Serving our customers

2020 – 2021
CONSERVATION PLAN

TACOMA POWER
TACOMA PUBLIC UTILITIES

contents

3 Introduction from Steve Bicker

5 What's new for 2020 – 2021

11 **ENERGY CONSERVATION AND PROGRAMS AT TACOMA POWER**

26 Conservation Resources 2020 – 2021 TABLE

29 **ENERGY CONSERVATION FOR BUSINESS CUSTOMERS**

22 Bright Rebates

24 Custom Retrofit

26 New Construction

28 Equipment Rebates

38 Strategic Energy Management

41 **ENERGY CONSERVATION FOR RESIDENTIAL CUSTOMERS**

42 Weatherization and HVAC

44 Consumer Products

46 New Construction and Custom Projects

48 Quick Energy Savers

51 **ENERGY CONSERVATION FOR LOW-INCOME AND HARD-to-REACH CUSTOMERS**

52 Low-Income Program

54 Rental Housing and Apartment Buildings

56 Agency Partnerships

59 **EXTERNAL ENERGY CONSERVATION**

60 Northwest Energy Efficiency Alliance

62 Transmission and Distribution Voltage Optimization

65 **GREEN ENERGY PROGRAMS, ENERGY SERVICES, AND ELECTRIC TRANSPORTATION**

66 Solar Net Metering

67 Community Solar

68 Evergreen Options

69 Shade Tree

70 Clean Buildings

Thank you for your interest in Tacoma Power's new biennium plan for Customer Energy Programs. In the past, we called this document a "Conservation Plan," reflecting our nearly exclusive focus on conserving energy. While energy conservation programs will continue to dominate our work, we are preparing to take on new challenges. In the 2020-2021 biennium, we will begin to expand toward broader integrated demand-side management services (IDSM) in response to a power market we expect to be more capacity constrained. We will explore ways of using the internet to offer our customers' incentives that will help them shift their power use in ways that will make the best use of the power grid.

We also plan to accommodate customers who want to use our power in new ways, such as charging their electric vehicles. Recently, the Washington State Legislature passed HB1512, which gave power utilities the authority to promote electric transportation. We do not yet know the exact nature of the programs we will offer, but we intend to gather stakeholder input and conduct research that will help us respond to community interest in electric transportation. Our objectives are to find ways of helping people charge their electric vehicles faster, at the best time, and with simplicity.

We have been helping our customers take advantage of state solar incentives for many years. While those state incentives are no longer available, we will continue to help them install rooftop solar. In the past biennium, we improved Evergreen Options, our voluntary green power program, by enabling its participants to select local renewable energy projects. This biennium, we want to give people who participate in Evergreen Options more ways to invest their funds.

Finally, we are planning to be more proactive and collaborative in the way we meet the needs of people who struggle to pay for efficiency improvements. We are exploring new program options to encourage participation and collaborating with organizations to deliver more efficiency to low-income and hard to reach customers.

Ultimately, we want to provide programs that help everyone in our community achieve their energy objectives, whether home comfort and convenience, managing their company's bottom line or caring for their employees, all while saving energy and money, and reducing our collective environmental footprint on the earth.

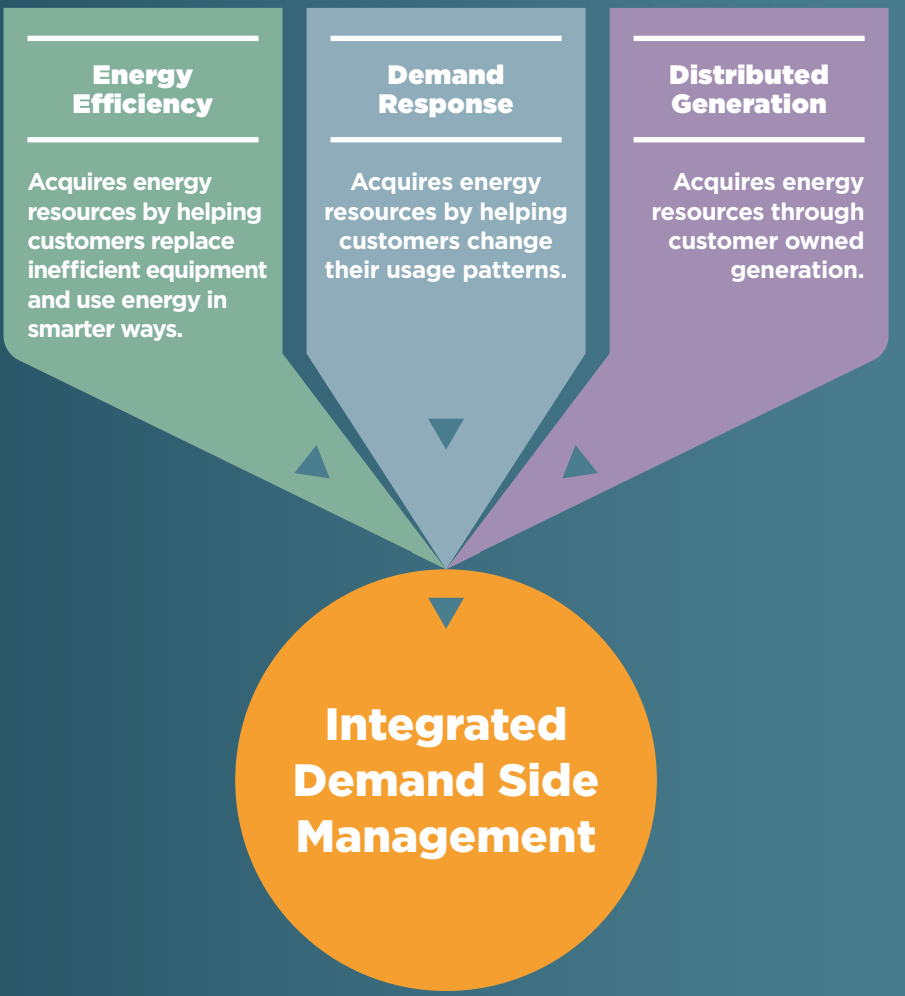
If you have questions or comments about this plan, I welcome a conversation. I hope you enjoy reading the Customer Energy Programs Action Plan.

Steve Bicker

Sr. Manager, Customer Energy Programs and Assistant Power Manager
sbicker@cityoftacoma.org

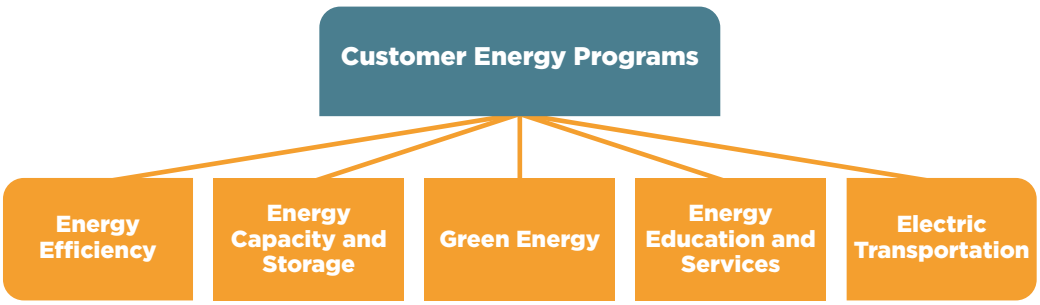
The Integrated Demand Side Management Portfolio

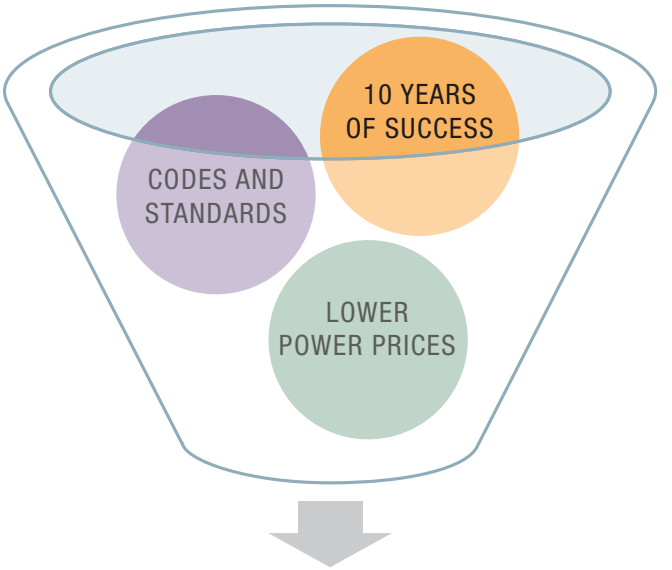
The 2020-2021 Customer Energy Programs Action Plan maps our strategy for converting Tacoma Power's energy conservation plan into a comprehensive Integrated Demand Side Management (IDSM) portfolio. The IDSM portfolio acknowledges the difference between energy conservation and energy efficiency and adds demand response and distributed generation programs to our portfolio.



What's new for 2020–2021

The services we provide to people in our community are changing. In 2018, we officially renamed Conservation Resources Management, Customer Energy Programs (CEP). The new name recognizes the critical role of delivering people expanded programs and services as their needs and our needs change. While energy conservation remains the central focus of our portfolio, we expect to add demand response programs, energy management services, and electric transportation programs in the future. Our new programs will use existing education and outreach efforts, implementation infrastructure, and program delivery experience to serve an ever-expanding range of valuable products and services.





Smaller Conservation Target

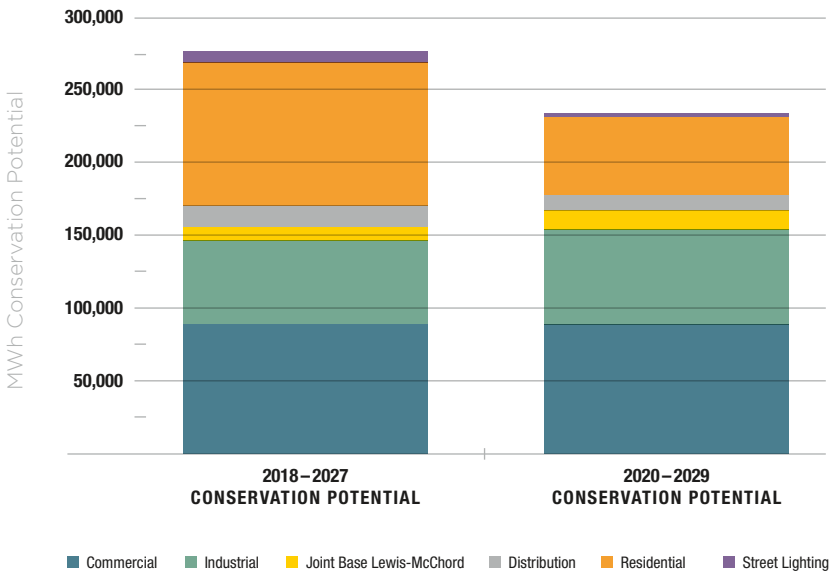
Lower Energy Efficiency Target

Utility investments and national initiatives have made meaningful impacts on how people use energy, reducing overall energy use per person. The 2020-2029 Conservation Potential Assessment (CPA) aligns with this trend, finding 16% less potential savings than the previous CPA *(Figure 1)*. Three factors explain our lower target:

- Ten years of ambitious energy efficiency programs have met needs identified by previous CPAs. Once we complete an energy conservation project, it is no longer in our conservation potential. Our successful street lighting project with the City of Tacoma has almost completely removed this category of savings from our conservation potential.
- Full implementation of national lighting efficiency standards means these resources are no longer in the conservation potential, resulting in a substantial reduction in our residential conservation potential.
- Regional wholesale power prices continue to remain low as the availability of natural gas and renewable energy in the region increase. The abundance of these resources reduces our opportunity for cost-effective energy conservation savings. Borderline cost-effective measures from the prior CPA are no longer cost-effective.

2020 – 2029 Conservation Potential is 16% less than the 2018-2027 Conservation Potential

Figure 1



Restructure of residential programs to meet new opportunity

Retail lighting has been a cornerstone of our residential efficiency efforts for over 10 years, providing a low-cost resource available to all residential customers. With state and federal lighting standards taking effect in 2020 for key residential lighting products, we can shift our focus away from retail lighting to other opportunities. This shift allows us to dedicate additional resources to focus on low-income and hard-to-reach residential customers, launch a new consumer products program, and investigate new program opportunities.

To improve customer experience, we revised our window and insulation incentive structure. Our new flat incentive pays a fixed incentive for qualifying projects instead of using a per square foot calculation to determine incentive. This change will make it easier for people to understand our programs and simplify our marketing materials. We are optimistic the new structure will encourage new participation.

We increased our building science and modeling capabilities to help people with complex projects. These capabilities allow us to assist people with major energy issues in their homes that are beyond our basic program and offer incentives for efficient new construction projects.

New opportunities for small business customers

We plan to improve service to small businesses by dedicating additional time and resources to create targeted offers, increase incentives, and simplify program participation. The effort will leverage existing programs, as well as new offers, to increase the participation of small businesses.

Changes for commercial and industrial lighting

Our commercial and industrial lighting retrofit program consistently performs above expectations and provides an opportunity for all businesses to participate. Meanwhile, the cost of commercial lighting projects fell as new technology entered the marketplace and lowered project costs. We plan to adjust our lighting incentives in response to these market changes.

Capacity and Demand Response

Market fundamentals point toward the region becoming capacity-constrained as a growing number of intermittent renewable resources replace existing fossil fuel power resources. To meet this energy resource need, the 2020-2021 Customer Energy Programs Action Plan recognizes the capacity value of conserving energy. We increased our incentives for commercial and industrial heating, ventilation, and air conditioning measures as these resources best align with projected power needs.

In 2018, we completed an in-depth study to explore demand response programs. While this study did not recommend an immediate mass-market program, it did find value in industrial programs and recommended conducting pilots to gain experience in implementing mass-market demand response programs. We intend to explore these options based on results from our next Integrated Resource Plan (IRP).

Adoption of new technology

We have invested in technology to improve customer experience and reduce implementation costs. Our successes include:

- Implementing a new workflow system, which reduces the application to payment time from up to six weeks down to up two weeks.
- Pioneering the use of video chat services for inspections, allowing staff to do more inspections during non-business hours, and reducing wait time for inspections.
- Eliminating the need to secure and manage hard copy signatures using electronic signatures.
- Reducing the time it takes to file real estate liens and releases to one-hour or less as opposed to two to three weeks.

Tacoma Public Utilities (TPU) is currently implementing advanced meters (AM). We expect to complete this project in 2022. CEP will investigate ways we can use AM to acquire valuable energy use data and provide exciting new products and services for our customers to simplify their lives and help manage their energy use and expense.

Electric Transportation

In 2019, Washington State authorized publicly owned utilities to promote electric transportation through education and incentive programs. Participation in the marketplace depends on the approval of an Electric Transportation Strategic Plan. Our new Energy Research and Development (ER&D) group, which focuses on researching and developing new uses for our electricity, is currently working on the strategic plan and expected to complete their work in the first half of 2020. Once the Public Utility Board approves the strategic plan, we plan to research and pilot programs that will eventually result in placing programs for electric transportation into our portfolio of programs.


WELCOME

ENERGY CONSERVATION and PROGRAMS at TACOMA POWER

Our programs provide information, education, rebates, grants, and zero-interest loans to help people manage energy and save money with better products and practices.

Business Case for Energy Conservation

The business case for energy programs is compelling. For the long term, energy programs help us meet future energy needs without acquiring additional power supply, offer people real financial savings, and help us meet regulatory requirements. Short term, energy programs benefit participants by reducing their electric bill, increasing their comfort, and improving productivity.

Load Resource Balance

The 2017 Integrated Resource Plan (IRP) sets the foundation for the business case underlying our 2020-2021 Customer Energy Programs Action Plan. The IRP establishes a resource strategy to ensure we can meet people's demand for electricity at a low cost with low risk. Through the IRP process, we identified energy conservation as the only energy resource we need to acquire for the next 20 *(Figure 2)*. Energy conservation is available today and costs less than other resources *(Figure 3)*.

Figure 2

Conservation is the only resource we need for the foreseeable future

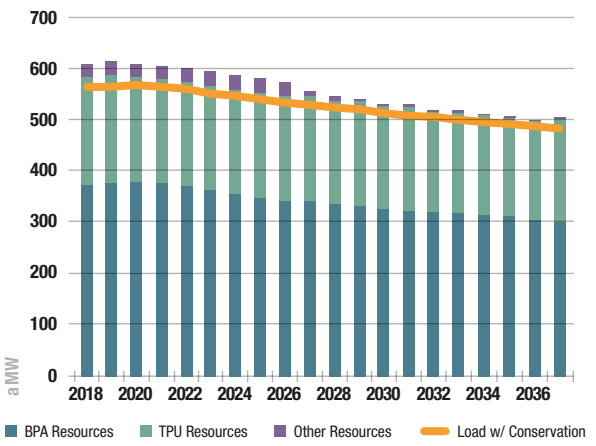
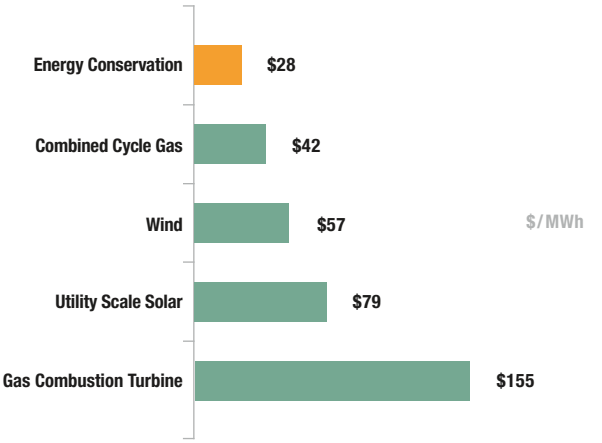


Figure 3

Energy conservation is our lowest cost resource



We expect these findings will remain in the next IRP, scheduled for completion at the end of 2020. Additionally, we expect the 2020 IRP will identify a need for future capacity due to a volatile and uncertain power market. The 2020 IRP will set the foundation for our next Customer Energy Programs Action Plan, but we anticipate mid plan adjustments to meet needs identified by the 2020 IRP.

Benefits

While energy programs reduce rate pressure in the long run, participants receive immediate financial savings and non-energy benefits, such as comfort, housing market value, safety, and improved worker productivity when engaging in our programs. The 2020-21 Customer Energy Programs Action Plan has a program for everyone in our service area. Residential customers can reduce their electricity costs as much as 30% by participating.

These benefits translate into a positive relationship with people and improving their satisfaction with us. Our internal customer surveys indicate people are aware of our energy programs are more satisfied with Tacoma Public Utilities than people who are unaware of our offers.

Environmental Stewardship

In addition to load resource balance and customer satisfaction, Tacoma Power feels a strong obligation to make the best use of our hydroelectric resources. Energy conserved through our conservation programs allows our hydroelectric resources to serve more customers. This continues our tradition of offering customers electricity that is almost entirely from clean, renewable hydroelectric resources.

Legislative Mandate

In 2006, Washington state voters voiced their desire for utilities to provide more energy conservation by passing Initiative 937, also known as the Washington Energy Independence Act (EIA). The rules codified under RCW 19.285, and WAC 194-37 govern the implementation of the EIA.

While primarily a renewable portfolio standard, the EIA requires utilities with 25,000 customers or more to "pursue all available conservation that is cost-effective, reliable, and feasible." To meet this standard, we must acquire a pro-rata share for two years of our 10-year energy conservation potential.

Policy for Energy Conservation Target and Budget Setting

Identifying the Energy Conservation Potential

Before setting a target or determining our budget, we must calculate how much energy conservation opportunity exists in our service territory. The Conservation Potential Assessment (CPA) calculates our potential by comparing savings from individual, efficient products to Tacoma Power's avoided cost of alternative power resources. The cost-effective potential takes into account the following variables:

Avoided Cost Variables

- Avoided BPA power purchases.
- Save line loss by transmitting less power over the grid.
- Sell the estimated value of generation capacity reserves to other utilities.
- Defer estimated value of transmission upgrades.
- Avoid Renewable Energy Credit (REC) purchases from lower loads.

Product Variables

- Initial product cost and lifetime maintenance costs.
- Product life expectancy.
- Patterns based on the time energy savings occur during the year.
- Quantifiable and monetizable benefits that result from installing the product.

Regulatory Variables

- 1980 Power Act gives energy conservation a 10% advantage when compared to generation resources.
- The estimated carbon content of our resource portfolio applied to carbon cost assumptions.

Target Setting

The EIA sets forth three requirements governing how Tacoma Power sets its energy conservation target.

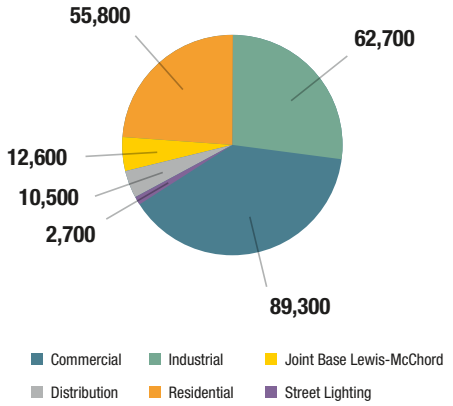
1. Total Resource Cost methodology must be used to set the target.
2. The target applies to the compliance biennium – not to individual years.
3. The target is a single savings amount – not a combination of the individual product, program, or sector targets.

We hired Applied Energy Group (AEG) to conduct our 2019 CPA. The AEG examined more than 7,000 unique energy conservation products using methodology consistent with the Northwest Power and Conservation Council (NWPCC) as required by RCW 19.285. The CPA identified 688,000 MWh of technically achievable energy conservation we could acquire in our service area between the years 2020-2029 without regard to costs.

The IRP defines our avoidance of cost for new marginal resources. The sum of all products from our energy conservation potential that cost less than marginal resources becomes the savings target for the biennium. The CPA identified 233,660 MWh of achievable economic energy conservation in our service territory during 2020-2029.

Our two-year energy conservation target is 46,732 MWh. The target is a pro-rata share of the 2020-2029 achievable economic potential and presented and adopted by the Public Utility Board on October 9 (Resolution U-11107).

Breakout of 2020-2029 economic achievable energy conservation potential by sector



Reporting Accomplishments

As required by the Washington state statute, we report energy conservation accomplishments to the Washington State Department of Commerce. We document and report the acquired energy conservation savings using BPA's IS 2.0 reporting system. The BPA uses "Unit Energy Savings" values and protocols based on information from the Regional Technical Forum (RTF). The RTF is a technical advisory committee to the Northwest Power, and Conservation Council established in 1999 to develop standards for verifying and evaluating energy savings.

Mitigating Portfolio Risk

Not meeting our EIA target is not an option. To ensure we meet the EIA target, we set program goals and budgets to achieve more than our regulatory target. Exceeding our program goals benefits customers by acquiring low-cost resources. Additionally, excess savings above our target may be used to meet future targets. Planned energy savings beyond our target is a risk management strategy, not a commitment to do more energy conservation.

The 2020-2021 Customer Energy Programs Action Plan aligns with the state's EIA reporting biennium. However, our 2019-2020 budget follows the City of Tacoma's biennial budget cycles. The plan supports an accurate planning process and provides robust risk mitigation, but somewhat constrains 2020 activity to our approved 2019-2020 budget. References to 2021 expenditures and budget allocations are estimates. The actual budget will require Public Utility Board approval.

Our most serious budget risk is overspending our incentive budget.

- Large commercial and industrial projects can receive incentives over $1 million and have lead times up to several years with uncertain completion schedules; when these projects shift into a different budget biennium, it can cause significant budget pressure.
- Despite our market knowledge and the use of good research, it is difficult to predict which efficient products will be popular and when new technologies will be available in the market. Some are very popular, while others do not attract much customer attention.
- Regional and local economic drivers beyond our control may drive participation above (or below) planned levels. Economic trends are a critical driver in how much companies are willing to invest in energy efficiency and how much new construction they build.

To manage these risks, we maintain a monthly budget reservation system. The system ensures we do not promise funds to more than one business by tracking multiple large commercial projects, as well as forecasts for small projects, to ensure we are not overcommitting funds. If the budget reservation system indicates we could overspend, we respond by ramping programs down, reducing incentives, or asking for additional funds before depleting our budget.

Sensitivity Analysis

We use a Monte Carlo approach in budget planning. It models multiple program outcomes across the portfolio to ensure planned acquisitions and budgets are adequate to meet regulatory and load/resource needs. This model uses assumption ranges based on program history and staff knowledge to inform 10,000 model runs that predict market outcomes. Figure 4 illustrates the probability of outcomes given program variability for 10,000 combinations of program performance factors.

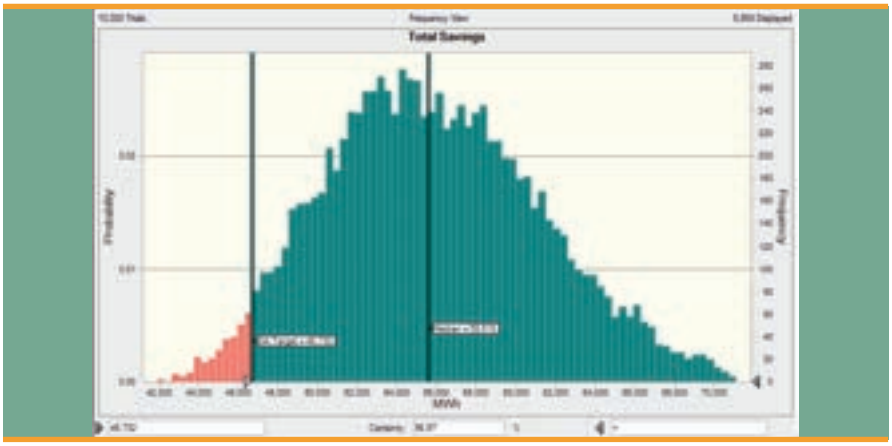


Figure 4 — Probability of Outcomes Given Program Variability

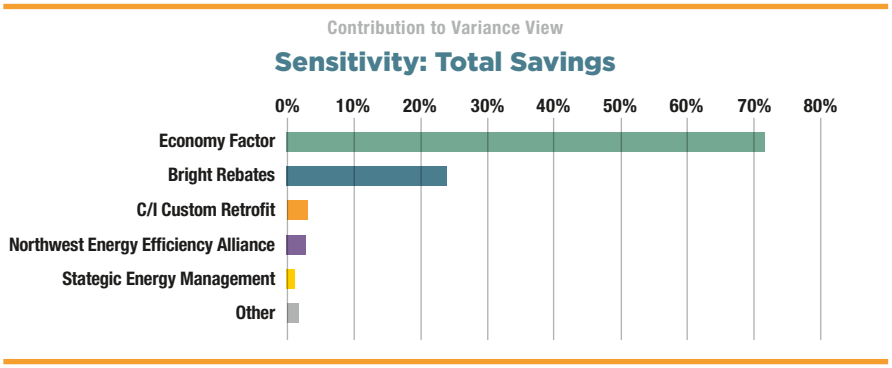


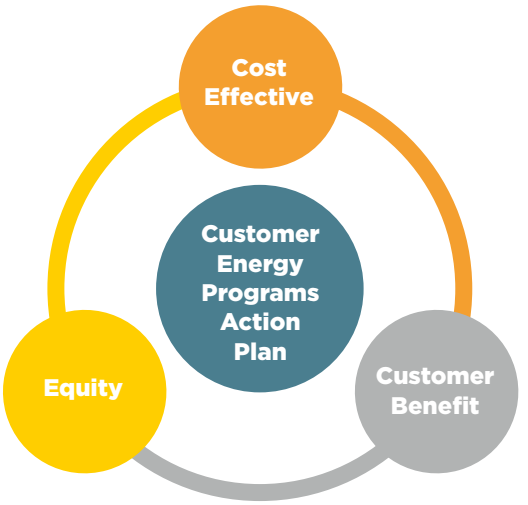
Figure 5 — Programs with Highest Variability

Figure 4 shows our portfolio met or exceeded the target in over 96% of all model runs. Based on this analysis, absent a radical policy or market changes, CEP is confident its portfolio will meet Tacoma Power's acquisition needs. Figure 5 shows programs in our portfolio that have the most significant variability. Our portfolio's greatest sensitivity is general economic factors, followed by Bright Rebates program performance. Variability from other programs is modeled to have less than a 1% impact on meeting the savings target.

Building the Energy Programs Portfolio

CEP considers three key principles in designing the energy programs portfolio:

Developing a robust portfolio requires balancing costs, fairness, and customer needs. To address this need, we balance three key principles when designing the energy programs portfolio:



1. Programs must be cost effective.
   - Acquire cost-effective resources.
   - Plan to exceed the EIA target.
   - Use correct program and product assumptions.
2. Programs must benefit customers.
   - People value our products and services.
   - Incentives are appropriate to drive participation.
3. Programs must equitably distribute spending among rate classes
   - All ratepayers should have an opportunity to participate in energy programs.
   - Additional effort must be made to engage low-income and hard-to-reach customers.

At times, some of these considerations conflict. We strive to create a portfolio that addresses all of these design principles in a reasonable balance to serve people at the lowest cost.

Program must be cost effective

Acquire cost-effective resources

We evaluate cost-effectiveness using the same time-differentiated cost curves used by the CPA. While the Total Resource Cost Test (TRC) alone sets the EIA target, we use the TRC, Utility Cost Test (UCT), and Participant Test (PT) to admit programs into the portfolio. "Cost-effective" programs must have a TRC or UCT benefit-to-cost ratio greater than 1.0.

- Total Resource Cost (TRC): Assesses if a product is good service territory investment, comparing the value of lifetime benefits to the product cost. The TRC test is indifferent to who pays or benefits and utilizes lifetime energy and capacity benefits, full product cost, and program implementation costs.

Additionally, TRC considers monetizable non-energy benefits (NEBs), giving them equal weight as the value of energy benefits. We express the TRC as a benefit-to-cost ratio, known as the TRC B/C ratio.

TOTAL RESOURCE COST	
ADVANTAGES	**DISADVANTAGES**
■ Recognizes utilities need to serve the public at large ■ Limits impact of free riders	■ Ignores non-monitized non-energy benefits that are often critical to market acceptance ■ Does not accurately compare utility costs with supply side alternatives

- Utility Cost Test (UTC): Assesses if a product is good utility investment, comparing the value of lifetime benefits utility to program cost. The UCT focuses exclusively on Tacoma Power energy and capacity benefits and Tacoma Power program implementation costs. The UCT does not consider customer non-energy benefits. We express the UCT as a benefit-to-cost ratio, known as the UCT B/C Ratio and in terms of $/MWh cost for comparison to supply-side resources. It's important to note that for a public utility, benefits to the utility contribute to lower rates.

UTILITY COST TEST	
ADVANTAGES	**DISADVANTAGES**
■ Accurately compares utility costs with supply side alternatives ■ Allows the utility to promote products desired by customers ■ Focuses the utility on keeping costs low	■ Admits products and programs to the portfolio that may be only affordable by affluent customers ■ May encourage customers to purchase equipment that is not in their financial interest

- Participant Test (PT): Assesses if a product is a good customer investment, comparing the customer's lifetime bill savings to the out of pocket cost to purchase and install the product and quantifiable non-energy benefits. We express the PT in terms of simple payback – how long after installation, it takes the customer to recover their investment. Some programs offer compelling non-energy benefits such as comfort and productivity benefits; instead of attempting to monetize these benefits for our customers, we feel customer willingness to participate is the best gauge of this value. Because we allow customers to determine this value for themselves, we do not use the participant test as an economics screen, but as an important perspective to gauge if we should offer a program to them.

PARTICIPANT TEST	
ADVANTAGES	**DISADVANTAGES**
■ Accurately tests economic value to customer	■ Does not consider utility or public cost ■ Does a poor job of valuing non-energy benefits, which are often major drivers behind purchasing new equipment

Plan to exceed the EIA target

The law does not prescribe a specific portfolio mix or sector balance. Our Customer Energy Programs Action Plan is a risk management tool — individual programs may under or over-perform due to the unpredictable nature of the market and people's interest. Additionally, some products in this plan are may never launch, while some not included might launch and become very successful over the two-year planning period.

Ensure program and product assumptions are correct

The Customer Energy Programs Action Plan uses hundreds of program and product-specific assumptions, including unit energy savings estimates and numbers of units delivered per year, to develop the portfolio. Planning provides us an opportunity to ensure these assumptions are up to date and correct.

We use professional judgment and staff consensus to choose the most reliable assumptions for our service area. For custom measures, where we use onsite characteristics to calculate energy savings, we plan using measure and program attributes from the most recent CPA. For "deemed measures," where we assume a single savings value based on general population characteristics, we use values from the Regional Technical Forum, the BPA, internal analysis, or external sources. Additionally, we incorporate how we expect people to react to future promotions and planned program changes. Finally, we check these assumptions against historical program performance.

Energy Programs Must Satisfy Customers

Simple financial incentives alone do not change the market by themselves. We compete for consumer dollars with other home improvement investments, such as granite countertops and stainless steel appliances. To be competitive, we must market programs to capture people's attention and motivate them to take action. We do this by implementing programs using the 4 Ps of marketing:

- Price—Reduce the cost of products by using a combination of rebates, grants, instant markdowns, and loans. Care is taken to avoid negatively influencing rates by keeping incentives at the right size and no larger than necessary to move the market.
- Product—Include products in our portfolio that delight customers. People don't forget products that fail to meet their expectations or are difficult or annoying to use. Promoting products that improve people's lives and make them feel good about their purchases will increase the success of future programs.

- Promotion—Talk with customers on their level to educate them on why they should participate. Residential marketing efforts promote home comfort, as well as lower energy costs. Commercial-Industrial programs promise and deliver reduced overhead costs, making companies more profitable and competitive.
- Place—Engage customers where they interact with the market by leveraging existing businesses that already serve them. We call them trade allies — third-party companies and contractors who design, sell, and install high-efficiency equipment and offer solutions that qualify for our programs. Working with qualified trade allies allows us to reach more people than we could do alone. They include businesses such as big-box retail, HVAC or weatherization contractors, engineering firms, lighting contractors, builders, and various types of consultants. With management oversight, the staff decides which trade ally channel(s) will be most effective.

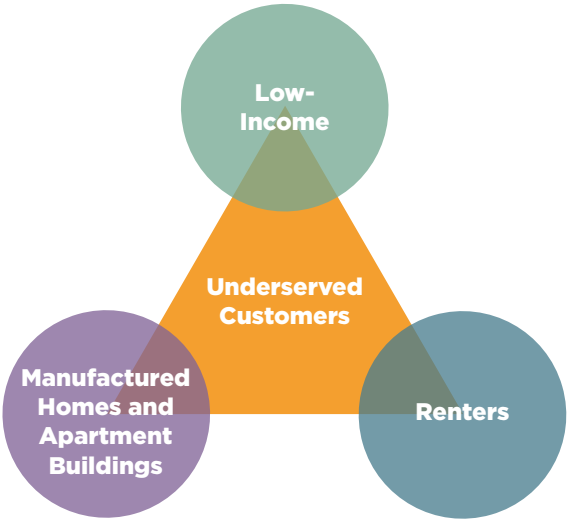
Distribution of Energy Program Spending Must be Equitable

We fund our energy conservation and other programs through power rates. Since all customers contribute, they should have access to our programs. While large commercial and industrial programs are the lowest cost, residential and small business customers have an equity stake in our programs. Many low-income customers pay a significant share of their household budget to heat older, poorly insulated homes. Providing energy programs helps customers lower their utility bills, which in turn supports their ability to pay their bills in the future.

In this Customer Energy Programs Action Plan, we apply an additional lens to focus on people from historically marginalized communities who may have difficulty accessing our programs. To better serve them, we are printing program materials in multiple languages, collaborating with community leaders to spread the word about our programs, meeting people in their neighborhoods at community events, and use tools to target diverse backgrounds.

Our plan focuses on three underserved groups for 2020-2021.

- Low-income homeowners who lack resources to make energy efficiency improvements to their homes: We help them by offering a zero interest-deferred loan in addition to our standard rebates. Deferred loans allow qualifying homeowners to install energy-efficient products today and defer loan payments until they sell, refinance, or occupancy of the home changes. We are also collaborating with local low-income agencies and programs to improve the energy efficiency of their clients' homes.



- **People living in rental housing** (from single-family homes to large apartment complexes) are unlikely to make energy efficiency improvements to homes they do not own, while landlords are unlikely to make investments that do not directly benefit them. We are tackling this issue from two directions by providing incentives to property owners to make efficiency improvements and working with the City of Tacoma to align with its Affordable Housing Action Strategy and require basic efficiency standards in rental properties. We plan to support this effort with additional marketing.
- People who do not live in single-family homes, specifically manufactured homes and apartment buildings, have limited energy efficiency options. These projects can be very expensive and yield little energy savings. We are collaborating with others to serve them better.

In addition to designing programs to reach people who face structural barriers to participation, we are working to ensure that historically marginalized communities, including people with limited English, people of color, people with disabilities, low-income communities, and others, have equitable access to our program information. We are planning additional marketing and outreach to people in areas with obstacles connected to upward mobility by using the City of Tacoma's Equity Index to guide tactical marketing and program decisions. The Equity Map *(Figure 6)* identifies areas of low opportunity in lighter colors[1].

Our goal is to acquire a proportional amount of energy savings from low and very low opportunity areas. To be proportional to the number of customers, about 40% of residential savings within the City of Tacoma should come from these areas. Historically our low-income and hard-to-reach programs have done a good job distributing conservation funds in areas equitably, with 43% of 2017-2018 residential energy savings coming from areas of low and very low opportunity. The integration of the tool allows us to improve coordination with the City of Tacoma and monitor outcomes as we adopt new program designs.

[1] *The Equity Index only covers customers in the City of Tacoma and does not address customers or equity issues outside the City of Tacoma.*

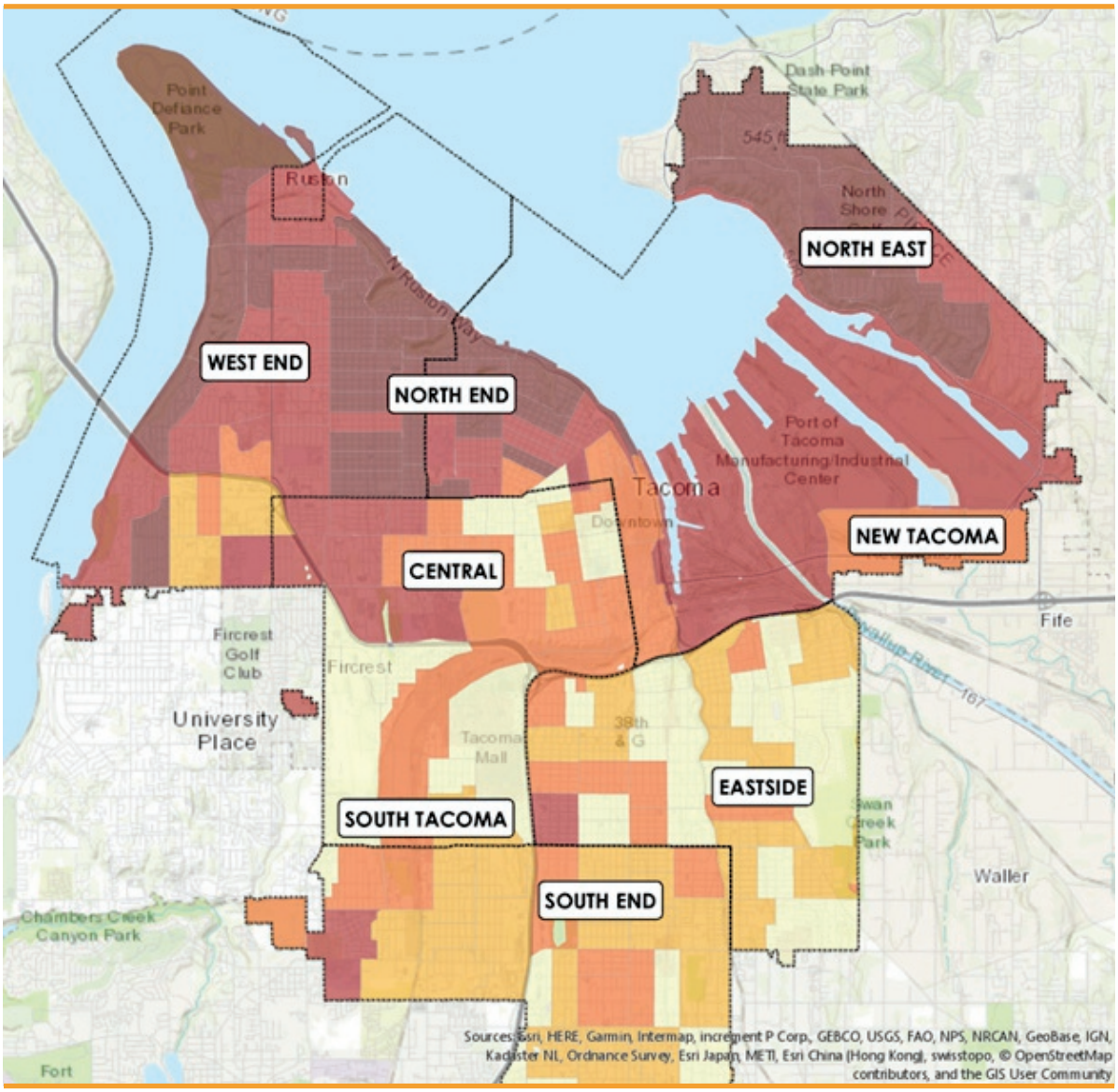


Figure 6—Equity Map

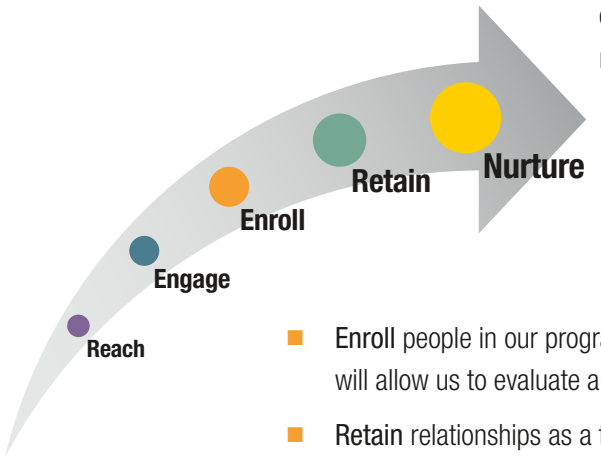
Customer Engagement Plan:

Engaging with our customers provides us an opportunity to hear directly from them about the challenges they face, the services they need, and the information they desire. Customer engagement allows us to tailor our messages to meet their needs. Depending on the customer's interests and needs, we can share the information they value.

We do not act alone in our engagement efforts but regularly collaborate with the TPU Public Affairs and Communications department for the latest research, outreach, and legislative support, help with messaging strategies, developing promotional materials, and placing media. We also coordinate with the TPU Customer Energy Solutions office to engage low-income customers and offer comprehensive programs.

Our portfolio of programs helps people make their homes more efficient and comfortable. Tacoma Power has some of the lowest rates in the country, and our power supply features a very low carbon footprint. Customer perception, however, does not always reflect what we know about our operations. Our strategy for reaching and engaging with customers is a vital component of how we build relationships and earn public trust as an organization. This strategy represents an overarching method to promote the entire portfolio of programs and general messages.

Our core mission is to build ongoing, positive relationships with people in our service area. We achieve this cycle using the following principles:



- **Reach** people where they are, which includes community events, group presentations, and marketing efforts.
- **Engage** with people by sharing information and building awareness through advertising, and creating accessible information through our webpage — guide people to our programs.
- **Enroll** people in our programs to interact with them and gain feedback that will allow us to evaluate and improve.
- **Retain** relationships as a trusted energy advisor. Build relationships as we help people save energy, support renewable energy, and benefit from program participation.
- **Nurture** relationships through ongoing support and follow-up.

Ultimately, our customers can become advocates for Tacoma Power and our programs from the positive experiences and support they receive. They look to us to be a trusted advisor for all their energy decisions and become part of the Reach phase as they share their experiences with family, friends, and neighbors. If successful, the cycle continues.

Future engagement plans

We will explore new and different ways to engage with people as they go about their daily activities and find new opportunities and venues to connect with those who are harder to reach in outlying areas of our service area territory, and low-income neighborhoods. We will engage with organizations that serve our customers, which results in benefits for their businesses, such as real estate agents and organizations geared toward making homeownership a reality for first-time homebuyers, and property management companies.

In addition to tailoring our conversations and filling knowledge gaps, people evaluate our services through an "emotional lens" and hold our employees in high regard. Direct customer engagement, face to face, and on the phone allow our utility to make a personal connection with customers through our employees and in turn, build an emotional connection that can result in customer loyalty and brand confidence and trust. There is no one-size-fits-all solution, and we will need to engage with various methods of customer-facing interactions to support and promote the programs and services we offer in the future. The efforts not only benefit our portfolio directly but the organization as a whole.

Energy Program Budgets

Currently, CEP has an approved 2019-2020 budget of $27,580,000. We expect a reduced budget in the 2021-2022 biennium due to lower targets. In addition to our budget, we use an estimated $1,405,000 of support for energy efficiency programs from workgroups outside of CEP, including TPU Communications and Energy Resource Planning and Evaluation. CEP also supports the work of Energy Research and Development pilots, safety at TPU, and ad-hoc projects.

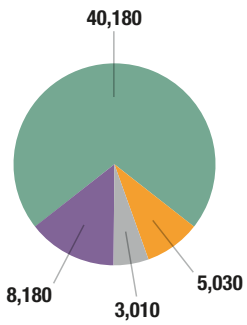
Program incentives paid to our customers are the largest expense category, accounting for approximately 55% of planned expenses. Labor to deliver energy conservation programs accounts for 22% of planned expenses, with general overhead accounting for the remaining 23% of planned energy conservation expenses.

Energy Conservation and Programs Portfolio

The Customer Energy Programs Action Plan will acquire 56,382 MWh of energy efficiency resources at the cost of $22,164,560 for the 2020-2021 biennium. *Table 1* provides a detailed economic analysis of proposed programs.

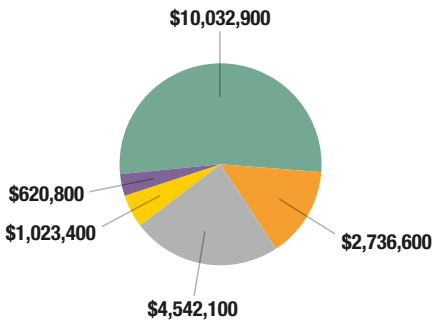
Table 1, following page

Planned Program Savings (MWh)



Business Efficiency · Home Efficiency · Low-Income and Hard to Reach Efficiency · External Efficiency Programs

Planned Program Expenses



Business Efficiency · Home Efficiency · Low-Income and Hard to Reach Efficiency · External Efficiency Programs · Green Energy Programs

Energy Efficiency Portfolio

PROGRAM / SECTOR	PLANNED SAVINGS MWh	TRC B/C RATIO	UCT B/C RATIO
All Energy Efficiency Programs	**56,400**	**1.06**	**1.41**
General Overhead			
Support from External Groups			
Business Efficiency	**40,180**	**1.62**	**1.71**
Bright Rebates	15,610	1.84	2.62
Custom Retrofit	8,710	1.22	1.36
New Construction	7,100	2.71	2.09
Strategic Energy Management	6,910	1.38	1.22
Equipment Rebates	1,850	1.21	1.40
C/I Non-Program Overhead			
Home Efficiency	**5,030**	**0.48**	**1.11**
Heating and Weatherization	3,110	0.42	1.48
Consumer Products	1,150	0.82	1.11
New Construction & Custom Projects	500	1.19	1.05
Quick Energy Savers	270	1.14	1.01
Res Non-Program Overhead			
Low-Income and Hard to Reach Efficiency	**3,010**	**0.48**	**1.11**
Oner Occupied Low-Income	1,450	0.45	1.00
Rental Housing and Apartment Buildings	900	0.57	1.28
Agency Partnerships	660	0.39	1.11
HTR Non-Program Overhead			
External Efficiency Programs	**8,180**	**1.46**	**2.92**
NEAA	7,800	1.40	2.90
Voltage Optimization	380	6.60	5.80

Green Energy Programs

PROGRAM / SECTOR	PLANNED PARTICIPANTS	PLANNED EXPENSES
Solar Net Metering	650	$55,000
Community Solar	990	$15,800
Evergreen Options	1,100	$394,000
Shade Trees	1,000	$85,000
Clean Building Standards	200	$71,000

*All numbers visually rounded

RESOURCE COST $ / MWh	PARTICIPANT PAYBACK	PLANNED INCENTIVES	PLANNED OVERHEAD
($27.68)		**$12,080,600**	**$10,085,140**
			$2,425,740
			$1,405,000
($22.90)		**$6,501,800**	**$3,531,100**
($14.89)	5 Years	$2,372,800	$835,800
($28.91)	3 Years	$2,161,400	$613,400
($18.84)	1 Year	$1,420,000	$361,200
($32.08)	1 Year	$178,300	$416,100
($27.93)	1 Year	$369,300	$115,500
			$1,189,100
($35.04)		**$1,276,100**	**$1,460,500**
($26.37)	18 Years	$703,100	$730,100
($34.34)	3 Years	$221,000	$181,900
($36.69)	1 Year	$270,000	$73,100
($37.33)		$82,000	$17,200
			$458,200
($35.39)		**$3,654,100**	**$888,000**
($39.00)		$2,889,100	$249,400
($30.97)		$425,400	$257,600
($34.48)		$339,600	$48,700
			$332,300
($13.11)		**$648,600**	**$374,800**
($13.29)		$633,600	$357,300
($6.58)		$15,000	$17,500

ADDITIONAL PROGRAM INFO
Pass through an estimated $2,600,000 of state incentives
Pass through an estimated $850,000 of state incentives
Plan to make funds available for two to four local renewable projects
Incentivize 4,600 trees
Build infanstructure to help customers comply with the Clean Building Act

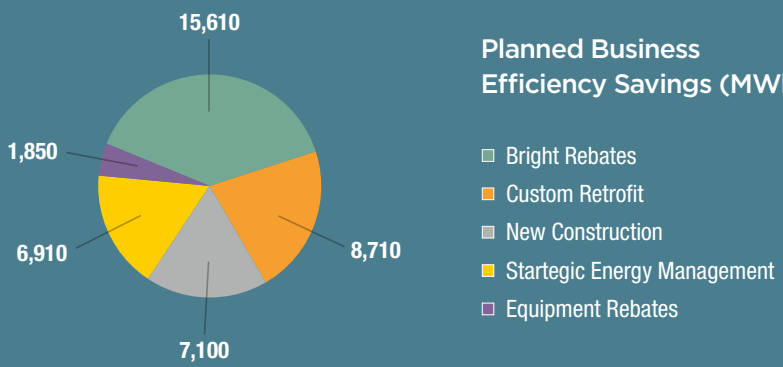

TACOMA POWER
TACOMA PUBLIC UTILITIES
3628 S. 35th St. | Tacoma WA 98409
Date 12-15-2016
Pay to the Order of FOSS WATERWAY SEAPORT $65,552
SIXTY FIVE THOUSAND FIVE HUNDRED and FIFTY TWO Dollars
For Energy-saving improvements
Conservation Resource Management
WORKING ON THE WATERFRONT

ENERGY CONSERVATION for BUSINESS CUSTOMERS

We serve a diverse group of over 18,000 businesses. Businesses range from large facilities like industrial plants, health care campuses, schools, and big-box retail, to small businesses such as restaurants, clothing stores, and nail salons. To meet the needs of businesses, we offer business owners a diverse set of programs to help them reduce costs by saving energy.

Our business programs focus on maximizing value by leveraging improved efficiency, customer benefits, and CEP's low-cost program delivery. The result is a win-win where business owners save money and enjoy better-performing facilities, and the utility fills future resource needs at a low cost.

New for the 2020-2021 program cycle is an emphasis on small and medium businesses. Several programs, including the Bright Rebates lighting program, will feature special offers targeting this group. These offers include increased incentives and streamlined participation opportunities.



Bright Rebates

ENERGY CONSERVATION FOR BUSINESS CUSTOMERS

$3,208,600
Planned Capital and O&M expenditures

$14.89 / MWh
Planned lifetime cost

15,610 MWh
Planned savings

2.62
Utility Benefit-Cost Ratio

Program Overview:

Efficient lighting is one of the best investments business owners can make to improve their bottom line. The newest LED technology is efficient, provides superior light, and requires less maintenance than fluorescent and metal halide technology. The combination of low cost, high-quality lighting solutions, and the ubiquity of lighting in all types of businesses, make Bright Rebates one of our most robust energy efficiency programs.

Measures include:

- Interior and exterior lighting
- Parking lot and street lighting
- Lighting controls

How Businesses Participate:

Businesses work directly with our lighting trade allies: electrical contractors, distributors, energy service companies (ESCOs), and manufacturers' representatives. Trade allies know what equipment will work best for their needs and assist them with program documentation. Alternatively, businesses may contact CEP or TPU account executives directly.

2020-2021 Planned Changes:

Market adoption of LED lighting products has increased significantly due to better technology and lower cost. In response, we will reduce incentives for commercial lighting in 2020, with an exception for small businesses, where penetration of lighting technology has lagged behind large commercial and industrial businesses.

Risks:

The Customer Energy Programs Action Plan assumes program participation will wane in the future because of lower incentives and successful market transformation. In 2017, the RTF modified its savings calculations to incorporate a duel baseline methodology for lighting retrofit projects. Its methodology reduces measure life based upon how old the existing equipment is. We do not feel this approach aligns with conditions observed in the field, with a frequent observation of lighting systems operating well past assumed measure lives. However, if BPA adopts this change, it could potentially strand low cost, cost-effective conservation resources.

Promotion Strategy:

We plan to leverage the recently passed Clean Buildings legislation to promote the Bright Rebates Program. To accomplish this, we will educate businesses on how commercial lighting will improve their buildings' performance and inform them how our incentives can reduce their compliance costs. Finally, our Strategic Energy Management (SEM) program feeds new projects from participants to the Bright Rebates program. Other marketing tactics to consider, include increased digital advertising, such as programmatic advertising and Facebook ads, which allow us to reach our target demographics and track results.

Incentives:

We pay up to $0.14 per kWh for Bright Rebates energy savings at large commercial and industrial businesses (rate Schedules G, HVG, and CP) and cap payment at 60% of project costs. To address the cost barriers faced by small businesses (Rate Schedule B), we will pay $0.20 per kWh with no payment cap. We removed the payment cap to encourage contractors to bid low and bring additional value to small businesses. The incentive for T-LEDs, regardless of business size, will be $2 per bulb.

Basis of Analysis:

Bright Rebates was analyzed using "average kWh." Three measures representing typical installations were used to analyze program cost-effectiveness. Measures were further divided into two groups to simulate rate class. Assumptions came from Tacoma Power's 2019 CPA, and the CEP C/I lighting staff reviewed them.

Custom Retrofit

ENERGY CONSERVATION FOR BUSINESS CUSTOMERS

$2,774,800
Planned Capital and O&M expenditures

$28.91 / MWh
Planned lifetime cost

8,710 MWh
Planned savings

1.36
Utility Benefit-Cost Ratio

Program Overview:

Building systems and processes are as complex and unique as our customer's businesses. The Custom Retrofit program provides a flexible platform to assess opportunities and identify options. The program works for a variety of projects, ranging from complex industrial retrofits to relatively simple HVAC projects.

Measures include:

- Compressed air systems
- Heating, ventilation, and air conditioning (HVAC)
- Motors, pumps, fans, and their associated controls
- Industrial process
- Measures not covered by other programs

How Businesses Participate:

Businesses work through trade allies and our conservation engineers. The CEP engineers' estimate energy savings, ensure projects meet the utility's cost-effective standards and conduct measurement and verification (M&V) to ensure we realize energy savings. We leverage BPA's EnergySmart Industrial Program to provide additional technical support and M&V assistance on large or complex industrial projects, providing additional value to our customers.

2020-2021 Planned Changes:

To better align our program outcomes with utility peak demand needs, we are increasing HVAC incentives to $0.30 per kWh. We will promote the incentive increase through new marketing materials that highlight HVAC measures.

Risks:

CEP has completed many large projects, reducing the potential pool of remaining projects. As the pool of remaining large projects become smaller, we will need to meet savings targets by increasing the number of small projects. Additionally, Custom Retrofit projects are at a greater risk of having savings reduced by an external BPA or state audit than other projects. As with all analyses of this nature, analysis is subject to some interpretation. This risk is greater for Custom Retrofit because of the inherent complexity of the systems involved and the unique nature of each project.

Promotion Strategy:

Our Strategic Energy Management (SEM) program feeds new projects from participants to the Custom Retrofit program. Additionally, we plan to leverage the recently passed Clean Buildings legislation to promote the Custom Retrofit Program. To accomplish this, we will educate businesses about how equipment upgrades can improve their building's performance and inform them how our incentives can reduce their compliance costs. Other marketing tactics to consider, include developing a marketing brochure and talking points for the TPU account executives to use when interacting with businesses.

Incentives:

The Custom Retrofit program pays $0.30 per kWh for commercial space heating and cooling measures and $0.23 per kWh for non-HVAC measures, up to 70% of the project cost. Additionally, we fund energy studies for complex projects. Study incentives are typically limited to 50% of study costs, and a qualified engineering firm must perform them.

Basis of Analysis:

The Custom Retrofit program was analyzed on a per kWh basis using five broad categories representing typical end uses: HVAC, Motors, Processes, Refrigeration, and Water Heating. Assumptions came from Tacoma Power's 2019 CPA, and the CEP C/I engineering staff reviewed them.

New Construction

ENERGY CONSERVATION FOR BUSINESS CUSTOMERS

$1,781,200
Planned Capital and O&M expenditures

$18.84 / MWh
Planned lifetime cost

7,100 MWh
Planned savings

2.09
Utility Benefit-Cost Ratio

Program Overview:

Construction in Tacoma is booming, especially in its downtown core. A recent study by the Heartland Institute estimates between 2,613,000 ft^2 and 3,518,000 ft^2 of new construction in its Downtown, Hilltop, and Stadium neighborhoods will occur over the next 10 years. New Construction projects include all new buildings, as well as major retrofits, where building use changes substantially.

Measures include:

- Lighting (interior and exterior)
- Heating, Ventilation, and Air Conditioning (HVAC)
- Industrial systems

How Businesses Participate:

Customers work through their architecture and engineering firms or direct relationships with our staff. Staff estimate energy savings, ensure projects meet cost-effective standards, and conduct Measurement and Verification (M&V) to ensure we realize energy savings and customer investments. New Construction program requirements are straightforward and flexible, allowing businesses to participate in all stages of design.

2020-2021 Planned Changes:

Washington state will implement a new energy code in July 2020. Projects permitted after this time will fall under the new code and may have lower incentives and claimed savings than projects permitted before July 2020. The latest code update has complicated the baseline definition by allowing customers to choose

from multiple options for compliance. We work internally to develop processes to standardize baseline definitions and to accurately determine energy savings.

Ensuring code compliance is one of the least expensive ways to meet future energy needs. CEP plans to partner with the City of Tacoma to become more involved in permitting and inspecting new buildings. Doing so will allow CEP to engage with customers early in the project and ensure projects meet the current energy code. Acquiring these resources are not only necessary for energy supply but avoid long term Transmission and Distribution (T&D) investment in the growing downtown core. Additionally, the New Construction team is planning to develop incentive packages specific to the growing multifamily and mixed-use segment.

Risks:

As codes become stricter, it is more difficult for our New Construction program to save energy. This challenge is especially true in multifamily and mixed-use buildings where the nature of the occupancy limits energy-efficient opportunities compared to other building types.

Promotion Strategy:

Community outreach will include working with the Master Builders Association and other community partners to promote the program. The TPU account executives and our trade allies will help identify projects and connect businesses to our energy experts. These efforts are critical to engaging businesses early in the process, which yields better results. Additionally, collaboration with the City of Tacoma's new green building specialist should help build external processes that support our programs. Other marketing tactics to consider, include the development of talking points that outline the features and benefits of the program for the Business Solutions department to use when new customers call to set up service.

Incentives:

We pay an incentive of $0.20/kWh (up to 100% of the incremental cost) for energy savings that exceed either the Washington State Energy Code or industry-standard practice for measures not regulated by code. The program also provides design incentives to engage businesses early in design.

Basis of Analysis:

The C/I New Construction program was analyzed on a per kWh basis using three broad categories representing typical end uses. Assumptions came from Tacoma Power's 2019 CPA, and the CEP C/I engineering staff reviewed them.

Strategic Energy Management

ENERGY CONSERVATION FOR BUSINESS CUSTOMERS

$594,400
Planned Capital and O&M expenditures

$32.08 / MWh
Planned lifetime cost

6,910 MWh
Planned savings

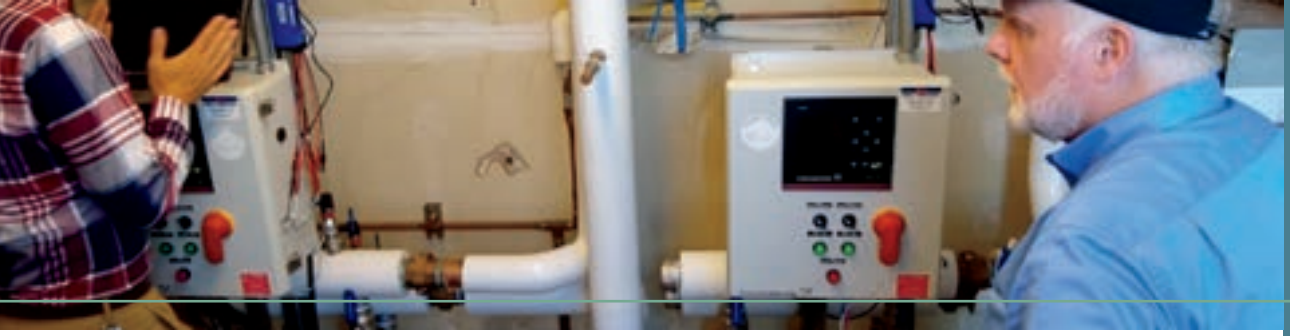
1.22
Utility Benefit-Cost Ratio

Program Overview:

Increasing efficiency by improving facility operation represents a tremendous opportunity for businesses to save money with fewer upfront costs. The Strategic Energy Management (SEM) program effort combines whole building metering, employee engagement, and rigorous analysis to maximize energy savings through improved operations and maintenance. Currently, we offer industrial SEM through BPA's Energy Smart Industrial program and are in the middle of a four-year Commercial SEM (C-SEM) pilot.

How Businesses Participate:

The TPU account executives work closely with CEP staff to identify and recruit businesses into SEM programs. Businesses must be a good fit, have internal organizational support for SEM effort and predictable energy use patterns that allow accurate baselining.



Risks:

SEM programs rely on ongoing business participation to realize savings. Participants may fail to engage employees in a manner that results in savings or drop out of SEM altogether. The program is at a particular risk to the disruption caused by staff turnover at participating facilities. Loss of or failure to appoint a key individual can counteract months of training. This risk is exasperated during times of economic downturn when businesses become more averse to trying new ideas and are looking to reallocate staff.

Promotion Strategy:

The holistic SEM approach provides a foundational basis for engaging with businesses on capital projects, feeding projects to the Bright Rebates, Customer Retrofit, and Equipment Rebates programs. Customer engagement through SEM is critical to fill the pipeline of large project.

Incentives:

SEM pays $0.03/kWh for operations and maintenance savings beyond a baseline energy model developed for each facility. The current program re-projects facility baselines every two years, encouraging customers to find deeper savings opportunities in subsequent years.

Basis of Analysis:

The program was analyzed on a per kWh basis using savings estimates provided by Tacoma Power's C/I engineering staff. Since savings are behavior-based, they are not tied to a specific end-use the same way other programs are analyzed. Measure life is assumed to be three years with depreciating savings after program engagement ends. We allocated a portion of our program cost relating to marketing and customer engagement to our C/I portfolio. This allocation addresses the marketing and promotion benefits of referring capital projects to other programs within the portfolio.

Equipment Rebates

ENERGY CONSERVATION FOR BUSINESS CUSTOMERS

$484,800
Planned Capital and O&M expenditures

$27.93 / MWh
Planned lifetime cost

1,850 MWh
Planned savings

1.40
Utility Benefit-Cost Ratio

Program Overview:

One common thread among the small and medium businesses is the challenge to make time to investigate and improve energy efficiency. The equipment rebates program meets this challenge by providing easy to understand incentives that are accessed when businesses make buying decisions.

Measures include:

- Engine block heaters
- Heating, ventilation, and air conditioning (HVAC) equipment upgrades
- Thermostats
- Office equipment
- Food preparation equipment (steamers, ovens, etc.)
- Grocery equipment (display cases, refrigeration upgrades, etc.)

How Businesses Participate:

Measures are packaged to align business needs with delivery channels (e.g., cooking equipment retailers promote cooking equipment; contractors promote HVAC equipment). Trade allies within these delivery channels provide education on efficient equipment and promote our incentives. Businesses buying equipment that meets or exceeds our specifications are eligible for an incentive. Even though the program targets small and medium businesses, all businesses may use our Equipment Rebates program.

Small Business Focus:

Equipment Rebates will be one pillar of our small business campaign that begins in 2020. We plan to expand its program by adding measures for standard projects. Adding measures will simplify program options for customers and streamline internal processes by requiring fewer calculations and intermediary steps. Reducing barriers in this manner is critical to increasing small business engagement.

Risks:

Simple rebates lack site-specific analysis of programs that use custom calculations, which increases the potential to over or underestimate savings for specific customers and ignore non-energy benefits promoted through custom analysis.

Promotion Strategy:

The Communications Office will pair this effort with our "There's a rebate for that" marketing campaign. Community outreach includes working with business organizations such as the Tacoma-Pierce County Chamber to host a lunch and learn seminar outlining our rebate programs to prospective clients. Additionally, we may consider digital ads in the Chamber's website directory.

Leveraging this platform creates a consistent message for small businesses that may also notice residential marketing. Offering programs in the appropriate channel encourages engagement with small and medium-size businesses that lack resources to focus on energy efficiency.

Incentives:

The Equipment Rebates program pays fixed incentives without complex energy calculations. This strategy makes the program easy to implement and accessible to small and medium-sized businesses. Incentives range between $0.03 per kWh and $0.30 per kWh, depending on product category and appropriateness to enticing businesses to participate without overpaying.

Basis of Analysis:

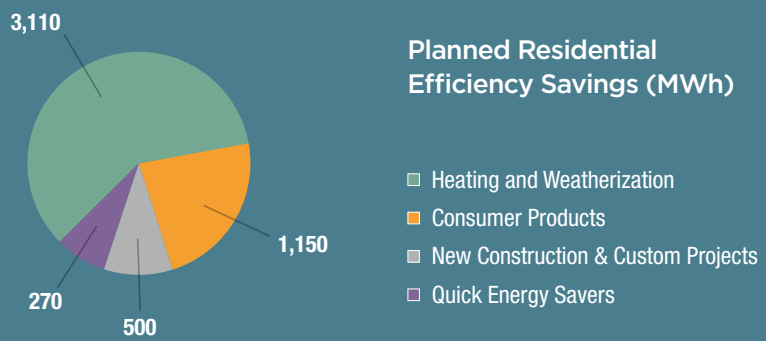
Equipment rebates were analyzed using "average kWh." Seven categories representing typical end uses were analyzed. Measure performance assumptions came from Tacoma Power's 2019 CPA, and the CEP C/I staff reviewed them.

ENERGY CONSERVATION for RESIDENTIAL CUSTOMERS

Our 157,000 residential customers have a variety of ways to participate in our energy efficiency programs, helping them to make their homes comfortable and save money on their electric bill. Also, our residential programs feature a special suite of offers that target hard to reach customers, including low-income, renters, and manufactured homeowners. These offers strive to increase participation among customer groups, traditionally underrepresented in energy efficiency programs.

To meet people's needs, we've organized our residential program by market channel, connecting our programs to people at the most opportune time during their energy efficiency journey.

Our residential program is shifting away from lighting measures that historically made up the bulk of residential energy savings, and shifting towards deeper energy savings by focusing on more complicated projects, such as weatherization, thermostats, heat pump water heaters, clothes washers, and dryers.



Weatherization and HVAC

ENERGY CONSERVATION FOR RESIDENTIAL CUSTOMERS

$1,433,200
Planned Capital and O&M expenditures

$26.37 / MWh
Planned lifetime cost

3,110 MWh
Planned savings

1.48
Utility Benefit-Cost Ratio

Program Overview:

Our program builds on a proud 40-year history of helping people improve the comfort and efficiency of their homes. The program covers a wide range of measures for electrically heated homes, offering options to improve insulation and windows, and increase the efficiency of their heating system.

Measures include:

- Attic, floor, and wall insulation
- Air sealing and pipe insulation
- Windows
- Ductless and central heat pumps
- Duct sealing

How Customers Participate:

Customers work directly with our weatherization and heating trade allies: windows and insulation contractors, HVAC contractors, and duct sealing specialists, allied with our program. Trade allies know our program requirements and can advise what measures work best for each person. People who use trade allies on our participating contractor list have the option of assigning their incentive directly to the trade ally and participating in our loan program, reducing their upfront out of pocket expenses.

2020-2021 Planned Changes:

Marginally cost-effective measures and low power prices required that we reduce our weatherization and HVAC incentives. We took this opportunity to repackage our offers into terms people more easily understand. Offers formerly described in terms of "$0.85/ft^2" are now described as "$500 to insulate your attic" and "$100 per window".

Risks:

Despite our efforts, many weatherization and heating system measures are only marginally cost-effective. These measures are highly susceptible to changes in deemed savings, with adjustments of less than 10%, causing several key measures to fail a TRC or UCT economic screen. Although we participate in regional discussions about deemed measure savings, the RTF decides to change the savings.

Promotion Strategy:

We will develop and deploy a comprehensive marketing and communications strategy that will include digital, print, outdoor, and direct mail tactics. All material created will feature refreshed branding and simplified incentive language. General awareness advertising will continue to be used, as well as an increase in targeted marketing. With the increase in data analytics available to us, we can target people who appear to have electric heating systems and high energy use. Finally, we invested a significant amount of time and effort to strengthen trade ally relationships, giving us additional partners to promote our programs.

Incentives:

Attic, wall, and floor insulation will be paid at $500 and covers an average of 30% to 40% of the project cost. We will replace single-pane windows at $100 per window / $400 per sliding door, and double pane windows at $50 per window / $200 per sliding door. These incentives should cover 10 to 20% of the project cost for most homes. Ductless heat pumps to be paid at $500 per home and central heat pumps at $1,000 per home, covering 10% to 15% of the typical project cost. Alternately, people who work with a participating trade ally are eligible for a seven-year, zero-interest loan to cover a significant portion of (if not all), their project cost[1].

Basis of Analysis:

We analyzed weatherization measures by creating an "average house" model. The model uses historic program accomplishments to create an "average house" with a specified ft^2 value for each measure. Assumptions changed further by applying a factor to weight HVAC type based on the regional building stock assessment. Savings assumptions for HVAC measures use a custom SEEM run created by the Regional Technical Forum. We weighted measure uptake by past program experience. Our residential staff reviewed assumptions about future performance.

[1] Total loan amount limited to what we expect for an average project.

Consumer Products

ENERGY CONSERVATION FOR RESIDENTIAL CUSTOMERS

$402,900
Planned Capital and O&M expenditures

$34.34 / MWh
Planned lifetime cost

1,150 MWh
Planned savings

1.11
Utility Benefit-Cost Ratio

Program Overview:

Every year, people buy thousands of products that use energy, ranging from light bulbs to water heaters. The Consumer Products program encourages people to choose efficient options by providing incentives to buy products that are more efficient than most commonly found in the marketplace.

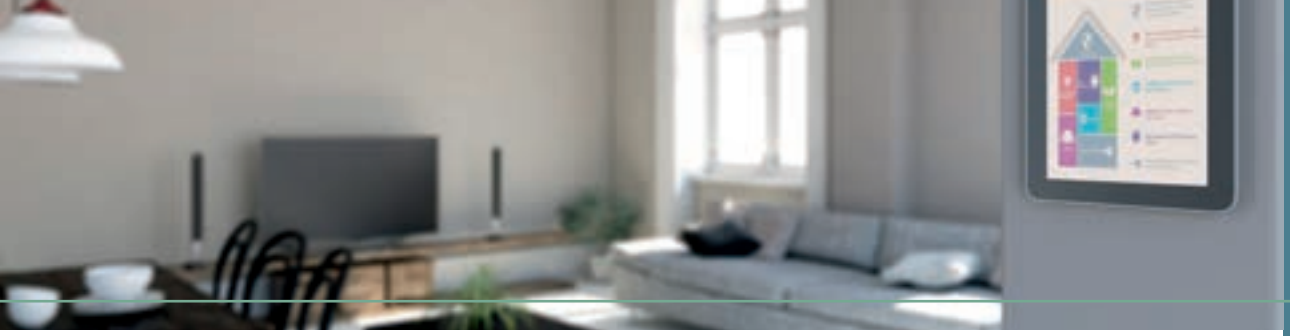
Measures include:

- Lightbulbs
- Web-enabled smart thermostats
- Clothes washers and dryers
- Heat pump water heaters
- Advanced smart power strips

How Customers Participate:

People purchase products in many ways. We need to give people multiple points of entry, allowing them to interact with our programs in ways that work for them. We are exploring in-store rebates where people receive an instant discount at the register and online rebate portals to pay them rebates after they buy.

Additionally, we are considering online stores, limited-time offers, and traditional mail-in rebates. We plan to pilot several options during the 2020-2021 program period and build upon successful experiences for the next program plan.



2020-2021 Planned Changes:

As discussed in the 2017-2018 Conservation Plan, a new set of lighting efficiency standards are effectively phasing out our past retail effort. Our new effort, the Consumer Products program, builds upon the success of the past program as it transitions our focus from the point of sale lighting rebates to appliance rebates. We must leverage an easy to use web-based rebate platform that minimizes implementation costs to be successful. There are several options under exploration, including the NEEA-facilitated regional program, partnerships with other regional public utilities, or a standalone Tacoma Power program. Once the new program is in place and viable, we plan to expand product categories and add retailers.

Risks:

The greatest challenge facing the new Consumer Products program is finding an easy to use, low cost, online rebate platform. This platform is necessary for us to implement the Consumer Products program. Additionally, the utility cost test limits our rebates; therefore, they will likely be small. It is unknown if the size of the rebates will attract or detract customer interest. The Consumer Products program is a pilot during the 2020-2021 planning period as we are uncertain whether the program will be cost-effective in the long run.

Promotion Strategy:

The campaign will leverage direct consumer marketing through various utility channels, web-based advertising, and in-store point of purchase displays to gain people's attention. When possible, we intend to use point of sale rebates to make participation as easy as possible.

Incentives:

Rebates for web-enabled thermostats, clothes washers, and clothes dryers are planned at $50 each, while heat pump water heaters are at $350 per water heater. We will offer some rebates on lighting during the early part of 2020, with incentives not to exceed $2 per bulb. Incentives are estimates and may change as we develop the program.

Basis of Analysis:

Web-enabled thermostats, clothes washers and dryers, heat pump water heaters, and lighting were analyzed using "average measures" assumptions. We informed average measure assumptions by prior program uptake and the Residential Building Stock Assessment. Additionally, we analyzed several generic measures per kWh to simulate unidentified new measures that we expect to add to our program. We will solidify the offer details as we identify the new measures.

New Construction and Custom Projects

ENERGY CONSERVATION FOR RESIDENTIAL CUSTOMERS

$343,100
Planned Capital and O&M expenditures

$36.69 / MWh
Planned lifetime cost

500 MWh
Planned savings

1.05
Utility Benefit-Cost Ratio

Program Overview:

In the summer of 2018, CEP piloted an effort to offer incentives based on modeled energy use for projects that did not qualify for our standard program offers. Building upon the lessons learned from this effort, we are rolling out a formal New Construction and Custom Projects program. The program targets new homes built above energy code, comprehensive home retrofits, and projects that address a unique deficiency in the home's shell. All homes must be electrically heated post-construction.

Measures include:

- Heating, ventilation, and air conditioning (HVAC) equipment
- Building shell repair or upgrade
- Appliances

How Customers Participate:

Businesses work directly with CEP, through their architecture firms, or a third-party energy rater. We estimate energy savings, ensure projects meet our cost-effective standards and conduct Measurement and Verification (M&V) to ensure we realize energy savings and customer investments.

Risks:

Washington state has one of the strictest energy codes in the country, making it difficult for new construction projects to acquire significant energy savings above code. Additionally, New Construction and Custom Projects are at a greater risk of having savings reduced by a BPA or state external audit than other projects. As with all analyses of this nature, analysis is subject to some interpretation.

Promotion Strategy:

We plan to leverage customer interest in new construction, including ADU and affordable housing projects. CEP will develop literature for interested customers that explains program requirements and incentives. We will accomplish most promotions by word of mouth and through outreach to contractors and architects. Additionally, we plan to leverage relationships with the permit departments (City of Tacoma, Pierce County, Tacoma Power) to identify projects in the early stages of construction when modifying plans is easier.

Incentives:

We incentivize New Construction projects at $0.70 per kWh, while we pay Custom Projects at $0.50 per kWh.

Basis of Analysis:

We analyzed our New Construction and Custom Projects programs on a per kWh basis based on the reduction of heating loads.

Quick Energy Savers

ENERGY CONSERVATION FOR RESIDENTIAL CUSTOMERS

$99,200
Planned Capital and O&M expenditures

$37.33 / MWh
Planned lifetime cost

270 MWh
Planned savings

1.01
Utility Benefit-Cost Ratio

Program Overview:

Numerous low-cost products can be given directly to people to help them start saving energy now. The program leverages low product cost and enthusiasm to build a good rapport with people, overcome product skepticism, and provides energy savings benefits to Tacoma Power.

Measures include:

- Light bulbs
- Showerheads
- Weather stripping and caulking

How People Participate:

We are active at community events and host pop-up events within neighborhoods we serve. These events provide an opportunity to educate people and distribute quick energy savers. We partner with low-income agencies and community advocates to reach low-income and hard-to-reach customers when they apply for assistance and interact with customers at the Energy Programs counter in the TPU lobby. Finally, we are exploring direct outreach efforts, such as direct mail or web-based signup.

2020-2021 Planned Changes:

Similar to our retail program, the Quick Energy Solutions program is transitioning away from lighting towards other products, such as weather stripping. It is unclear how this transition will affect the number and type of products we can give people.

Risks:

There are currently no RTF deemed savings values for weather-stripping or similar products. CEP will need to create agreed-upon savings numbers internally to go forward with this product line.

Promotion Strategy and Incentives:

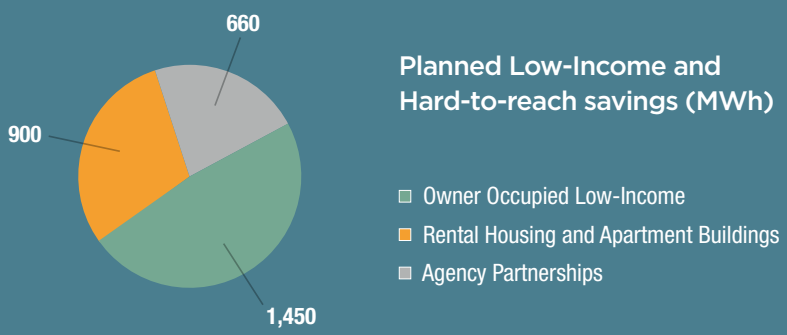
Products will continue to be distributed to customers at no charge at local community events, in the TPU lobby, and through community partners.

Basis of Analysis:

Lighting and showerheads were analyzed using deemed RTF values. We analyzed a generic weather-stripping measure using a per kWh methodology to determine if it would be a cost-effective product for people. We will solidify details as we identify new measures and add them to our offers.

ENERGY CONSERVATION for LOW-INCOME and HARD-to-REACH CUSTOMERS

Tacoma Power is proud to be a regional leader in serving low-income and hard to reach customers. To help those most in need, incentives will be above those offered in our standard heating and weatherization program. Our targeted offers help low-income customers living in their own homes, renters in single family homes, renters in two, three, and four plexes, large multifamily complexes, and those living in manufactured homes.



Low-Income Program

ENERGY CONSERVATION FOR LOW-INCOME AND HARD TO REACH CUSTOMERS

$3,138,500[1]
Planned Capital and O&M expenditures

$39.00 / MWh
Planned lifetime cost

1,450 MWh
Planned savings

1.00
Utility Benefit-Cost Ratio

[1] Includes funds required to make deferred loans. Economic analysis uses a cost of money calculations to determine the utility's cost of loaning money over 20 years.

Program Overview:

We offer one of the most comprehensive low-income programs in the state. We help our low-income customers by combining our standard rebate with a zero-interest deferred loan. This combination allows people to reduce bills now and pay for improvements through equity in their home when they either sell, refinance, or when occupancy changes.

Measures include:

- Attic, floor, and wall insulation
- Air sealing and pipe insulation
- Windows
- Ductless
- Duct sealing

How Customers Participate:

People must meet program income guidelines to be eligible for the deferred conservation loan. People who qualify contact trade allies who will provide bids on weatherization and heating projects and identify significant issues that could warrant custom analysis. Our trade allies assist people through the application process, assisting them with required project documentation and income verification. After we approve the project, the trade ally deducts the rebate and loan from the customer invoice, resulting in no out-of-pocket expense.

2020-2021 Planned Changes:

Cost-effective challenges from lower measures savings and a lower avoided cost required either scaling back the program to an insulation-only offer or modifying the program's incentive structure. In response to this challenge, we created a deferred loan program, which enables us to not only keep existing measures cost-effective but add ductless heat pumps and double pane windows into the mix, thus increasing participation opportunities.

Risks:

We have seen a significant decline in low-income weatherization projects 2016 – 2019. We attribute this decline to the removal of ductless heat pumps and double pane windows from our program, which was necessary to keep the program cost-effective. We hope adding these measures back into the program using a deferred loan will increase participation. However, the deferred loan is not without risk. At our estimated low-income spend rate, the current fund will be exhausted in 2022; policymakers will need to increase the loan fund each biennium for the foreseeable future to maintain solvency. Additionally, while loans have a historically low default rate (less than 1%), we may see an increase in defaults as deferred loans age.

Promotion Strategy:

We continue to seek opportunities to meet people as they go about their daily activities by adding pop up events at local Safeway stores with a TPU Pay Box, and participating in events organized by non-profit organizations that serve low-income customers with other services. For example, community resource fairs, food banks, and organizations offering free tax preparation services for low-income residents, and we will seek opportunities to partner with TPU Customer Solutions to present holistic solutions to people who struggle to pay their electric bill.

Incentives:

Our deferred loans and rebates should pay 100% of the upfront project cost for people who qualify. Insulation rebates cover about 50% of project cost (with the remainder of the deferred loan), while our deferred loan mostly covers ductless heat pumps and windows. All measures bring a net benefit to people and our utility by the time the measure reaches the end of its life.

Basis of Analysis:

We analyzed weatherization measures by creating an "average house" model. The model uses historic program accomplishments to create an "average house" with a specified ft^2 value for each measure. Assumptions changed further by applying a factor to weight HVAC type based on the regional building stock assessment. Savings assumptions for HVAC measures use a custom SEEM run created by the Regional Technical Forum. We modeled measure uptake by past program experience. Our residential staff reviewed assumptions about future performance.

Rental Housing and Apartment Buildings

ENERGY CONSERVATION FOR LOW-INCOME AND HARD TO REACH CUSTOMERS

$683,000
Planned Capital and O&M expenditures

$30.97 / MWh
Planned lifetime cost

900 MWh
Planned savings

1.28
Utility Benefit-Cost Ratio

Program Overview:

Improvements in rental housing efficiency benefits renters through lower utility bills and benefits property owners by improving the value of their property. Our rental housing and apartment building program is designed as an entry point to engage people in a variety of projects across CEP programs.

Measures include:

- Attic, floor, and wall insulation
- Air sealing and pipe insulation
- Windows
- Ductless and central heat pumps
- Duct sealing
- Common area lighting
- Common area HVAC

How Customers Participate:

Property owners work through trade allies and our conservation staff. The CEP staff act as project managers, connecting property owners to engineers, lighting specialists, and building science experts who ensure projects meet Tacoma Power's cost-effective standards.

2020-2021 Planned Changes:

Incentives have been reduced to maintain cost-effective standards and align with the streamlined owner-occupied weatherization and HVAC program where possible. Larger buildings with five or more units pay incentives based on the number of square feet insulated or square feet of windows upgraded.

Risks:

The efficiency industry has struggled since the 1970s to help renters because property owners do not receive the benefit of lower bills when they make energy-saving improvements, and renters do not make energy efficiency investments in buildings they do not own. Currently, due to lack of affordable housing, tenants are reluctant to ask property owners for improvements and concerned that improvements will increase their rents.

Promotion Strategy:

CEP will promote this program through active engagement with interested property owners. Once property owners participate and have a positive experience, they are more likely to continue engagement. Additionally, we are working with the City of Tacoma to engage reticent property owners through tougher codes and standards that set minimum levels of building performance for rental housing.

Incentives:

Incentives for buildings with less than five units mirror our standard rebates, while incentives for buildings with five units or more are calculated based on the building's square footage or square footage of replacement windows. Incentives are different between low-rise and high-rise buildings due to the differences between how heat escapes small vs. large building.

Basis of Analysis:

We analyzed weatherization measures by creating an "average house" model. The model uses historic program accomplishments to create an "average house" with a specified ft^2 value for each measure. Assumptions changed further by applying a factor to weight HVAC type based on the regional building stock assessment. Savings assumptions for HVAC measures use a custom SEEM run created by the Regional Technical Forum. We modeled measure uptake by past program experience. Our residential staff reviewed assumptions about future performance.

Agency Partnerships

ENERGY CONSERVATION FOR LOW-INCOME AND HARD TO REACH CUSTOMERS

$388,300
Planned Capital and O&M expenditures

$34.48 / MWh
Planned lifetime cost

660 MWh
Planned savings

1.11
Utility Benefit-Cost Ratio

Program Overview:

We look to increase engagement with hard-to-reach customers by collaborating with agencies that serve them. The intent of the program is not to pay 100% of the project cost, but to provide incentives to encourage low-income agencies and community programs to install energy-efficient products alongside the programs they currently offer. This program allows us to provide incentives for products that would usually fall outside our program, such as manufactured home efficiency projects.

Measures include:

- Attic, floor, and wall insulation
- Air sealing and pipe insulation
- Windows
- Ductless and central heat pumps
- Duct sealing
- Manufactured homes
- Heat pump water heaters

How Partners Participate:

We plan to sign a memorandum of understanding with our participating partners that outline participation requirements, energy efficiency incentives, and reporting requirements. Partners leverage our funds as appropriate to increase the value they bring to the people we serve.

Risks:

The program is new and untested. It is possible that agencies will be unwilling to collaborate with us, or they are unable to report completed projects in a manner that meets our Energy Independence Act reporting requirements. Additionally, we are unsure our proposed funding levels will make enough of an impact to encourage efficient projects.

Promotion Strategy:

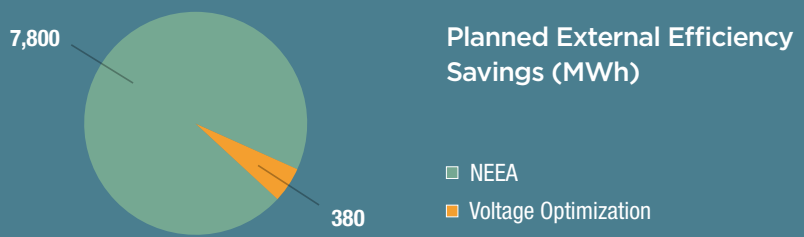
We promote the program through one-on-one contact with peers at low-income agencies and organizations that run programs that meet the energy needs of people who are hard to reach. Agencies are responsible for promoting their programs once they get funding from our utility.

Basis of Analysis:

We analyzed weatherization measures by creating an "average house" model. The model uses historic program accomplishments to create an "average house" with a specified ft^2 value for each measure. Assumptions changed further by applying a factor to weight HVAC type based on the regional building stock assessment. Savings assumptions for HVAC measures use a custom SEEM run created by the Regional Technical Forum. We modeled measure uptake by past program experience. Our residential staff reviewed assumptions about future performance. Our residential staff reviewed assumptions about future performance.

EXTERNAL
ENERGY CONSERVATION

CEP collaborates with external organizations and alliances, such as the Northwest Energy Efficiency Alliance, and other internal power utility departments, such as Transmission and Distribution, to deliver energy efficiency outside our traditional conservation programs. Other organizations implement these "programs," but we contribute funding or technical expertise and can claim savings they help create. External Energy Conservation represents our lowest-cost energy resources but provides less opportunity for us to work directly with the people we serve.



Northwest Energy Efficiency Alliance

$990,900
Planned Capital and O&M expenditures

$13.29 / MWh
Planned lifetime cost

7,800 MWh
Planned savings

2.90
Utility Benefit-Cost Ratio

Program Overview:

NEEA is a regional alliance of 16 direct funding Northwest utilities and energy efficiency organizations working on behalf of 13 million people. The Alliance serves our customers through upstream market transformation efforts using two strategies:

- NEEA helps to fill the energy efficiency pipeline with new products, services, and best practices. Through these efforts, NEEA facilitates manufacturers' delivery of new energy-efficient products to northwest utilities and people they serve. Past efforts have included better lighting, ductless heat pumps, and improved practices for business and industry.
- NEEA works to improve market practices that accelerate and sustain the adoption of emerging energy efficiency products, services, and practices. By nurturing the market and encouraging people to buy efficient products, NEEA gives people access to existing efficient products. Past efforts include working with retailers to encourage stocking practices that make efficient televisions the default choice.

Both strategies leverage regional collaboration and the pooling of regional resources and market risks. By coordinating northwest utilities who collectively serve 13-million people, NEEA has much greater influence than individual utilities working independently. Pooling resources allow NEEA and its funders to spread risk and costs over the region and a five-year planning cycle, which is key to long term market transformation. We could not have the same effect without its northwest partners and NEEA's coordination.

2020-2021 Planned Changes:

NEEA will enter the 6th planning cycle in 2020. The new planning cycle aligns NEEA's business activities with industry trends and the Northwest Power and Conservation Council's 7th power plan. The new business plan will cost us $50,000 per year less than the previous business plan.

Risks:

The savings achieved through the NEEA collaboration face significant year to year volatility depending on NEEA initiatives and a dramatic decrease mid-business cycle when baselines change due to an updated Northwest Power and Conservation Council power plan. Because of this volatility, CEP does not rely on NEEA savings to meet regulatory targets.

Implementation Strategy:

CEP actively participates in NEEA's governance structure, including NEEA's Board of Directors, the Regional Portfolio Advisory Committee, the Residential, Commercial, and Industrial Sector Advisory committees, and several ad-hoc workgroups. Participation ensures alignment with our goals, the best use of utility ratepayer funding, and compliance with state regulation.

Transmission and Distribution Voltage Optimization

$32,500
Planned Capital and O&M expenditures

$6.58 / MWh
Planned lifetime cost

380 MWh
Planned savings

5.80
Utility Benefit-Cost Ratio

Program Overview:

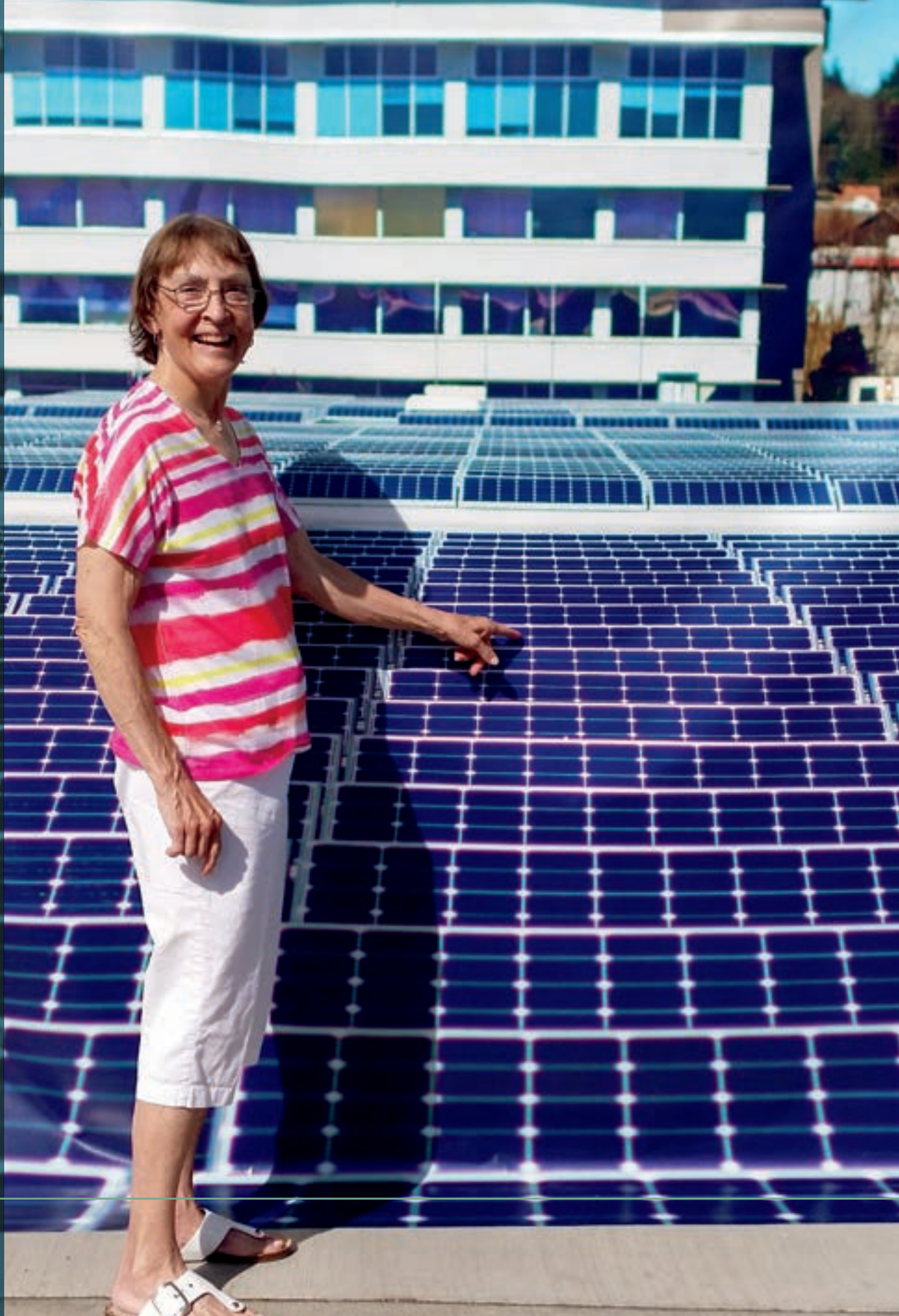
CEP partners with Tacoma Power's Transmission and Distribution (T&D) and the BPA's Energy Smart Utility Efficiency program to acquire energy savings from T&D project improvements. For this CEP Plan, T&D projects additional work in the voltage optimization area coordinated with planned substation improvements. Voltage optimization saves energy by regulating T&D voltage to end-users safely and most efficiently. Projects include changing voltage regulators, phase rebalance, and capacitors. T&D expects about three to four voltage optimization projects during this Energy Conservation and Program Plan period.

Risks:

VO projects are dependent on Tacoma Power's approved biennium capital funding and subject to T&D substation priorities.

Implementation Strategy:

T&D prioritizes substation enhancements and provide the BPA with substation date to confirm energy savings.



GREEN ENERGY PROGRAMS, ENERGY SERVICES, and ELECTRIC TRANSPORTATION

In the early 2000s, as the renewable energy industry expanded, many of our residential and business customers wanted to demonstrate their commitment to these new energy resources. To meet this need, we developed several programs to serve this market. In the past five years, we have expanded these programs to include a range of options to engage customers in renewable energy, energy information, and electric transportation. These programs provide benefits to us and engage with people and our community partners in new and exciting ways that help us continue to earn our reputation as a trusted energy provider.

Solar Net Metering

ENERGY CONSERVATION THROUGH RENEWABLE ENERGY

Program Overview:

An increasing number of homeowners and businesses are choosing to install solar photovoltaic (PV) arrays and connect them with the electric grid. Customers with rooftop solar are eligible for a net metering credit for electricity generated and delivered to the grid. In addition to net metering credit, customers with qualifying solar systems have access to the Washington state renewable energy production credit (when available) and federal income tax credits. We assist these customers with their applications and pay them incentives on behalf of the state. The utility recoups incentive payments through a reduction in state utility taxes.

How Customers Participate:

Most people work directly with solar contractors to install a grid interconnected net-metered solar photovoltaic array. Net metered solar arrays must be less than 100 kW and use the homes' primary utility meter to record the net use of utility electricity and their renewable systems' electricity. Systems larger than 100 kW cannot be net-metered but are interconnected to the utility grid after Tacoma Power approved the system utility and entered into a power purchase agreement.

People with Net Metering receive a bill credit for all electricity generated and exported back to the grid, paid at the utility's retail rate for electricity.

2020-2021 Planned Changes:

Funds established by the Washington State Legislature in 2017 during a revision of the state's Renewable Energy System Incentive Program (RESIP) were exhausted in early 2019. Customers with renewable energy systems certified under the program will continue to receive annual incentive payments for eight years or until the sum of the payments reaches 50% of the value paid for the renewable energy system. Customers with existing systems already receiving incentives under the state's Renewable Energy Cost Recovery Incentive Program will continue to receive incentive payments through June 30, 2020.

Risks:

Payments made under the Net Metering program will remain in place until the utility exceeds four percent of the 1996 peak load (41.7 MW). The current net-metered load is just over 3 MW. Based on current adoption rates, there is little risk that the load will exceed the payment cap.

Engagement Strategy:

CEP provides information about Solar Net Metering. We offer educational workshops and resources on our website, including WattPlan, a web-based solar estimator that helps customers make informed decisions about investing in solar.

$55,000
Planned expenses

$2,600,000
Estimated state incentives

650
Planned participants

Community Solar

ENERGY CONSERVATION THROUGH RENEWABLE ENERGY

Program Overview:

The cost of solar photovoltaics (PV) is at an all-time low. Coupled with federal and past state incentives, it has created significant interest in renewable energy systems. For customers that lack the resources to make a large upfront investment in a solar array or have a property that is ill-suited for a solar installation, participating in community-solar projects make their involvement possible.

In 2016 we constructed a 292 kW Community Solar project. People with interest in participating in the program bought solar units or small portions of the project that provide them with annual payments for the state production incentive and the value of solar electricity produced. Tacoma's Community Solar program runs through June of 2020.

How Customers Participate:

We pay customers based on the number of solar units they bought at the program launch. Because state production incentives end in 2020, participants will receive final payment for the state incentives for electrical production in 2019-2020 and a lump sum payment for the estimated value of solar for electricity generated between the years 2021-2036.

Engagement Strategy:

Participants will continue to receive annual updates until the program expires in 2020. We sold out of our Community Solar project; therefore, we will not continue to promote it.

$15,800
Planned expenses

$850,000
Estimated state incentives

990
Planned participants

Evergreen Options

ENERGY CONSERVATION THROUGH RENEWABLE ENERGY

Program Overview:

Evergreen Options is a green power program that offers interested people an opportunity to buy electricity produced from new, non-hydroelectric renewable sources to offset activities that impact their carbon footprint beyond their electricity use. People's contributions through this program are used to buy Renewable Energy Certificates (REC) and fund Tacoma Power's grant program for local renewable energy systems. Local non-profits, schools, and government agencies within our service territory can apply for a grant of up to $50,000 to build a locally sited renewable energy project.

How Customers Participate:

Customers may enroll in the program either online or by calling Tacoma Power. Customers have two options; buy all or a portion of their monthly electricity use at the cost of 1.2 cents per kilowatt-hour over normal electricity charges or buy 250-kilowatt-hour blocks of electricity for $3 per block. A minimum purchase of one $3 block per month is required.

2020-2021 Planned Changes:

We will offer two annual grants up to $50,000 to support the development of local renewable energy projects in 2020-2021. The grants encourage local schools, non-profits, and government agencies to submit proposals to build renewable energy projects at their facility within our service territory. If we receive more than two grant submissions, active Evergreen Options participants will vote for their favorite proposals. We will select winning proposals from the two with the highest number of votes. RECs generated by these projects help support the Evergreen Options program.

Risks:

Ongoing enrollment is necessary to support the energy grant program to prevent the grant program from exceeding available funding. In that event, staff will consider alternatives to the annual grant, including reducing the number of available grants or eliminating the grants.

Promotion Strategy:

In 2020 and 2021, we will focus on increasing Evergreen Options enrollment through social media posts and the promotion of new grant-funded local renewable energy projects. Communications will work to increase community awareness by highlighting our virtually carbon-free power portfolio and spotlighting participation as a means to offset carbon release in participants' lives apart from their electricity use. We plan to retain existing program participants by highlighting the local grant-funded projects and the positive impact these projects have on the community. Outreach to businesses will include guiding participants and grant award winners on ways to use the program as a marketing tool. We also plan to feature renewable energy suppliers who provide RECs to the program and highlight program benefits.

$394,000
Planned expenses

200,000
Planned grants

1,100
Planned participants

Shade Tree

ENERGY CONSERVATION THROUGH RENEWABLE ENERGY

Program Overview:

Shade from trees reduces our growing air conditioning load and mitigates the heat island effect often found in urban areas. To promote using trees to reduce cooling needs, we are collaborating with the City of Tacoma and Puyallup Watershed Initiative to encourage residents to plant deciduous trees on the south, southwest, and southeast portions of their properties. Additionally, Tacoma Power launched a Shade Tree pilot program in 2019, providing a $4,000 grant to buy and plant shade trees that will benefit people in low-income neighborhoods. The program piloted in the Hilltop neighborhood in 2019. If successful, it may expand to other neighborhoods in 2020-2021.

How Customers Participate:

Tacoma and Pierce County residents complete a tree coupon application online or over the phone working with the City of Tacoma, Department of Environmental Services' Office of Sustainability. Once their information is verified, they receive a coupon in the mail that is redeemable for $30 off each tree up to three trees at participating local nurseries. People also receive care and watering instructions and planting assistance as needed. For the 2019 Hilltop shade tree, pilot participants are eligible for one free shade tree and receive planting assistance through the Tacoma Tree Foundation.

2020-2021 Planned Changes:

Our 2019 program delivery is being evaluated, with changes being made to control program costs. Based on lessons learned, the collaborating agencies agreed to only receive tree coupons from the City's Office of Sustainability-Urban Forestry program, to limit the number of trees redeemable per coupon from five to three, and to cap the number of redeemable coupons. Additional changes will focus on increasing participation from customers within the utility's service territory and improving data collection with participating nurseries.

Risks:

The Shade Tree Coupon program is a long-term investment in managing our growing cooling load. For trees to survive and to us realize future energy savings, we must place the trees in our program in optimal locations and nurture them properly. Educating people is an important part of this program.

Promotion Strategy:

The City of Tacoma Environmental Services Department and Tacoma Power will promote the Shade Tree Coupon program on their websites, through social media, and utility bill inserts.

$85,000
Planned expenses

2,100
Planned participants

4,600
Trees planted

Clean Buildings

ENERGY CONSERVATION THROUGH RENEWABLE ENERGY

Program Overview:

In 2019 the Washington State Legislature passed the Clean Buildings Act (HB 1257), which established building energy performance standards for commercial buildings larger than 50,000 square feet. Building owners may be eligible for state incentives for meeting or exceeding the standards early, while building owners who fail to meet standards by 2028 may face state penalties.

The law is new, and many administrative rules are not in place. However, we see a clear role for producing educational material that helps people understand the law, proactive outreach, and engagement with customers. Additionally, we play a critical role in providing utility consumption information that allows people to manage their compliance and potentially qualify them for state incentives. Early and active engagement is necessary to continue earning our reputation as our customers' trusted energy advisor.

$71,000
Planned expenses

200
Planned participants

MyTPU.org/Rebates

TACOMA POWER
TACOMA PUBLIC UTILITIES