential Portland Clean Energy Community Benefits Fund applicants. Energy Trust's focus is to help nonprofits and their partners applying for PCEF grant funding become aware about the programs and resources available through Energy Trust that may support their proposals. For example, Energy Trust data regarding local housing stock and neighborhood demographics could help an organization determine where to target their proposed PCEF projects. To that end, Energy Trust is listening to organizations participating in PCEF for ways Energy Trust could support these organizations and their proposals.

Discussion
None.

Next steps
None.

9. Public Comment
There was no public comment.

10. Adjournment
The meeting was adjourned at 3:58 p.m. The next Conservation Advisory Council meeting will be held virtually and is scheduled on September 16, 2020.

2020 Year-End Savings Forecast

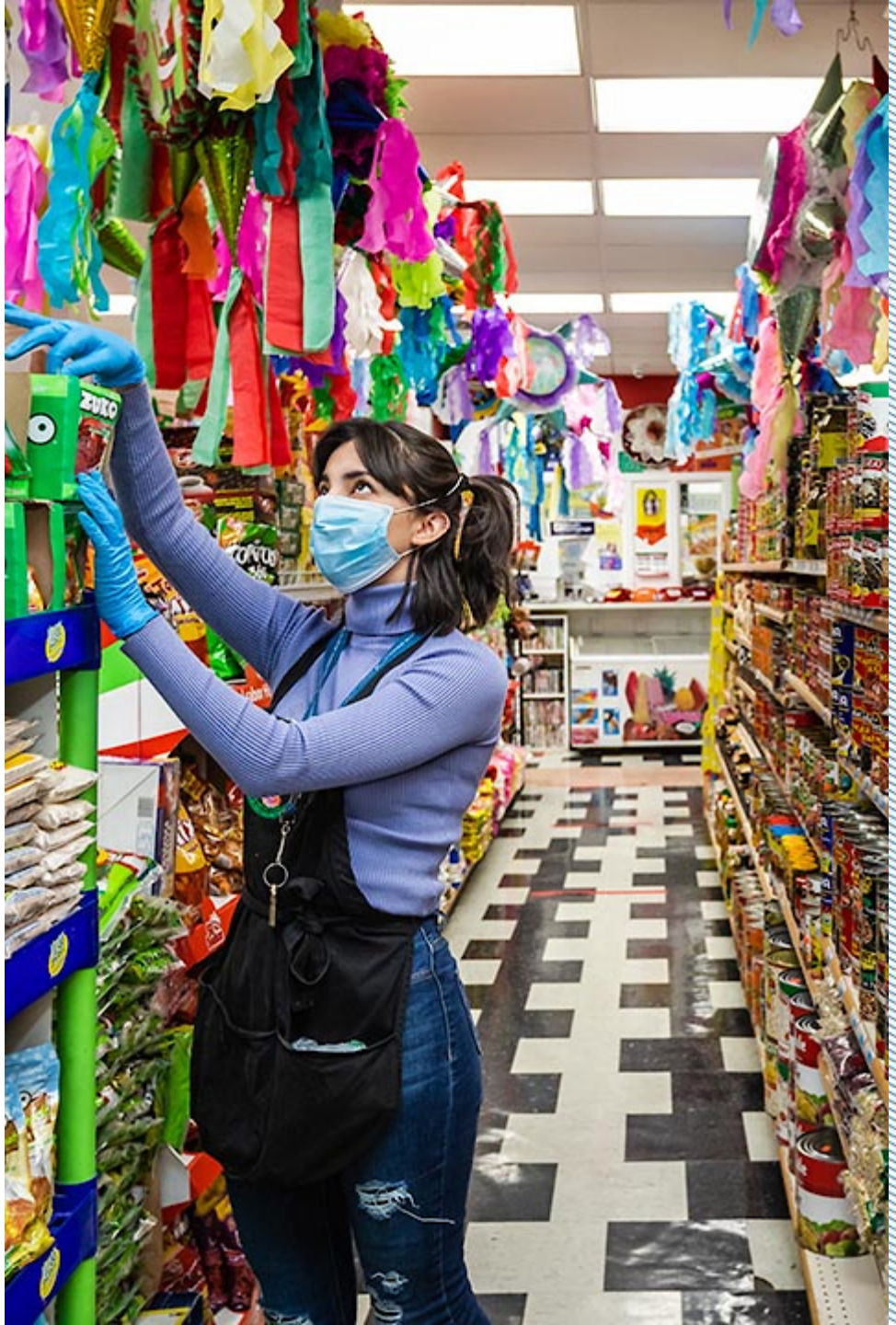
Conservation Advisory Council

September 16, 2020

Energy Trust of Oregon

2020 Year-End Forecast

- As of July 1, staff anticipates achieving
  - 91% of the electric savings goal
  - 98% of the natural gas savings goal
- Forecasts are improved over an earlier year-end projection
  - Rapid deployment of bonuses
  - Updated program offers
  - Quick pivot to conducting business remotely
- Read more in Q2 report
  - www.energytrust.org/reports



Energy Efficiency Summary, Q2 Forecast by Utility

	2020 Budget Savings Goal (aMW or MMTh)	Q2 Forecast Savings (aMW or MMTh)	Variance	2020 Budget Incentives ($ Million)	Q2 Forecast Incentives ($ Million)	Variance	Budget Levelized Cost/(per kWh or therm)
PGE (Efficiency)	27.40	24.63	-10%	48.74	44.12	-9%	3.6¢
Pacific Power (Efficiency)	17.98	16.74	-7%	33.89	29.60	-13%	3.8¢
NW Natural (OR)	5.60	5.80	4%	13.9	12.4	-11%	37.4¢
NW Natural (WA)	0.34	0.31	-10%	1.31	1.04	-21%	54.5¢
Cascade Natural Gas	0.55	0.51	-7%	1.86	1.57	-16%	48.0¢
Avista	0.39	0.38	-2%	0.95	0.86	-10%	35.3¢

Thank You

Peter West
Director of Energy Programs
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Energy Trust of Oregon

Reference Slides:
Savings Detail by Program and by Utility

2020 Electric Savings, Q2 Forecast by Program

	2020 Budget Savings Goal (aMW)	Q2 Forecast Savings (aMW)	Variance	2020 Budget Incentives ($ Million)	Q2 Forecast Incentives ($ Million)	Variance	Budget Levelized Cost/kWh
Existing Buildings	13.09	11.34	-13%	25.76	20.63	-20%	3.6¢
Existing Multifamily	1.46	1.07	-27%	2.65	2.16	-18%	5.6¢
New Buildings	4.77	4.71	-1%	9.2	9.69	5%	3.7¢
Production Efficiency	17.14	14.7	-14%	24.14	20.07	-17%	2.5¢
Residential	5.50	6.34	15%	20.86	21.17	1%	6.6¢
NEEA combined	3.41	3.21	-6%	-	-	-	2.7¢
TOTAL	**45.38**	**41.37**	**-9%**	**82.63**	**73.72**	**-11%**	**3.6¢**

2020 Natural Gas Savings, Q2 Forecast by Program

	2020 Budget Savings Goal (MMTh)	Q2 Forecast Savings (MMTh)	Variance	2020 Budget Incentives ($ Million)	Q2 Forecast Incentives ($ Million)	Variance	Budget Levelized Cost/therm
Existing Buildings	1.86	1.76	-5%	5.8	5.0	-14%	42.8¢
Existing Multifamily	0.21	0.15	-28%	0.5	0.4	-24%	59.4¢
New Buildings	0.54	0.51	-7%	1.0	1.1	11%	29.5¢
Production Efficiency	1.52	1.89	24%	2.0	1.4	-27%	23.3¢
Residential	2.71	2.70	0%	8.8	7.9	-10%	41.0¢
NEEA combined	0.02	0.02	0%	-	-	0%	n/a*
TOTAL	**6.88**	7.00	2%	**18.0**	**15.9**	-12%	**39.0¢**

**NEEA gas levelized costs are not represented yet because NEEA gas investments in 2020 will result in savings in future years. 2020 is the first year we are beginning to see NEEA gas savings from prior year investments.*

Measure Updates and Changes for 2021

Conservation Advisory Council
September 16, 2020

Energy Trust of Oregon

Measure Analysis Updates

1. Sunsetting Measures
2. Noteworthy Measure Changes
3. Summary of OPUC Cost-effectiveness Exceptions
4. New Measures

Measures Sunsetting in 2021

Program	Measure Description	Measure Notes
Residential	**Energy Saver Kits (ESKs)**	• May pursue a targeted kit offer in 2021
Residential	**Retail Showerheads and Shower Wands**	• May pursue shower wands as targeted offer
Multifamily	**Multifamily Common Area Direct-install Lighting**	• Very low volume measure for this program
Existing Buildings	**Commercial Showerheads and Aerators in Existing Commercial**	• Very low volume measure for this program
New Buildings	**Commercial and Multifamily Showerheads and Aerators in New Commercial Construction**	• Some savings and non-energy benefits impacts, particularly for gas savings (~5%)
New Buildings	**New Buildings Exterior Lighting**	• More efficient baselines driving the exit from this stand-alone measure

Noteworthy Measure Changes for 2021

Noteworthy Measure Changes for 2021

Program	Measure Description	Measure Notes
Residential	**Single-Family Heat Pump Conversions**	• Decrease in savings (~20%) due to changing baseline • Applies to electric forced air furnaces (eFAF) only • No stacking of advanced controls
Residential	**Thermostat Devices, Thermostat Optimization Services**	• Including optimization savings for newly incentivized thermostat devices • Moving to market transformation savings pathway for optimization savings on existing devices
Residential	**Residential Lighting Offers**	• Retail offer is shifting program design to target lagging retail market channels • Expanding direct ship offer for community-based organizations, agencies and targeted lagging markets
Residential	**Extended Capacity Heat Pumps**	• Moved from measure pilot to standard offering
Residential	**Window Replacements**	• New third tier for very high-efficiency windows (U-Value ≤ 0.24)
Residential	**Manufactured Homes Air and Duct Sealing**	• New program design currently in development, exact changes TBD
Business Lighting	**Various Commercial and Industrial (C&I) Lighting Measures**	• Savings decrease (~5%) across all existing C&I lighting measures analyzed for 2021

Measure-Level Cost Effectiveness Exceptions Summary

Noteworthy Measures Under OPUC Cost Effectiveness Exception

Program	Measure Description	Measure Notes
Residential	**New Manufactured Homes – Gas Heated**	• Continuation of existing measure cost effectiveness (CE) exception with minor rating system changes • Low historical volume but possible uptick in 2021
Residential	**Gas Storage Tank Water Heaters**	• Extension of current measure CE exception through 2021 • Will revisit with anticipated 2021 RTF analysis
Residential	**Manufactured Home Replacement Pilot**	• Pilot extended for 2 years
Residential	**Ductless Heat Pumps (DHP) in Single-Family and Multifamily**	• Continuation of measure CE exception granted for select DHPs (e.g., households with supplemental fuel) in March 2020 • Likely measure CE exception for low-income DHP targeted offer (still in development)
New Buildings	**New Multifamily Market Solutions Offer**	• Under program cost-effectiveness exception for whole building offers based upon new commercial code alignment (ASHRAE 90.1)

New Measures!

New Measures for 2021: Commercial and Industrial

Program	Measure Description	Measure Notes
Business Lighting	**Commercial and Industrial (C&I) Midstream Lighting**	• A suite of lighting measures where customers, trade allies and contractors will access incentives at point of purchase
Production Efficiency	**Self-Cleaning Wastewater Lift Pump**	• Targeting pumps at wastewater agencies • Operating hours, variable speeds and smart control systems to manage potential clogging events
Existing Buildings, New Buildings	**Commercial Gas Condensing Furnace**	• Re-introducing this measure for new and existing commercial customers
Existing Buildings, New Buildings	**Heat Pumps in Small and Medium Businesses**	• For ducted and ductless heat pumps < 10,000 sq ft
Existing Buildings, New Buildings	**Commercial Heat Pump Water Heater**	• Downstream measure for commercial buildings
Existing Buildings	**Advanced Rooftop Controls Retrofit**	• Fills gap in offer for existing rooftop units (RTUs)
Existing Buildings	**Foodservice Measures: Ice Makers, Pre-Rinse Spray Valves**	• Targeting small foodservice customers

New Measures for 2021: Residential and Small Multifamily

Program	Measure Description	Measure Notes
Residential	**Gas Tankless Water Heater Retrofit**	• Downstream measure only • Compatible with existing gas line
Residential	**Low-Income DHPs Targeted Offer**	• Offer in development with limited scope for initial launch • Goal to provide no-cost DHPs for low-income customers
Residential New Construction	**New Homes in Washington**	• New code prescriptive pathway for WA • WA and OR codes are delayed
Residential	**Direct Install Ceiling Insulation**	• Supporting no-cost and low-cost installations • Delivered primarily through community-based organizations and agency partnerships • Includes starting condition of R0 – R11

Thank You

Alex Novie

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Energy Trust of Oregon

Measure-Level Cost Effectiveness Exception Criteria Allowed in UM-551

A. Measure produces significant non-quantifiable non-energy benefits
B. Inclusion of the measure is expected to lead to reduced cost of the measure
C. Measure is included for consistency with other demand-side management (DSM) programs in the region
D. Measure helps to increase participation in a cost effective program
E. The package of measures cannot be changed frequently and the measure will be cost effective during the period the program is offered
F. Pilot or research project, intended for a limited number of customers
G. The measure is required by law or is consistent with Commission policy

2021 Budget Engagement Schedule with Conservation Advisory Council, Diversity Advisory Council and Renewable Energy Advisory Council

As a nonprofit organization investing utility customer funds, Energy Trust of Oregon conducts an open annual budgeting and planning process. We develop an annual budget and two-year action plan collaboratively with our five utility partners, and we ask for feedback from our board of directors, advisory councils, Oregon Public Utility Commission, utilities, community organizations, other stakeholders and the public. We value and appreciate feedback and insights.

Budgeting for Energy Efficiency and Renewable Energy

Guided by the draft 2020-2024 Strategic Plan, the budget sets annual revenues, expenditures and organizational goals to acquire all identifiable cost-effective energy efficiency and generate renewable energy from small-scale systems. The budget enables us to deliver energy-efficiency and renewable energy programs for investor-owned utilities in Oregon, energy-efficiency programs for NW Natural in southwest Washington plus additional activities described in the draft budget.

Activities needed to achieve the organizational goals are detailed in program and support group action plans. There are separate action plans for the programs delivered in Oregon, the two programs delivered in NW Natural's Washington territory and for a subcontract to support delivery of the State of Oregon's Community Solar Program. Each action plan lists strategies, key activities, expected changes for 2022 and other contextual information.

Budget Process Overview

We start developing the budget in the summer of each year. We work with each of our five partner utilities and preview to them in August major changes and new activities for the upcoming year.

We provide high-level overviews of program and support group action plans to our three advisory councils in September: Conservation Advisory Council, Diversity Advisory Council and Renewable Energy Advisory Council. These meetings are open to the public.

We assemble a comprehensive draft budget with two-year action plans by the end of September. This budget package is posted for public review and comment in early October, and our Executive Director Michael Colgrove presents on the budget at a public workshop in October attended by our board of directors and three advisory councils. Feedback is encouraged from the public and stakeholders through these meetings and in writing, with the draft budget and a recorded presentation are available. Staff also present to OPUC commissioners in early November at a public meeting.

All feedback is considered as staff completes revenue discussions with each utility in October and refines the draft budget throughout November. The board acts on a final proposed budget in December, and the final budget is posted online and submitted to the OPUC by year-end.

Key Dates for Conservation Advisory Council, Diversity Advisory Council and Renewable Energy Advisory Council

July

- Staff determine new activities for 2021 and identify significant changes from 2020 budget.

September

- **September 15 – Diversity Advisory Council public meeting:** Provide overview of budget process and schedule and relevant action plan highlights.
- **September 16 – Conservation Advisory Council and Renewable Energy Advisory Council public meetings:** Provide high-level description of what is driving activities in draft program action plans. At Conservation Advisory Council, update on measure reviews, including status of OPUC cost-effectiveness exception requests.

October

- **October 7:** Draft budget posted on www.energytrust.org
- **October 7:** Public comment period opens; Advisory council members encouraged to submit comments. Email draft budget binder to board, OPUC, advisory councils and public.
- **October 14 – public meeting:** Budget workshop with board, advisory councils, community-based organizations and the public. Discuss draft budget and action plans with an executive summary presentation followed by participatory workshop with staff.
- **October 28:** Public comment period closes.

November

- **November 17 – Diversity Advisory Council public meeting.** Review significant changes to draft budget, if any.
- **November 18 – Conservation Advisory Council and Renewable Energy Advisory Council public meetings**: Review significant changes to draft budget, if any.

December

- **December 3:** Final proposed budget posted on www.energytrust.org.
- **December 11 – Board of Directors public meeting:** Final proposed budget and action plan presented for board consideration and vote of approval.
- **December 31:** Board-approved budget submitted to OPUC and posted on www.energytrust.org.

Utility Demand-side Management Collaboration

Conservation Advisory Council

September 16, 2020

EnergyTrust of Oregon

Agenda

- Pacific Power Targeted Load Management (TLM) pilot in Phoenix
  - Timeline
  - Current activities
  - Marketing efforts
- NW Natural TLM (GeoTEE) pilot in Creswell and Cottage Grove
  - Timeline
  - Phase 1 findings
  - Current Activities
  - Next Steps
- Portland General Electric Smart Grid Test Bed (SGTB)
  - What is the test bed?
  - What is Energy Trust's interest in the test bed?
  - Current opportunities and coordination

Background – Utility Interest

- Pacific Power is interested in focusing on demand side management and distributed energy resource alternatives to traditional upgrades
- They are also interested in exploring targeted efforts
- NW Natural is working to build out their toolbox of options to offset capital investments, and better understand the value of energy efficiency at peak times

Background – Energy Trust Interest

- This work fits well into our mandate to achieve all cost-effective energy efficiency
- Energy efficiency plays a key role in load management by reducing the overall load during peak times
- Peak reduction is economically beneficial to ratepayers
  - Could potentially negate or defer more expensive traditional capital investments
- Synergies exist between Energy Trust programs and utility objectives

Pacific Power
TLM Pilot Overview
Phoenix, OR Area

Sites in Targeted Area

Approximate site totals:

- 5,800 Residential
- 1,850 Commercial, Industrial and Agricultural

Pilot Timeline

- Collaborative planning in 2018
- Launch in 2019
  - Increased marketing and outreach April through December 2019
- Test increased incentives in 2020
  - Incentives promoted July through December 2020
- Reporting completed by end of 2021

Current Activities

- Promoting offers with high peak impact
  - Residential ductless heat pumps, heat pumps, insulation and windows
  - Commercial small to medium business Tubular LED offer (low or no cost), foodservice, insulation and heat pumps
  - No real industrial opportunity in this area
  - Testing increased incentives within the current cost-effectiveness framework

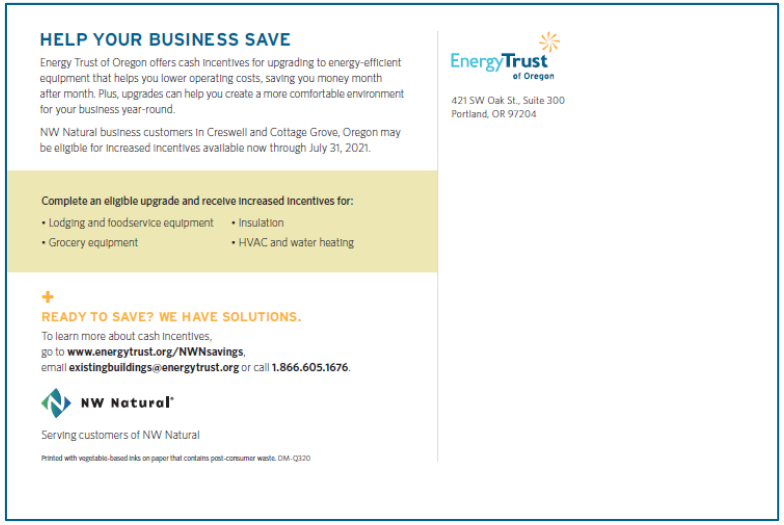
Marketing Efforts

- Residential and commercial postcards
- Utility bill inserts
- Increased digital impressions in the area
- Paid search advertising
- Trade ally engagement and training
- Web page with information on measures being promoted that can only be accessed directly through a link (not by searching)

Marketing Examples

Residential Postcard

Commercial Postcard



NW Natural
TLM (GeoTEE) Pilot Overview
Creswell and Cottage Grove, OR

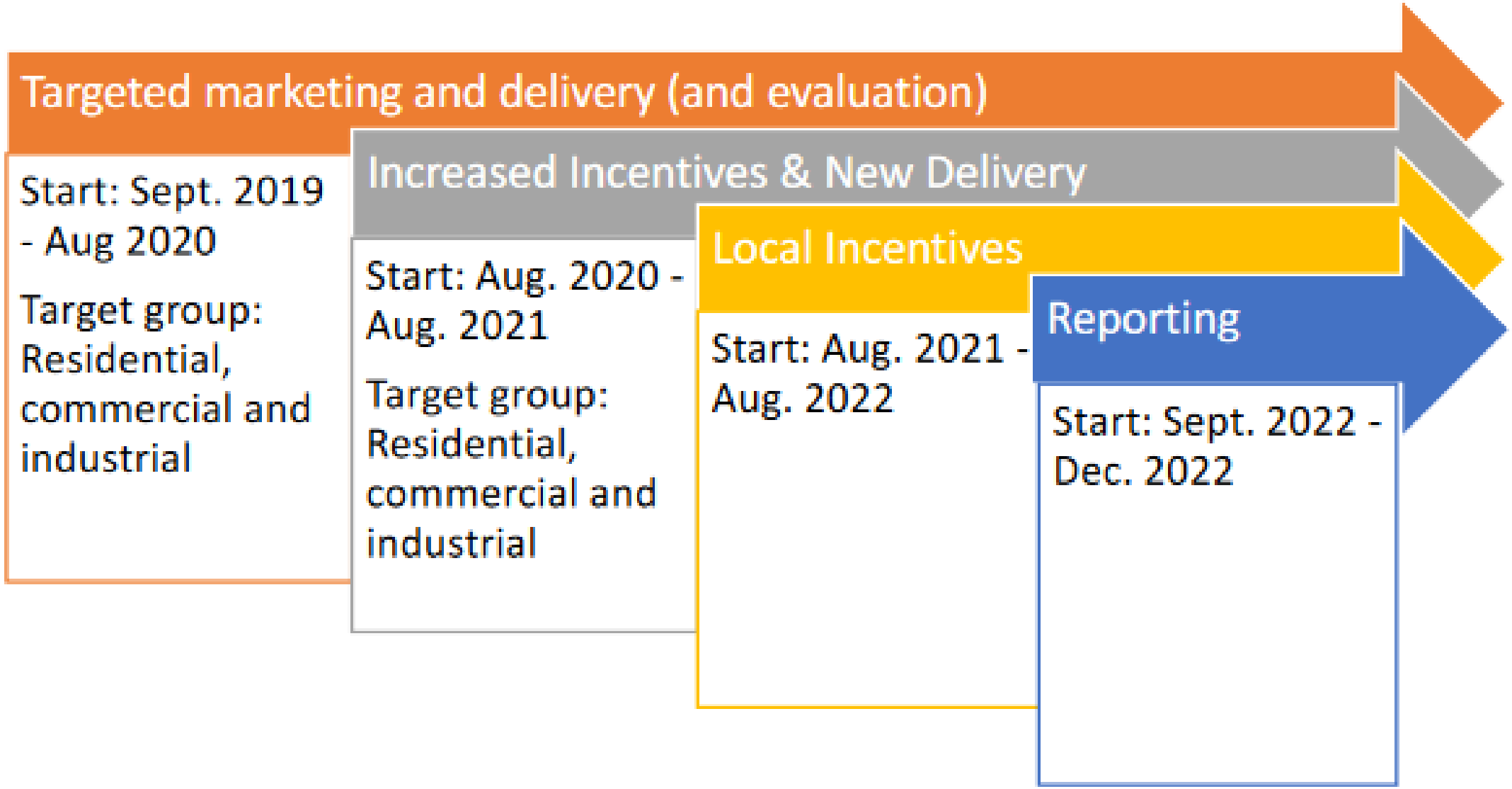
Sites in Target Area

- Total
  - 3,534 Residential
  - 402 Commercial
  - 12 Industrial

- Creswell
  - 1,230 Residential sites
  - 102 Commercial sites
  - 1 Industrial site

- Cottage Grove
  - 2,304 Residential sites
  - 300 Commercial sites
  - 11 Industrial sites

Timeline


Targeted marketing and delivery (and evaluation)
Start: Sept. 2019 - Aug 2020
Target group: Residential, commercial and industrial
Increased Incentives & New Delivery
Start: Aug. 2020 - Aug. 2021
Target group: Residential, commercial and industrial
Local Incentives
Start: Aug. 2021 - Aug. 2022
Reporting
Start: Sept. 2022 - Dec. 2022

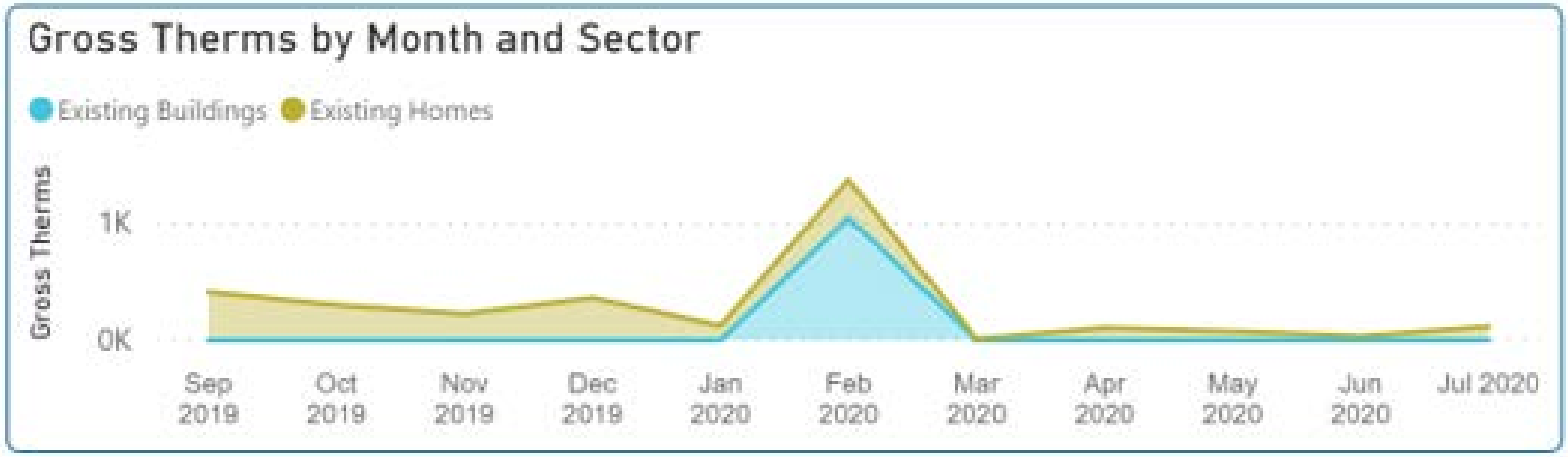
Phase One:
Targeted Marketing and Delivery

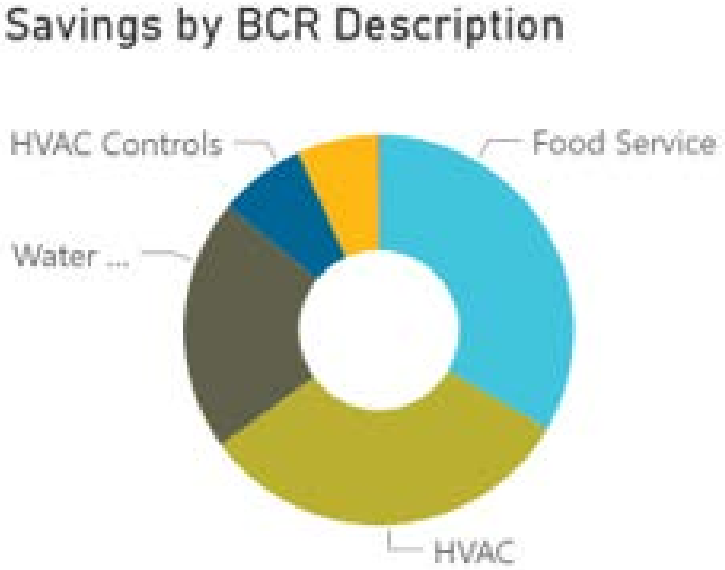
Sept. 2019 – July 2020

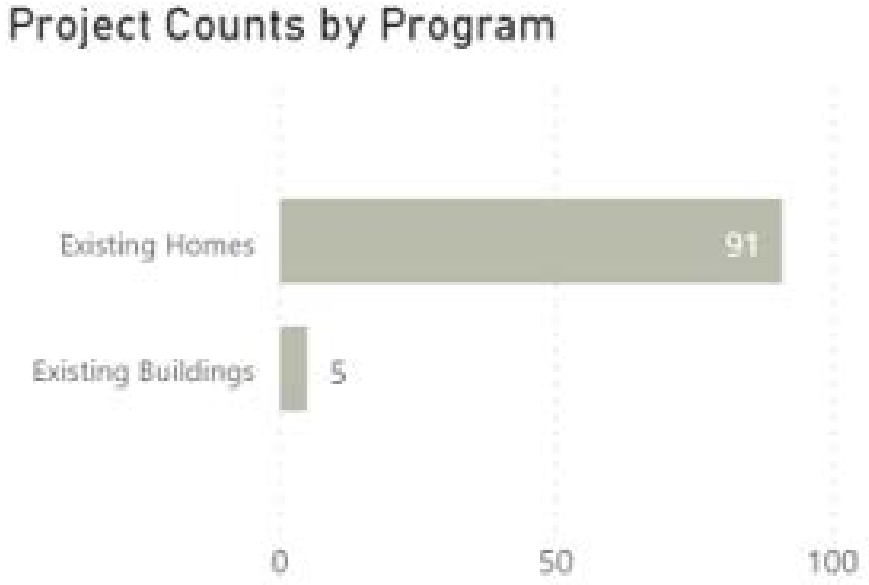
- **Marketing**: Use Energy Trust and NW Natural existing marketing channels to reach customers with actionable information on existing Energy Trust offerings
  - Utility bill inserts, direct email, direct mail and digital ads

- **Delivery**: Engage local trade allies, NW Natural account managers, program management contractors and program delivery contractors to reach out to business customers to promote existing Energy Trust incentive offerings

Phase One:
Results of Increased Marketing and Outreach







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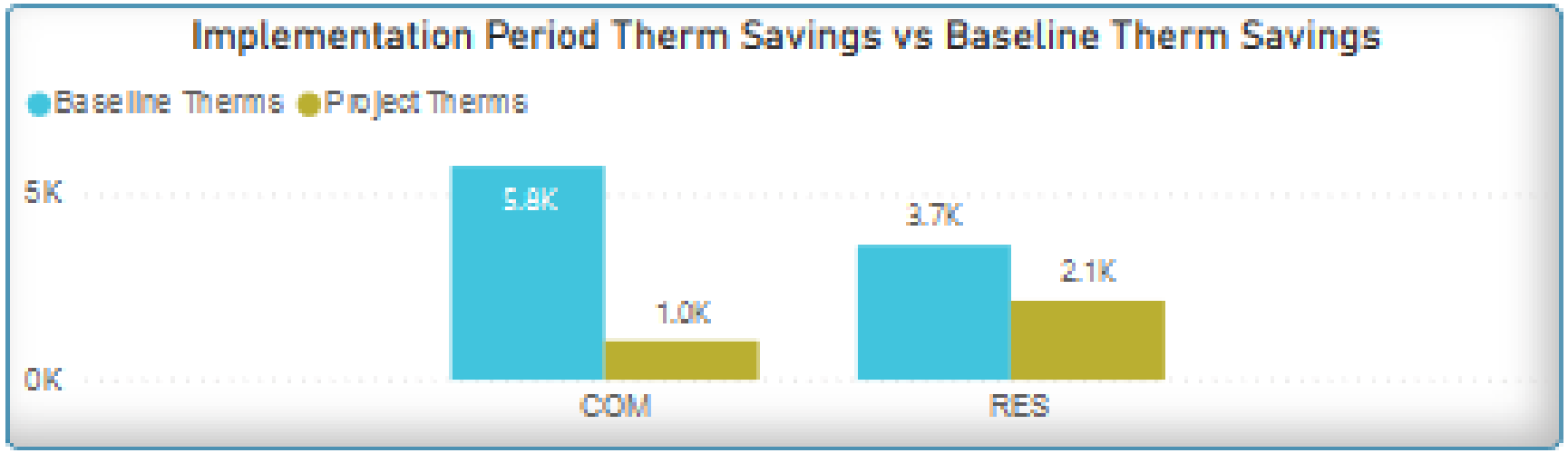
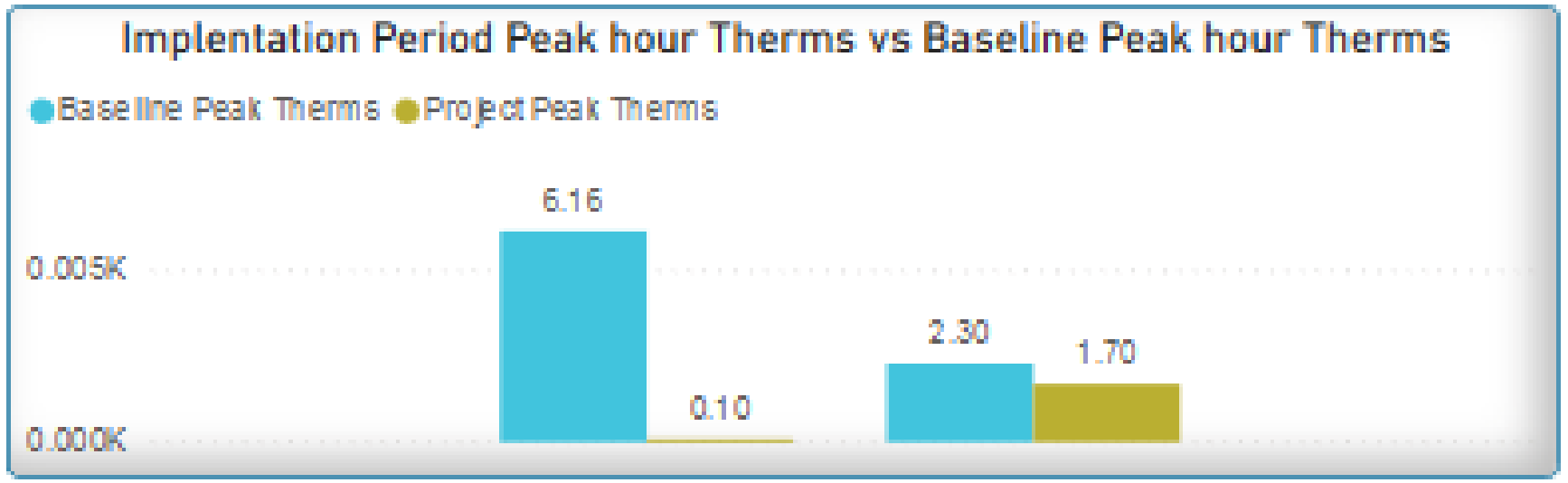




Phase Two:
Current Activities

- Testing increased incentives within our current cost-effectiveness framework
  - Focusing on promoting offers with high peak impact
  - Residential gas furnaces, insulation, windows and the new homes EPS offer
  - Commercial small to medium business foodservice, HVAC, insulation and boiler offers
  - No real industrial opportunity in this area
  - Includes targeted marketing effort

Targeted Marketing Efforts

- Residential
  - Bill insert
  - Email
- Commercial
  - Trade ally engagement and training
- Residential and Commercial
  - Increased digital advertising impressions
  - Direct mail postcards
  - Web pages with information on measures being promoted that can only be accessed directly through a link (not by searching)

Next Steps

Delivering Phase Two

August 2020 – July 2021

- **Location-specific increased incentives using current statewide avoided costs and new delivery options for the targeted area**
  - Offering time-bound, “bonus” incentives for existing measures. Working closely with local trade ally contractors and large commercial customers to ensure awareness of offerings, increased incentives, specifications and time limitations of the offer.

Planning Phase Three

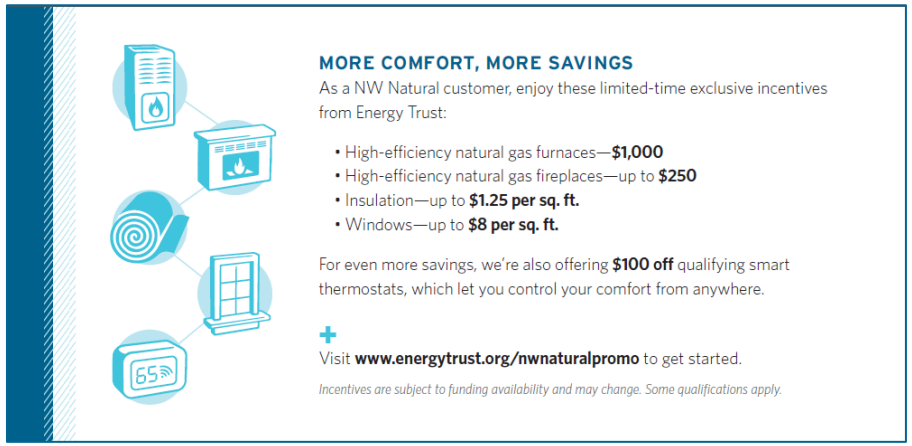
August 2021 – July 2022

- **Localized avoided costs**

  - The final phase will test the effectiveness of time-bound incentives using a local avoided-cost calculation which incorporates the value of deferring or avoiding the cost of capital investments for NW Natural's distribution system.

Marketing Examples

Phase 2 – Residential bill insert



Phase 2 – Commercial Postcard

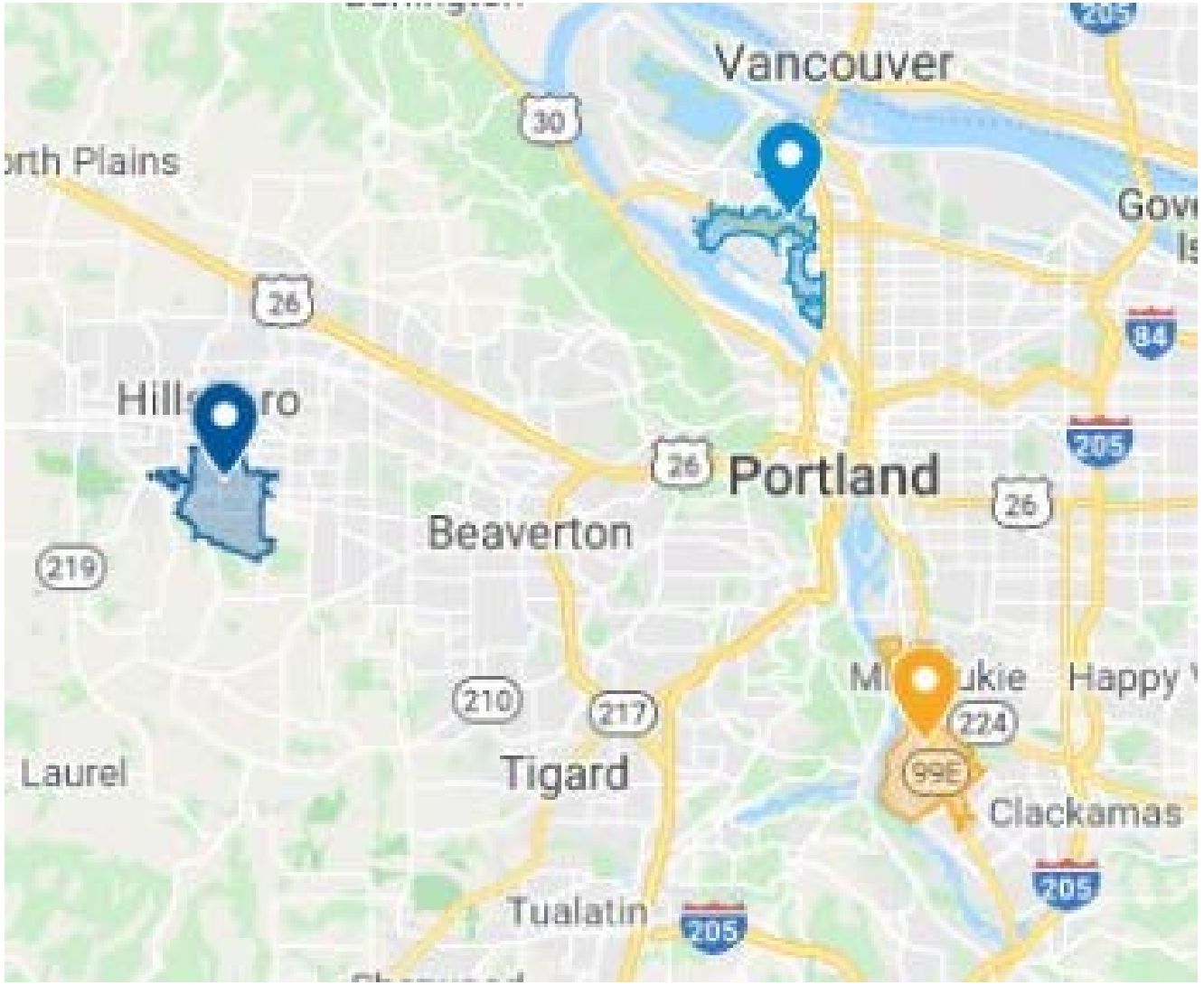
Portland General Electric
Smart Grid Test Bed
N. Portland, Milwaukie and Hillsboro, OR

What is the Smart Grid Test Bed (SGTB)?

- The Demand Response Testbed Pilot seeks to establish high program participation of demand response by eligible residential customers through an opt-out peak time rebate (PTR) in which customers may receive a rebate when they respond to PGE's notification of peak time events.

- Eligible customers are those who live in the geographical areas served by three specific substations. The pilot will test approaches to move PTR opt-out customers to opt-in direct load control program offerings that are offered through other tariff schedules. The pilot is offered through June 30, 2022.
  - Testing at three substations in N. Portland, Milwaukie and Hillsboro

Three Smart Grid Test Bed Areas



Energy Trust Interest

- Opportunity to leverage existing programs, offers and delivery infrastructure to gain demand response insight and test customer acceptance of technologies.
- Opportunity to support increased focus on implementing Distributed Energy Resources (DERs), from Oregon utilities and communities.
  - DERs deliver value that is additional to energy efficiency and renewable generation and provide services to the grid and non-energy benefits such as resilience
  - DERs include renewable energy, energy efficiency, weatherization, smart appliances, and electric vehicles and charging.

Residential and Solar Opportunities in 2020

- Ductless Heat Pump Controls Pilot
  - Retrofitting controls to previously installed systems. PGE is conducting a field test in the test beds. Planned launch in Q4 2020.
- Direct Install Smart Thermostat
  - Energy Trust is contributing additional incentive dollars to PGE’s direct install offer. This measure is being promoted heavily within the test beds but is also available system-wide.
- PGE Residential Battery Storage Pilot
  - Energy Trust will have a role as program implementation partner; program launch anticipated Fall 2020.

Commercial Opportunities in 2020

- PGE Direct Install Smart Thermostats for Businesses
  - Energy Trust is running a concurrent analysis based on PGE-provided AMI data to determine the energy efficiency savings value from commercial smart thermostats.
- Community Energy Project (CEP) Program Delivery
  - Energy Trust has a contract with CEP to deliver 18 multifamily workshops and will deliver some within the SGTB area.
    - CEP added load-shifting content based on PGE coordination
    - At least two workshops have been translated to Russian and Spanish

Coordination

- Energy Trust established a coordination team to track cross-program activities
  - Members represent many groups in the organization
  - This work requires coordination to develop strategy and program offerings, avoid duplicative efforts or missed opportunities, and facilitate our ability to speak with a single voice to utility partners, customers, communities and the OPUC
  - Provides an opportunity to vet ideas and determine cross-program impacts before fully developing offers
  - We’re also working closely with the PGE SGTB team and meet with them regularly

Thank You

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Energy Trust of Oregon

Manufactured Home Replacement Pilot: CAC and Stakeholder Update

September 16, 2020

EnergyTrust of Oregon

Agenda

- Recap May 7, 2020, OPUC Order 20-158
- Program activity since May
- Update on HB 2896, OHCS program
- Managing remaining funding
- Discussion and feedback

Manufactured Home Replacement Pilot

- Replace aging, energy inefficient manufactured homes in investor-owned utility service territories
- Partnership between housing, energy and community development organizations
- Goal is to better understand energy impact, quality of life improvements, project costs, barriers to participation and key elements of a successful program design
- Create a scalable financial model for leased land communities

OPUC Order 20-158 (May 7, 2020)

- Authorized cost-effectiveness exception for the continuation of the pilot
- Allows up to $500,000 in expenditures for non-cost effective projects
- Enables additional co-funding with Pendleton flood recovery funding, provided additional funding sufficiently reduces project costs
- Prioritizes the funding of “owner-occupied” sites, which had not yet been served during the first phase of the pilot

Home Replacement Transaction Types

1) Park operator finances replacement home. Resident rents home from park operator
   - Example = Oak Leaf
   - Loan type = various commercial/multifamily finance; when affordable housing, public capital
2) Resident owns home, resident finances replacement home. Land is leased from park operator
   - Example = Umpqua Ranch, West Side Pines cooperatives, Arbor Mobile Home Park
   - Loan type = personal property, “chattel” loan
3) Home is sited on private land, resident owns home + land
   - Example = disbursed Prineville site
   - Loan type = mortgage +/or construction loan

Current Project Status

Pilot as of September 8, 2020				
Stages	**Project Type 1**	**Project Type 2**	**Project Type 3**	**Totals**
Pre-Inspection	5	1	5	**11**
Inspection Complete	10	1		**11**
Incentive Reserved	1	5	6	**12**
Completions	29		4	**33**
Totals	**45**	**7**	**15**	**67**

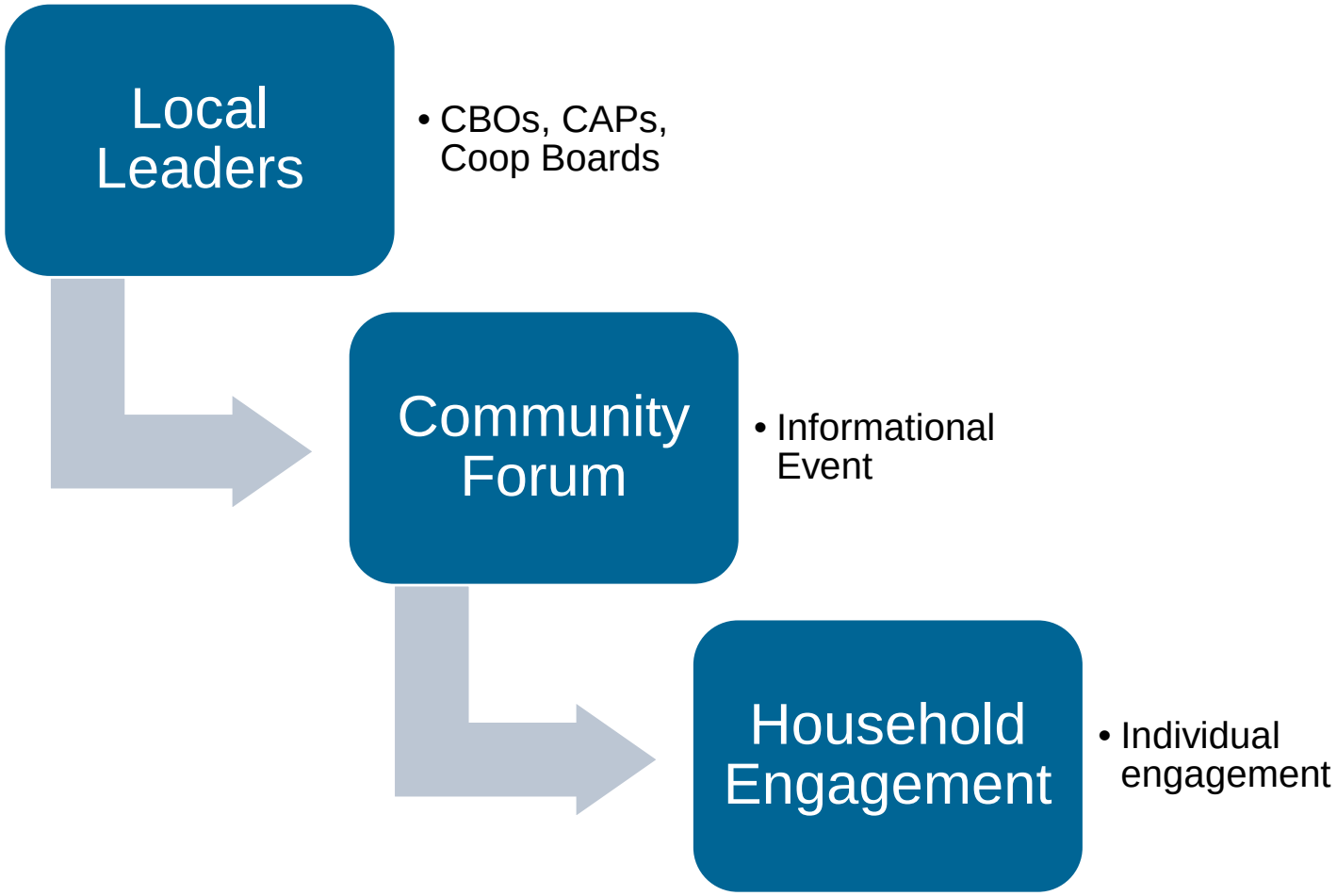
Project Types

1) Park operator finances replacement home. Resident rents home from park operator
2) Resident owns home, resident finances replacement home. Land is leased from park operator
3) Home is sited on private land, resident owns home + land

New Activity Since May

- Lucky 7 utilizing flood recovery funding
  - 15 of the 18 NEEM+ replacement homes qualifying
- 15 inquiries received for “Type 3” projects on private land
  - 11 in project pipeline
  - 4 deferred to post pilot period
- Work with CASA of Oregon to expand outreach in cooperatively owned parks
  - 2 in project pipeline
  - New outreach to 2 additional parks

Outreach to Manufactured Home Communities



Serving Owner Occupied Replacement in Preserved Parks

- Up to $45,000 cost reduction from HB 2896
- Up to $20,000 available in low-income energy efficiency
- Up to $15,000 in Energy Trust incentives

Key opportunity for energy efficiency and affordable housing programs to work together

Update on Forthcoming OHCS Program

- Public comment on proposed rules closed 8/30/20
- Current program design highlights
  - Up to $10,000 in grants to offset decommissioning costs
  - Up to $35,000 in secondary loans
  - The program loan balance at closing will be reduced incrementally by 1/120th each month and forgiven completely after 10 years of homeowner occupancy from the loan origination date

Looking Ahead

- First evaluation report to be published in October
- Energy Trust has $215,000 in remaining, uncommitted funding
- Decision made to restrict pilot pipeline solely to owner-occupied sites in OHCS preserved parks

Open Discussion:

Do you support the decision to restrict funding to “Type 2” owner occupied projects

Do you or your organization have any questions?

Greater Than 1 aMW Analysis Project

Portland General Electric (PGE) 2019 Report

Energy Trust of Oregon
08.14.2020

PROJECT OVERVIEW

The purpose of this project is to determine the percentage of SB 1149 funds that Energy Trust spent on sites that used more than 1 aMW (>1aMW) in 2019. This percentage was compared to Energy Trust's historical spending percentages from 2005-2007 to determine if spending on this group of customers has changed since the inception of SB 838.

PROJECT RESULTS

Key Findings

- Overall 1149 revenue increased by $569,479 from the last year, and >1aMW incentives spends increased by over $2,647,755 from 2019.
- Total kWh savings in PGE territory fell by 5% as compared to the previous year, reaching 300 million kWh saved in 2019.
- The cumulative post-838 share of 1149 revenue spent on incentives at >1aMW sites saw a significanrt increase from 19.0% to 19.85%, meaning the cumulative average remains over the pre-838 baseline of 18.4%, and has almost reached the new provisional threshold of 20%

In 2019, total incentive spending on >1aMW users was 28.9% of SB 1149 revenue, an increase of 8% from the previous year. Average spending per site was $135,046.45, compared to last year at $76,628, while average savings increased by about 2%.

Table 1 compares the previous years by showing the average percentage of SB 1149 revenue spending on >1aMW customers since 2008, and the percentage of total savings from >1aMW customers

Table 1: Comparison of analysis and results 2017 -2019

PGE >1aMW Percentages	2017	2018	2019	Percent Change
% 1149 revenue to >1aMW customers	19.7%	20.5%	28.9%	8.3%
Average % 1149 revenue to >1aMW customers since 2008*	18.8%	19.0%	20.8%	1.8%
% Total kWh savings from >1aMW customers	21.3%	17.2%	19.4%	2.2%

*Historical baseline average is 18.4% but was changed in 2018 to 20%

Tables 2 & 3 below show SB 1149 revenue, incentives spent on >1aMW customers, the percentage of total SB 1149 revenue spent on the >1aMW sites, total kWh savings from projects at >1aMW sites, and the number of sites receiving incentives for 2005-2007 and 2008-2019.

Table 2: Summary of spending and kWh savings for >1aMW PGE customers 2005-2007 (pre-838)

Pre-838 Results				
Energy Efficiency 1149 Revenue	2005	2006	2007	2005-2007 (average)
Energy Efficiency 1149 Revenue	$21,065,813	$22,720,384	$25,673,961	**$23,153,386**
Incentives to >1aMW Sites	$9,742,145	$1,282,158	$1,762,765	**$4,262,356**
>1aMW Incentives as a Percent of 1149 Revenue	46%	6%	7%	**18.4%**
Number of >1aMW Sites Receiving Incentives	39	30	27	**32**
Savings from >1aMW Sites (kWh)	126,503,077	14,056,604	68,431,766	**69,663,816**
Total Savings (kwh)	213,903,461	121,192,910	139,322,053	**158,139,475**
Percent of Total Savings from >1aMW Sites	59%	12%	49%	**44%**

Table 3: Summary of spending and kWh savings for >1aMW PGE customers 2008-2019 (post-838)

Post-838 Results									
PGE	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2008-2019 (average)**
Energy Efficiency 1149 Revenue	$28,119,658	$26,484,405	$28,741,721	$28,723,137	$28,127,435	$29,843,360	$29,852,268	$30,421,746	**$339,450,721**
Incentives to >1aMW Sites	$7,508,724	$6,705,824	$5,621,248	$5,004,680	$6,413,577	$5,878,681	$6,130,264	$8,778,019	**$67,382,356**
>1aMW Sites Incentives as a Percent of 1149 Revenue	27%	25%	20%	17%	23%	20%	21%	29%	**19.9%**
Cumulative Average	17%	18%	18%	18%	19%	19%	19%	19.9%	**19.9%**
Number of >1aMW Sites Receiving Incentives	56	56	55	57	62	80	80	65	**59**
Savings from >1aMW Sites (kWh)	62,520,010	95,229,586	73,813,874	40,267,774	48,926,554	75,477,544	54,128,864	58,149,719	**54,362,604**

*Due to space, 2008 – 2011 figures are not shown

Chart 1 shows the cumulative average of 1149 spending from 2005-2007 and 2008-2019. There are two horizontal lines, the yellow indicates the cumulative average from 2005-2007, which is the historical baseline, but no longer the threshold for spending in the post-SB 838 period. The new threshold, the blue horizontal line, is the new agreed upon threshold of 20%. Annual 1149 spending on >1aMW sites and the cumulative average increased from 2008 through 2014, then decreased slightly in 2015, after which it incrementally increased until 2019. The cumulative average of the post-838 period (19.9%) is below the 20% line.

Chart 1: Cumulative average of SB 1149 revenue spending on >1aMW PGE customer incentives 2004-2019, pre & post-838

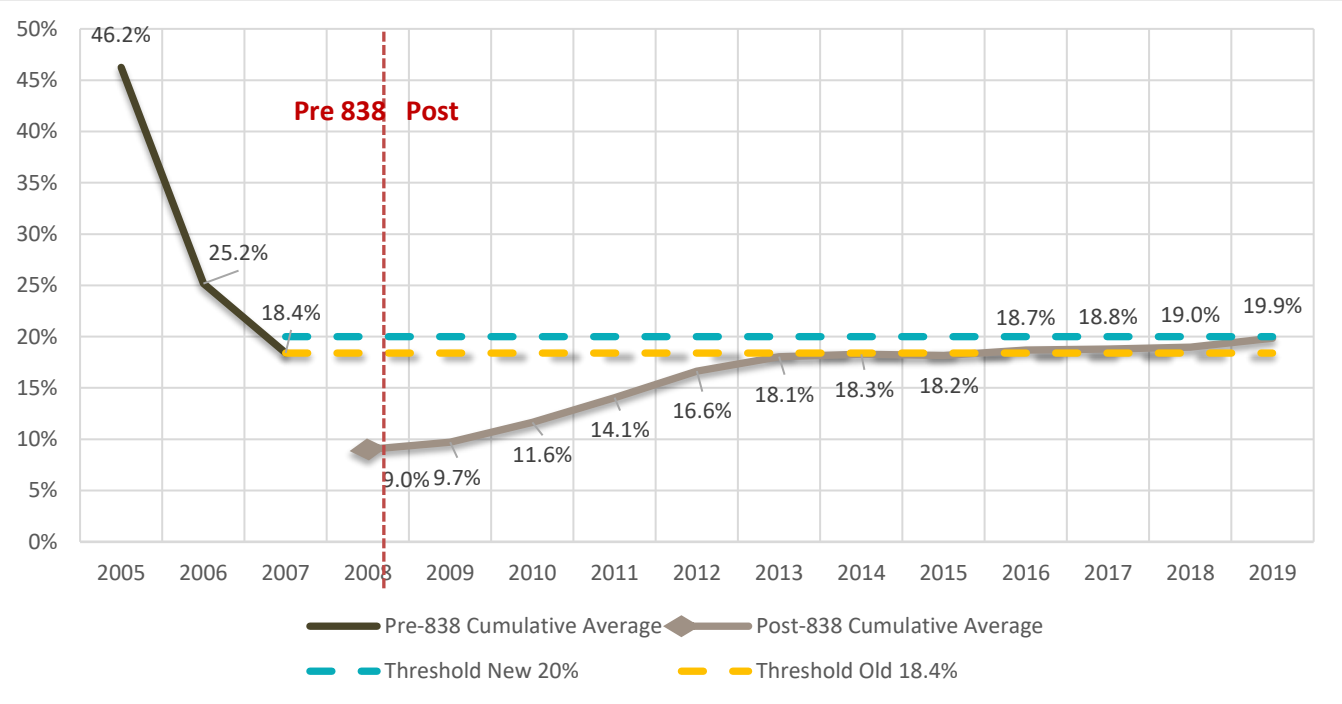


Table 4 below shows PGE spending on >1aMW customers by program by year beginning in 2005. Programs include Production Efficiency (PE), Existing Buildings (BE), and New Building Efficiency (NBE) projects.

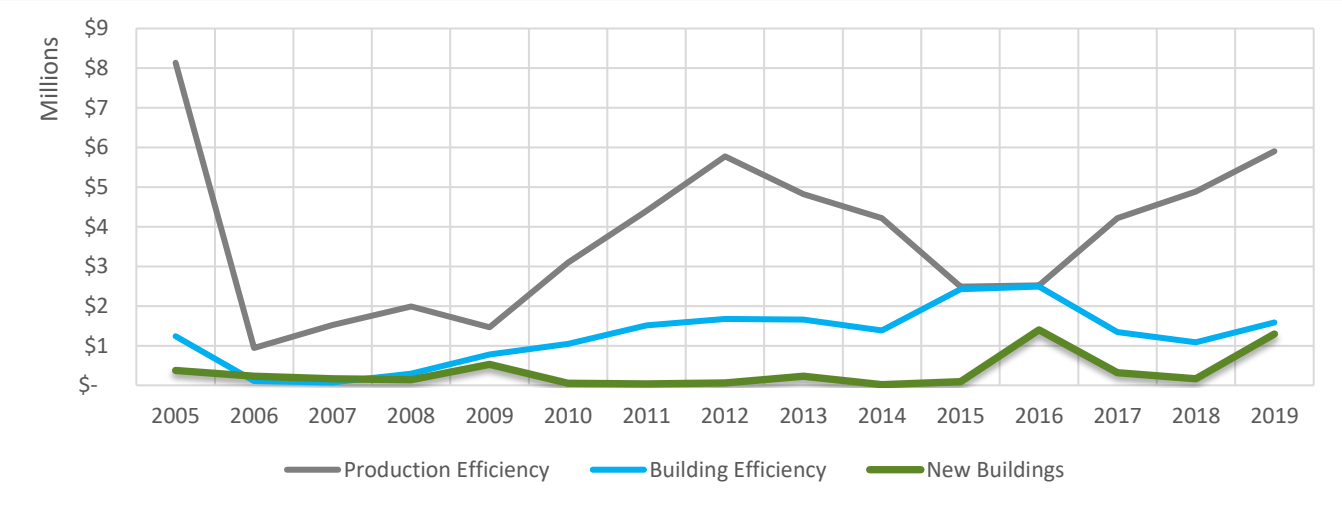
8Table 4: Summary of incentive spending & savings by program by year on >1aMW PGE customers 2005-2019, pre & post-838

PGE	Production Efficiency		Existing Building Retrofit		New Building		Total	
	$	kWh	$	kWh	$	kWh	$	kWh
Pre-838 Results								
2005	$8,134,413	N/A	$1,236,725	N/A	$371,008	N/A	$9,742,145	N/A
2006	$942,023	N/A	$111,121	N/A	$229,014	N/A	$1,282,158	N/A
2007	$1,520,782	N/A	$73,324	N/A	$168,659	N/A	$1,762,765	N/A
Post-838 Results								
2008	$1,989,391	N/A	$294,243	N/A	$138,184	N/A	$2,421,817	N/A
2009	$1,466,194	N/A	$781,466	N/A	$531,081	N/A	$2,778,741	N/A
2010	$3,097,231	43,322,367	$1,042,144	6,495,907	$50,525	131,184	$4,189,900	49,949,458
2011	$4,397,749	39,347,943	$1,513,314	6,703,335	$39,818	465,185	$5,950,881	46,516,463
2012	$5,774,602	51,916,828	$1,673,182	10,428,884	$60,940	174,338	$7,508,724	62,520,010
2013	$4,824,179	81,668,283	$1,654,099	11,204,217	$227,546	2,357,086	$6,705,824	95,229,586
2014	$4,219,172	66,948,131	$1,384,860	6,765,869	$17,216	99,874	$5,621,248	73,813,874
2015	$2,485,462	28,953,430	$2,425,927	11,013,332	$93,291	301,012	$5,004,680	40,267,774
2016	$2,525,003	31,048,159	$2,490,249	10,271,143	$1,398,325	7,607,252	$6,413,577	48,926,554
2017	$4,214,054	66,459,695	$1,343,681	7,788,934	$320,947	1,228,915	$5,878,681	75,477,544
2018	$4,883,656	44,896,817	$1,085,037	8,518,714	$161,571	713,333	$6,130,264	54,128,864
2019	$5,904,052	58,049,719	$1,582,658	9,240,426	$1,291,309	5,578,481	$8,778,019	72,868,626

Chart 2 below shows spending by program by year in graphical form. Each program category demonstrates unique year to year incentive spending patterns:

- New Buildings and Existing Building programs spending saw an increase in 2019 after having fallen from 2016 to 2018. This is primarily due to lighting bonuses.
- Production Efficiency had two consecutive years where spending was historically low, in 2015-2016. However, savings have increased in the years following that two year low. This is due primarily to a mega-project payment in addition to multiple custom and lighting bonus payments.

Chart 2: PGE >1aMW incentives by program 2005-2019, pre & post-838



METHODOLOGY

The Utility Customer Information (UCI) agreement allows utilities to share information with Energy Trust. UCI contains data on sites which consume over 1 aMW and are therefore exempt from paying 838 funds. The source data is housed in the 'Over1aMW' table of the UCI database. To associate this information with Energy Trust site data, Energy Trust appends CRM sites with an "Exempt from 838 charges" label. Because UCI only provides customer name and site address, marking exempt sites in CRM is a manual process. Many exempt sites are related to other sites as a campus or building with multiple units, in which case every unique site is marked with the exempt marker in CRM. This ensures higher accuracy when reporting on customers who are exempt from 838.

Every year, sites can become exempt from 838 rate schedule, or fall off the rate schedule, depending on the previous year's usage. Energy Trust consults UCI and updates CRM sites annually, prior to generating the data for the 838 customer analysis. "To" and "From" dates are used in the CRM site status to indicate when sites are added to or removed from the exempt list for the year. Below are some scenarios where updating is required.

A site receives an exempt from 838 status when:

- A customer's annual electric consumption exceeds 1 aMW (often the utility customer is unaware of this change)
- An expansion with a new meter is added to an existing exempt from 838 customer, thus possibly creating a new CRM site
- New sites are added to existing campuses or site hierarchies in CRM during project-related data entry

A site's 838 status is deactivated when:

- The customer's annual electric consumption falls below 1 aMW

There were several challenges to using addresses as the primary identifying characteristic of an exempt site. The following scenarios highlight these challenges:

- Some sites include multiple addresses
- Campuses or buildings may have multiple associated sites

- The address of an existing meter may change, leading to duplicate sites in CRM
- Some addresses have multiple customer names (typically, multiple divisions or business lines at one address)
- Multiple addresses exist for the same physical location (ie, one data set uses an address on a particular street, and the other uses an address on the cross street or a parallel street)
- Discrepancies in spelling or entry of addresses between data sets
- Generic locations are listed on the PGE >1aMW customer list instead of addresses; for example, “Warehouse” instead of “123 Main Street”
- For large industrial sites, the >1aMW customer list may contain an address for an adjacent office building, and may not include every building address within the site

ASSUMPTIONS

The crucial element of this analysis is the site definition. The OR SB 1149 definition of a site is: “‘Site’ means a single contiguous area of land containing buildings or other structures that are separated by not more than 1,000 feet, or buildings and related structures that are interconnected by facilities owned by a single retail electricity consumer and that are served through a single electric meter.” Energy Trust often must infer which buildings in the campus are included in the exempt from 838 rate structure and which buildings are excluded.

Energy Trust does not attempt to calculate annual electric consumption data to determine if a customer consumes over 1 aMW. Instead, Energy Trust QC’s the data received from utilities, requesting clarification when necessary. Aggregating collections of meters and summing their annual usage generates the best data available to Energy Trust, but may not always precisely indicate whether or not a site is exempt from 838 charges.

Greater Than 1 aMW Analysis Project

Pacific Power 2019 Report

Energy Trust of Oregon
08.14.2020

PROJECT OVERVIEW

The purpose of this project is to determine the percentage of SB 1149 funds that Energy Trust spent on Pacific Power sites that used more than 1 aMW (>1aMW) in 2019. This percentage was compared to Energy Trust's historical spending percentages from 2004-2007 to determine if spending on this group of customers has changed since the inception of SB 838.

PROJECT RESULTS

Key Findings

- Overall 1149 revenue decreased by about $393,990 from 2018 while >1 aMW incentives decreased by about $504,000.
  - The decrease in spending was mostly due to the decrease of incentives for both Production Efficiency and Existing Buildings programs from the previous year
- Total kWh savings for Pacific Power increased by 27% while savings at >1 aMW sites increased by 59% from 2018
- The cumulative post-838 share of 1149 revenue spent on incentives at >1aMW sites remains consistent around 19% for the past three years, making 2019 still below the pre-838 baseline of 27%

In 2019, total spending on >1aMW users was 16% of SB 1149 revenue, a decrease of 2 percentage points from 2018. The percentage of total savings from >1aMW customers increased by 16% percentage points in 2019. Average savings per >1aMW customer site increased by 93%, from around 425,416 kWh per site to 821,786 kWh per site. The total incentives per site also increased by about 6%, from about $71,000 to over $75,500 in 2019.

Table 1: Comparison of analysis and results 2015 -2019

PAC >1aMW Percentages	2017	2018	2019	Change in Overall Percentage
% 1149 revenue to >1aMW customers	15.1%	18.4%	16.4%	-2.0%
Average % 1149 revenue to >1aMW customers since 2008*	19.5%	19.4%	19.1%	-0.3%
% Total kWh savings from >1aMW customers	8.8%	13.6%	29.8%	16.2%

*Historical baseline average is 27%

Tables 2 & 3 below show SB 1149 revenue, incentives spent on >1aMW customers, the percentage of total SB 1149 revenue spent on the >1aMW sites, total kWh savings from projects at >1aMW sites, and the number of sites receiving incentives for 2004-2007 and 2009-2019.

Table 2: Summary of spending and kWh savings for >1aMW customers 2004-2007 (pre-838)

Pre-838 Results					
Pacific Power	2004	2005	2006	2007	2004-2007 (average)
Energy Efficiency 1149 Revenue	$13,346,771	$13,584,551	$14,614,927	$15,514,799	**$14,265,262**
Incentives to >1aMW Sites	$8,109,843	$3,401,328	$2,194,056	$1,867,641	**$3,893,217**
>1aMW Incentives as a Percent of 1149 Revenue	61%	25%	15%	12%	**27%**
Number of >1aMW Sites Receiving Incentives	38	42	27	34	**35**
Savings from >1aMW Sites (kWh)	64,086,521	36,711,900	14,947,636	27,311,042	**35,764,275**
Total Savings (kwh)	135,919,794	104,841,801	101,439,945	113,245,845	**113,861,846**
Percent of Total Savings from >1aMW Sites	47%	35%	15%	24%	**31%**

Table 3: Summary of spending and kWh savings for >1aMW customers 2009-2019 (post-838)

Post-838 Results										
PAC	2011	2012	2013	2014	2015	2016	2017	2018	2019	2008-2019 (average)
Energy Efficiency 1149 Revenue	$18,772,015	$19,637,424	$20,069,559	$21,298,942	$21,164,176	$21,541,576	$22,701,600	$22,064,810	$21,670,820	**$237,634,533**
Incentives to >1aMW Sites	$4,223,682	$3,993,951	$2,953,604	$4,618,310	$3,168,073	$4,892,441	$3,431,040	$4,056,047	$3,551,925	**$45,447,038**
>1aMW Sites Incentives as a Percent of 1149 Revenue	23%	20%	15%	22%	15%	23%	15%	18%	16%	**19%**
Cumulative Average	22%	22%	20%	21%	20%	20%	20%	20%	19%	**19%**
Number of >1aMW Sites Receiving Incentives	51	50	53	48	49	43	66	57	47	**50**
Savings from >1aMW Sites (kWh)	43,075,265	60,102,118	68,146,982	49,011,387	37,592,519	27,779,471	17,746,357	24,248,691	38,623,933	**40,771,052**
Total Savings (kwh)	163,873,693	180,707,979	194,374,912	186,775,439	191,556,490	213,302,647	201,578,561	178,762,991	129,604,925	**171,321,767**
Percent of Total Savings from 838-Exempt Sites	26%	33%	35%	26%	20%	13%	9%	14%	30%	**24%**

*Due to space, 2008 - 2011 figures are not shown

Chart 1 shows the annual cumulative average of 1149 spending from 2004-2007 and 2008-2019. The horizontal dashed line indicates total cumulative average from 2004-2007, which is the historical baseline and threshold for spending in the post-SB 838 period. While annual 1149 spending on >1aMW customers has fluctuated since 2008, the cumulative average has shifted only slightly from 22% to 19% from 2010 to 2019. The cumulative average of the post-838 period has not exceeded the 27% threshold and is not likely to reach that level without a considerable increase in >1aMW spending relative to recent trends. If current revenue levels remained consistent, it would require an increase of over 100 percent from the current annual >1aMW incentive spending average for over seven years for the cumulative average to reach the 27% threshold.

Chart 1: Cumulative average of SB 1149 revenue spending on >1aMW customer incentives 2004-2019, pre & post-838

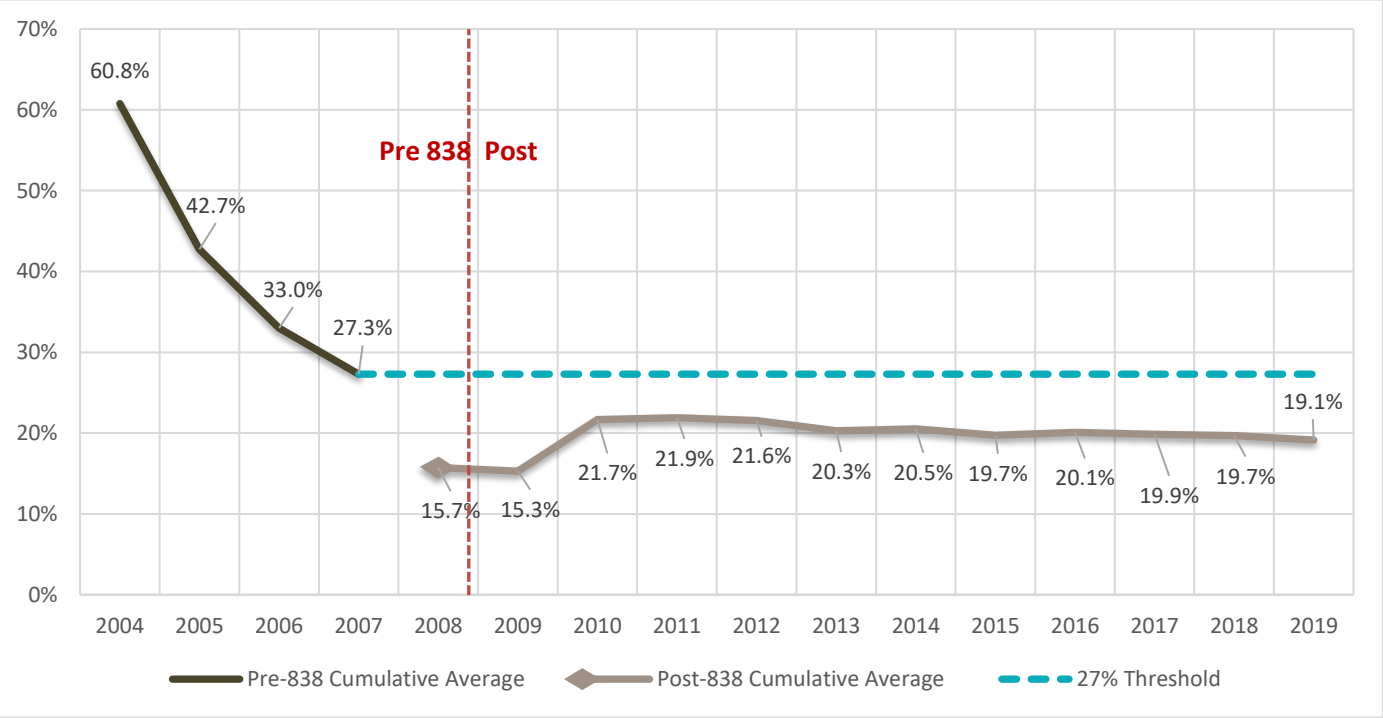


Table 4 below shows Pacific Power spending on >1aMW customers by program by year beginning in 2004. Programs include Production Efficiency, Existing Buildings, and New Building Efficiency projects.

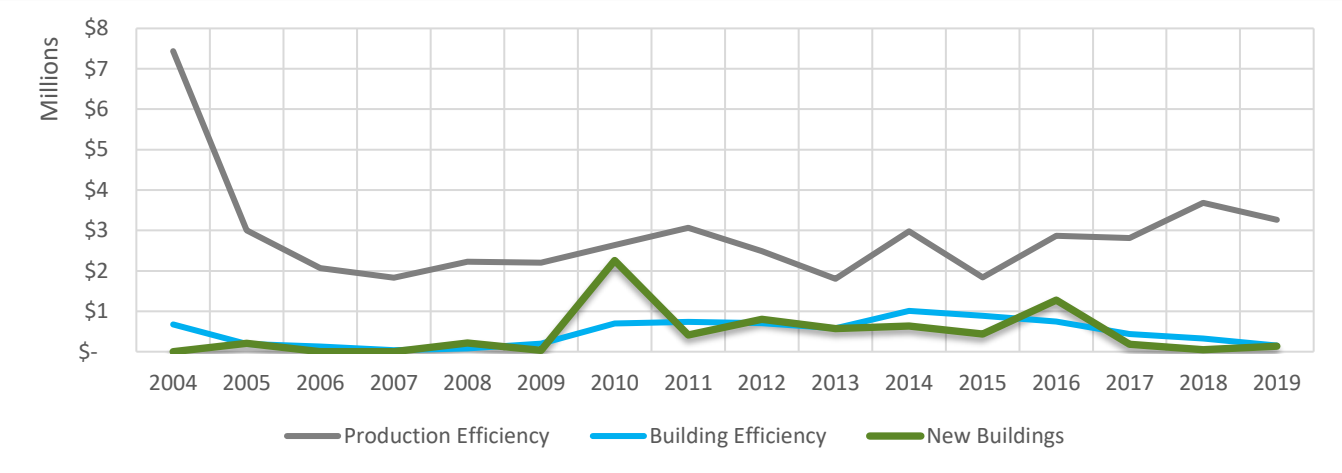
Table 4: Summary of incentive spending & savings by program by year on >1aMW customers 2004-2019 pre & post-838

PAC	Industrial		Existing Building Retrofit		New Building		Total	
	$	kWh	$	kWh	$	kWh	$	kWh
Pre-838 Results								
2004	$7,437,150	59,431,460	$672,694	4,655,061	$0	0	$8,109,843	64,086,521
2005	$3,001,897	32,462,637	$191,317	1,471,116	$208,114	2,778,147	$3,401,328	36,711,900
2006	$2,064,894	12,915,875	$129,162	1,954,899	$0	76,862	$2,194,056	14,947,636
2007	$1,829,793	26,303,769	$37,848	1,007,273	$0	0	$1,867,641	27,311,042
Post-838 Results								
2008	$2,228,208	26,993,981	$81,581	558,736	$217,375	1,391,894	$2,527,165	28,944,611
2009	$2,205,999	19,304,368	$196,508	1,172,455	$32,553	138,596	$2,435,060	20,615,419
2010	$2,637,471	43,403,777	$701,914	3,988,196	$2,256,356	25,973,898	$5,595,740	73,365,871
2011	$3,068,225	36,323,836	$739,033	4,439,079	$416,424	2,312,350	$4,223,682	43,075,265
2012	$2,484,773	33,870,298	$704,960	2,905,115	$804,219	23,326,705	$3,993,951	60,102,118
2013	$1,803,408	21,747,738	$578,404	2,628,407	$571,188	43,770,837	$2,952,999	68,146,982
2014	$2,974,893	33,411,070	$1,009,363	10,392,722	$634,054	5,207,595	$4,618,310	49,011,387
2015	$1,839,594	22,287,566	$889,313	3,725,733	$439,167	11,579,220	$3,168,073	37,592,519
2016	$2,870,429	17,865,468	$748,341	3,232,974	$1,273,671	6,681,029	$4,892,441	27,779,471
2017	$2,809,164	15,188,554	$436,588	1,673,437	$185,288	884,366	$3,431,040	17,746,357
2018	$3,684,166	21,900,153	$324,615	2,158,342	$47,267	190,196	$4,056,047	24,248,691
2019	$3,264,240	35,260,635	$150,861	2,853,729	$136,823	509,569	$3,551,924	38,623,933

Chart 2 below shows spending by program by year in graphical form. Each program category demonstrates unique year to year incentive spending patterns.

- Production Efficiency program spending in 2019 decreased 11% from 2018 levels
- New Buildings program spending increased by 189% from 2018, due to a high volume of custom and lighting upgrades
- Existing Buildings program spending has been experiencing a decline in spending since 2015

Chart 2: Pacific Power >1aMW incentives by program 2004-2019, pre & post-838



METHODOLOGY

The Utility Customer Information (UCI) agreement allows utilities to share information with Energy Trust. UCI contains data on sites which consume over 1 aMW and are therefore exempt from paying 838 funds. The source data is housed in the 'Over1aMW' table of the UCI database. To associate this information with Energy Trust site data, Energy Trust appends CRM sites with an "Exempt from 838 charges" label. Because UCI only provides customer name and site address, marking exempt sites in CRM is a manual process. Many exempt sites are related to other sites as a campus or building with multiple units, in which case every unique site is marked with the exempt marker in CRM. This ensures higher accuracy when reporting on customers who are exempt from 838.

Every year, sites can become exempt from 838 rate schedule, or fall off the rate schedule, depending on the previous year's usage. Energy Trust consults UCI and updates CRM sites annually, prior to generating the data for the 838 customer analysis. "To" and "From" dates are used in the CRM site status to indicate when sites are added to or removed from the exempt list for the year. Below are some scenarios where updating is required.

A site receives an exempt from 883 status when:

- A customer's annual electric consumption exceeds 1 aMW (often the utility customer is unaware of this change)
- An expansion with a new meter is added to an existing exempt from 838 customer, thus possibly creating a new CRM site
- New sites are added to existing campuses or site hierarchies in CRM during project-related data entry

A site's 838 status is deactivated when:

- The customer's annual electric consumption falls below 1 aMW

There were several challenges to using addresses as the primary identifying characteristic of an exempt site. The following scenarios highlight these challenges:

- Some sites include multiple addresses
- Campuses or buildings may have multiple associated sites

- The address of an existing meter may change, leading to duplicate sites in CRM
- Some addresses have multiple customer names (typically, multiple divisions or business lines at one address)
- Multiple addresses exist for the same physical location (ie, one data set uses an address on a particular street, and the other uses an address on the cross street or a parallel street)
- Discrepancies in spelling or entry of addresses between data sets
- Generic locations are listed on the PGE >1aMW customer list instead of addresses; for example, “Warehouse” instead of “123 Main Street”
- For large industrial sites, the >1aMW customer list may contain an address for an adjacent office building, and may not include every building address within the site

ASSUMPTIONS

The crucial element of this analysis is the site definition. The OR SB 1149 definition of a site is: “‘Site’ means a single contiguous area of land containing buildings or other structures that are separated by not more than 1,000 feet, or buildings and related structures that are interconnected by facilities owned by a single retail electricity consumer and that are served through a single electric meter.” Energy Trust often must infer which buildings in the campus are included in the exempt from 838 rate structure and which buildings are excluded.

Energy Trust does not attempt to calculate annual electric consumption data to determine if a customer consumes over 1 aMW. Instead, Energy Trust QC’s the data received from utilities, requesting clarification when necessary. Aggregating collections of meters and summing their annual usage generates the best data available to Energy Trust, but it may not always precisely indicate whether or not a site is exempt from 838 charges.