



**Better Buildings Residential Network Peer
Exchange Call Series: *Connect 4: Energy
Efficiency in Relation to Other Program and City
Goals (101)***

October 27, 2016

Call Slides and Discussion Summary

Agenda

- Agenda Review and Ground Rules
- Opening Polls
- Brief Residential Network Overview
- Featured Speakers
 - **Chris Castro**, Chief Sustainability Officer, City of Orlando
 - **Crystal Raymond**, Climate Change Strategic Advisor, Seattle City Light
- Discussion
 - Tell us about how your program or city is using energy efficiency to achieve other goals.
 - Does the city your program is located in (or connected to) have a GHG reduction goal? How does residential energy efficiency play a role?
 - Is your city assessing the residential building sector for vulnerabilities in the face of climate change? What are the vulnerabilities and opportunities?
 - Aside from climate goals, how can residential energy efficiency help cities meet other goals? These might include disaster preparedness, seismic retrofits, food waste reductions, and/or water conservation. Does your program have experience connecting to any of these areas?
 - What other questions do you have about connecting residential energy efficiency to other goals in addition to energy savings?
- Closing Poll and Upcoming Call Schedule

Better Buildings Residential Network

Better Buildings Residential Network: Connects energy efficiency programs and partners to share best practices and learn from one another to increase the number of homes that are energy efficient.

Membership: Open to organizations committed to accelerating the pace of home energy upgrades.

Benefits:

- Peer Exchange Calls 4x/month
- Tools, templates, & resources
- Recognition in media, materials
- Speaking opportunities
- Updates on latest trends
- Voluntary member initiatives
- Residential Program Solution Center guided tours

Commitment: Provide DOE with annual number of residential upgrades, and information about associated benefits.

For more information or to join, email bbresidentialnetwork@ee.doe.gov, or go to energy.gov/eere/bbrn and click Join

Meeting Climate Goals: City of Orlando



Green Works Orlando





Green Works Orlando



2013 COMMUNITY ACTION PLAN



ENERGY/GREEN BUILDINGS



FOOD SYSTEMS



GREEN ECONOMY



LIVABILITY



SOLID WASTE



TRANSPORTATION



WATER



FOCUS AREA: ENERGY & GREEN BUILDINGS



Citywide Energy-Efficiency Project

- ASHRAE Level II Energy Audits
- \$17.5 million municipal bond
- 110 Buildings Total
 - Phase I – 55 Buildings
- **Goal \$2.4 Million annual return**
 - Fund future EE investments
 - Pay down bond debt



Solar & Energy Loan Fund (SELF) Financing

What is SELF?

SELF is non-profit community lending organization that provides favorable financing for assorted home improvements that can help save money on operating costs (i.e., energy and insurance bills), increase equity and home value, improve hurricane resistance, and enhance comfort and livability.

Energy Expertise

An energy assessment is performed at the outset to help identify cost-effective home energy improvements. **SELF** then provides a follow-up consultation with homeowners to review the energy assessment and identify estimated energy savings for each type of improvement.

Project Management

SELF provides project management from start to finish to help homeowners make informed decisions about home improvements.

Favorable Financing

SELF offers low interest rate loans for assorted home improvements, including: **Energy Efficiency; Renewable Energy; Wind-Hazard Mitigation; and, Water Conservation.** Lending requirements are more flexible than banks, with no money down options.

Products for Home Improvements



Energy Efficiency

- ♦ Air conditioners
- ♦ Weatherization
- ♦ Windows and doors
- ♦ LED lights



Renewable Energy

- ♦ Solar water heaters
- ♦ Solar electric panels
- ♦ Solar attic fans



Wind Hazard Mitigation

- ♦ Hurricane Resistant Windows, Doors, Roofs and Shutters



Water Conservation

- ♦ Irrigation System
- ♦ Rainwater Cistern



How the Process Works!

1 Apply

With just a simple click you can get started! The Loan Application is available online at : www.SolarEnergyLoanFund.org

2 Learn

Learn how to maximize your energy savings by completing an energy assessment and consulting with our energy experts.

3 Close

Upon closing of your loan choose from our list of approved contractors at : www.SolarEnergyLoanFund.org/contractor

4 Enjoy!

Enjoy your new improvements, live and work in a clean and high quality environment, while saving money!



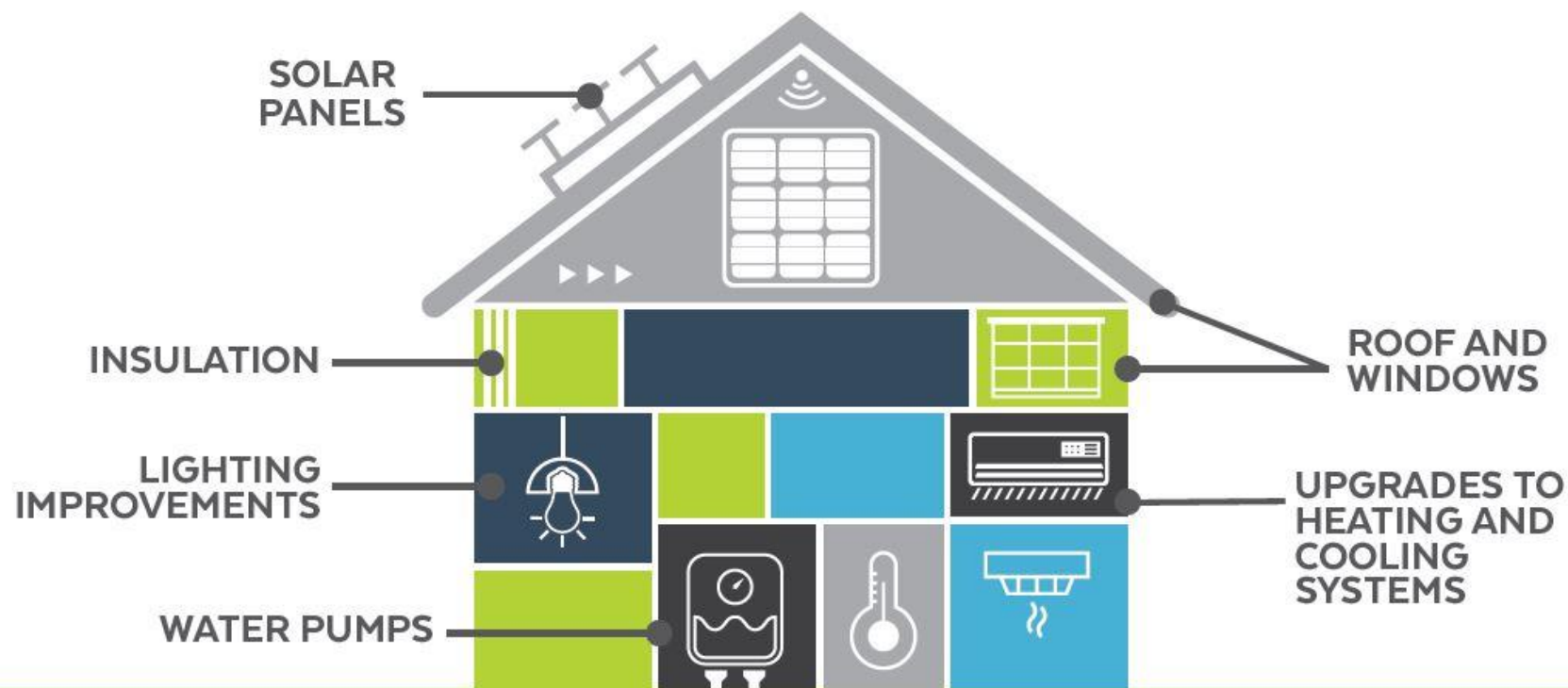
"The SELF residential loan program allowed for me and my son to be cool and comfortable in our home."
-Albert & Everelean Jackson



"The whole process was easier than I expected. I'm very happy with the SELF program and the staff is outstanding!"
-Barbara Grant

Small Business and Job Creation Property Assessed Clean Energy (PACE) Financing

EXAMPLE OF IMPROVEMENTS:



GREENWORKSORLANDO.COM/PACE

Orlando PACE Program approved!



Powered by
THE FLORIDA PACE FUNDING AGENCY

- Unanimously approved in April 2016
- Enabled 4 Third-party administrators / agencies
- Combined \$500 million in available capital
- Coming Fall 2016!
- <http://www.cityoforlando.net/greenworks/pace/>

Small Business and Job Creation OUC Efficiency Delivered Program



Efficiency Delivered® from The Reliable One

Efficiency Delivered® provides up to \$2,000 of energy and water efficiency upgrades in your home based on your needs. A conservation specialist from OUC—The *Reliable One* will determine which home improvements could save you the most money and then with your approval will arrange for a licensed contractor to do the work. You receive professional installation from a trusted source and save instantly with contributions from OUC.

You only pay for your share of the cost for the selected improvements. If you qualify, you may spread payments over an interest-free period of up to 12 months on your utility bill. See chart (on right) for contribution levels and income qualifications.



Household Income	OUC Contribution
Less than \$40,000	85% (not to exceed \$1,700)
\$40,001–\$60,000	50% (not to exceed \$1,000)
Greater than \$60,000	Rebates only

From the attic to the back door, Efficiency Delivered® provides money-saving home improvements:

- Attic insulation
- Caulking and weather stripping
- Water flow restrictors
- Hot water pipe insulation
- Window film installation
- Toilet replacement
- Irrigation repairs
- Duct leak repairs
- Minor plumbing repairs
- Air filter replacement



**CONVENIENT.
AFFORDABLE.
RELIABLE.**

Efficiency Delivered®.

Call 407-423-9018 for more information or to get started today!

www.ouc.com

OUC Convenient Lighting

- On-bill financed lighting upgrade to high efficiency LED's
- Provides complete outdoor lighting services for a wide spectrum of commercial applications
- Custom service package, allowing you to choose from dozens of fixture/pole combinations



Community Solar + Solar Aggregation Program

- Community Solar offsets consumption through virtual net metering



- Aggregation makes it easier for homeowners to put Solar Photovoltaic (PV) panels on their roofs.

—OUC purchases the panels in bulk to achieve economies of scale, which makes solar more affordable for our customers



Coming Soon: On-bill EV Charging Infrastructure



- \$200 rebate currently offered for Residential or Commercial
- Launching new “On-bill financed EV charger”
- End-user can (1) own charger, or (2) lease charger
- Includes O&M service from OUC



FOCUS AREA: LIVABILITY



The Benefits of Trees



REDUCE ENERGY COST

Trees planted in the right places around your home can reduce air conditioning needs by 30 percent.



REDUCE URBAN HEAT

The net cooling effect of a young healthy tree is equivalent to 10 room-sized air conditioners operating 20 hours a day.



CLEAN THE AIR

One acre of forest produces enough oxygen over a year for 18 people.



PROPERTY VALUE

A healthy, mature tree can add up to \$10,000 to your home's value.



HABITATS FOR WILDLIFE

Trees provide shelter, food and places for wildlife to raise their young.



REDUCE DRIVING SPEED

A study in downtown Toronto showed that crashes declined 5-20 percent on streets with trees or planters along them.



Green Works Goal: 40% Tree Canopy by 2040

Requires about 250,000 trees

#1person1tree

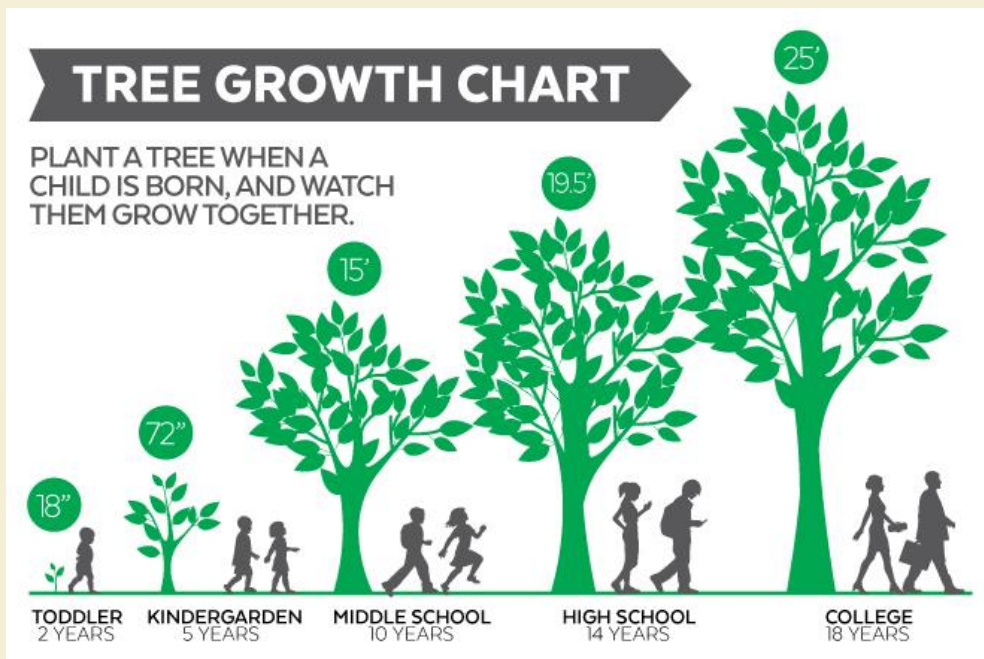


Trees for your Home

- Energy-Saving Trees
- Online platform
- Free 1 gallon trees to residents
- Shipped to front door
- Data tracking, organizing
- Planting events



Interested in sponsoring our program? Email onepersononetree@cityoforlando.net to find out more.



Place your trees (Step 3 of 4)

[Back](#)

[Checkout](#)

1



Norway Spruce
Picea abies

Est. savings
\$24.72 /yr

POOR | GOOD | IDEAL



Eastern Redbud



Norway Spruce

2



Red Maple
Acer rubrum

Est. savings
\$16.68 /yr

POOR | GOOD | IDEAL



Red Maple



River Birch

+ Add a tree that will not exceed your limit of 2 trees

S 27th St


S 28th St

1 \$24.72/yr

\$41.40/yr

2 \$16.68/yr

POWERED BY

 **Beehive**



&



Building Orlando's Urban Forest Together

Almost **2,000 trees**
planted by Energy
Saving Trees since
November 2016

Order Today!

[http://Arboday.org/
cityoforlando](http://Arboday.org/cityoforlando)



Green Works Orlando



Presentation Highlights: City of Orlando

- Renewable energy, specifically solar, benefit from the aggregation of efforts. **50-75 neighbors joining together can lower the cost per watt significantly to access solar** at a much lower cost than an individual household.
- Cities can **promote energy efficiency by providing low interest financing**. Orlando partners with SELF to provide low-interest, unsecured loans to homeowners with a credit score above 560.
- **Livability factors into Orlando's climate and sustainability goals**. Orlando is using trees to improve livability while achieving energy savings. The city is piloting a web-based platform where residents can select a tree, virtually place the tree on their property, and identify the energy bill savings potential.
- The City of Orlando has created **a competitive market for PACE by creating inter-local agreements** and combined \$500 million for both commercial and residential projects.
 - In the last eight months, the city has **provided \$125,000 to homeowners** with just one of their 4 PACE providers.

Adapting to a Changing Climate: Seattle City Light

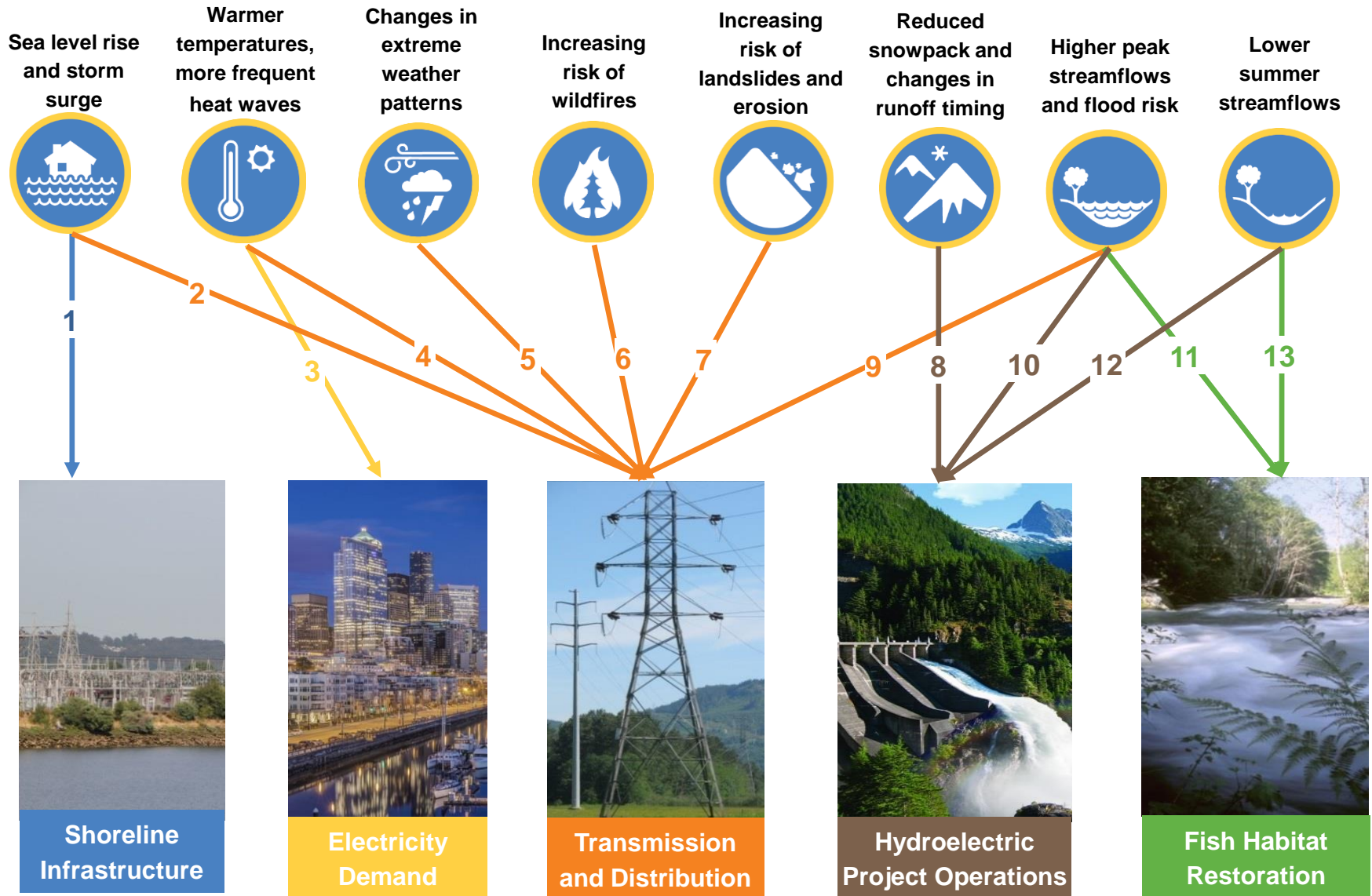


CO-BENEFITS: ENERGY EFFICIENCY AND ADAPTATION

Crystal Raymond, Climate Change
Strategic Advisor, Environmental
Affairs and Real Estate



Seattle City Light: Adaptation Plan Scope



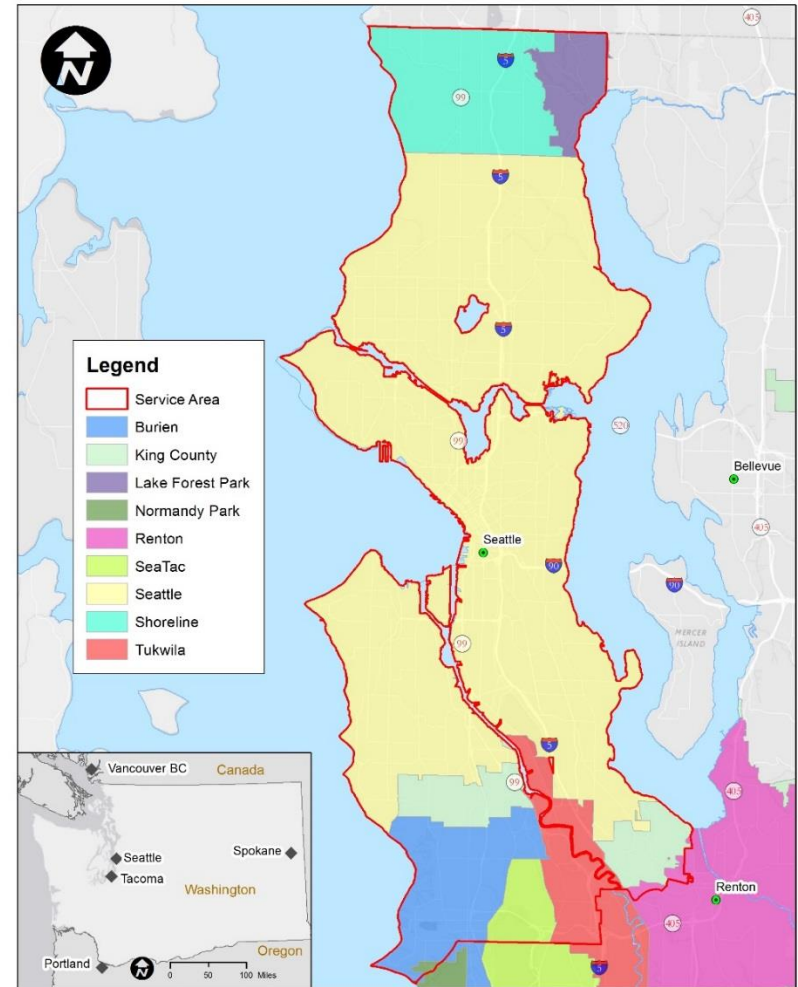
Electricity Demand: Key Climate Change Impacts



Higher electricity demand for cooling in summer could cause summer peaks to approach winter peaks in areas with high commercial loads



Lower electricity demand for heating in winter could reduce retail revenue with financial consequences for the utility



Electricity Demand: Adaptation Actions

- Support research to understand temperature effects on summer demand and residential air-conditioning use
- Model climate change impacts on 20-year demand forecast
- Identify and evaluate potential co-benefits of existing energy-efficiency programs to reduce electricity demand for cooling in summer, as well as for heating in winter



Energy Efficiency and Adaptation Co-Benefits

- Rebates for insulation and good windows
- Rebates for electric heat pumps
- Capacity to assist with electrifying the transportation system
- Community solar and distributed solar generation
- Co-benefits for vulnerable populations



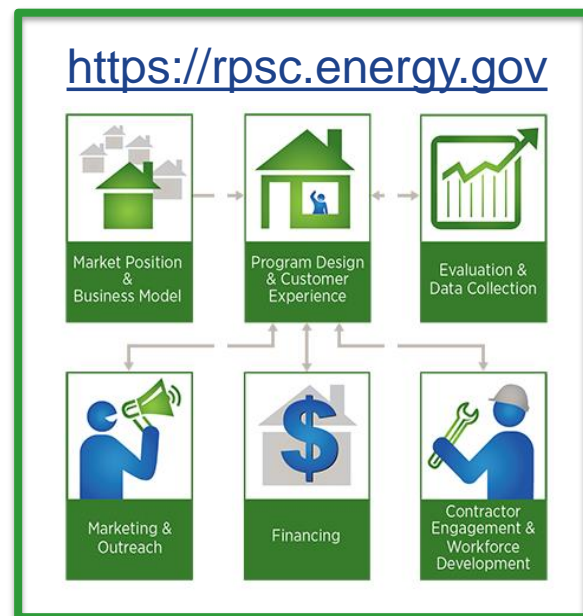
Presentation Highlights: Seattle City Light

- Climate change will affect communities across the country differently, and **utilities will encounter geographically-specific challenges.**
- **Impacts on Energy Demand:** The City of Seattle is a winter-peaking utility, meaning the city sees higher demand for energy to heat homes during the cold winter months compared to energy needed for cooling during the summer. Projections show that climate change will actually lead to energy savings in Seattle resulting from less energy needs during mild winters.
 - Less demand on the grid creates an opportunity for Seattle City Light to support the electrification of vehicles.
 - At present, 5% of Seattle residents have air conditioning. It's hard to forecast how AC use will impact energy demand with a changing climate since it depends on both increasing temperatures and resident behavior.
 - Home weatherization interventions (e.g. insulated windows) offer benefits for both seasons to keep homes warm in the winter and cool in the summer.
- **Impacts on Energy Generation:** Changes in streamflow with warmer temperatures could impact electrical generation from hydropower (e.g., more generation during wetter winters, and less during drier summers).
- **A changing climate will affect some populations more than others.** Energy efficiency and resiliency programs can play a real role in protecting disproportionately affected communities and vulnerable populations.

Related Resources in the Residential Program Solution Center

Explore resources related to energy efficiency in relation to other program and city goals:

- Read the case study [Spotlight on Seattle, Washington's Community Power Works](#) where the program engaged a network of partners to build on existing capacity and knowledge, extending the reach of its program.
- Explore the [Market Position & Business Model – Assess the Market](#) handbook for critical steps in determining the nature of current and potential demand for energy efficiency products and services in your community.
- Review the [Program Design & Customer Experience – Set Goals & Objectives](#) handbook to ensure that your goals reinforce the broader organizational mission and are both measurable and specific to your community's needs.



- While you're there, see the latest [Proven Practices](#) post on [Leveraging Partners to Provide Training and Develop a Skilled Workforce](#).
- The Solution Center is continually updated to support residential energy efficiency programs—[member ideas are wanted!](#)

Better Buildings Residential Network Toolkits

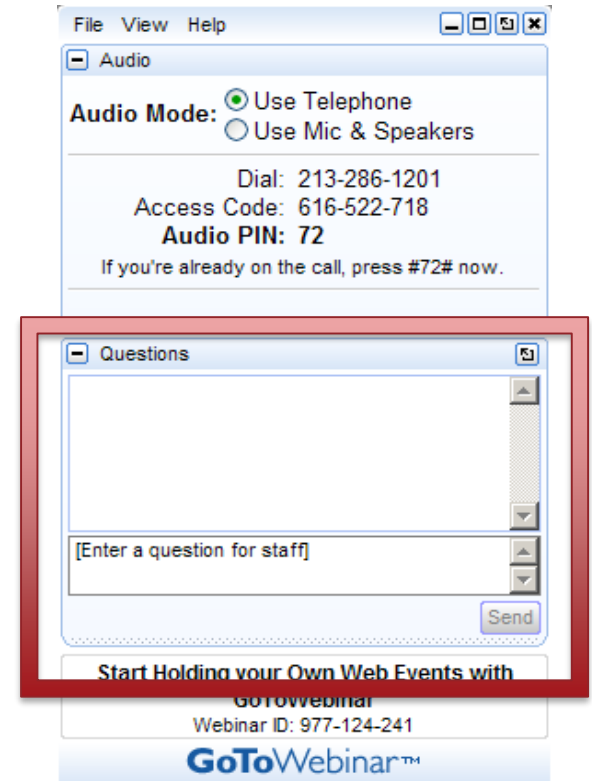
We need your input!

Currently, the network has four toolkits focused on training, social media, designing incentives, and partnerships.

Which additional topics would you like to see developed into Toolkits?

Are you interested in participating in the creation of a toolkit? Let us know!

peerexchange@rossstrategic.com



Please type a brief response in the questions box.

Peer Exchange Call Series

We hold one Peer Exchange call the first four Thursdays of each month from 1:00-2:30 pm ET

Calls cover a range of topics, including financing & revenue, data & evaluation, business partners, multifamily housing, and marketing & outreach for all stages of program development and implementation

Upcoming calls:

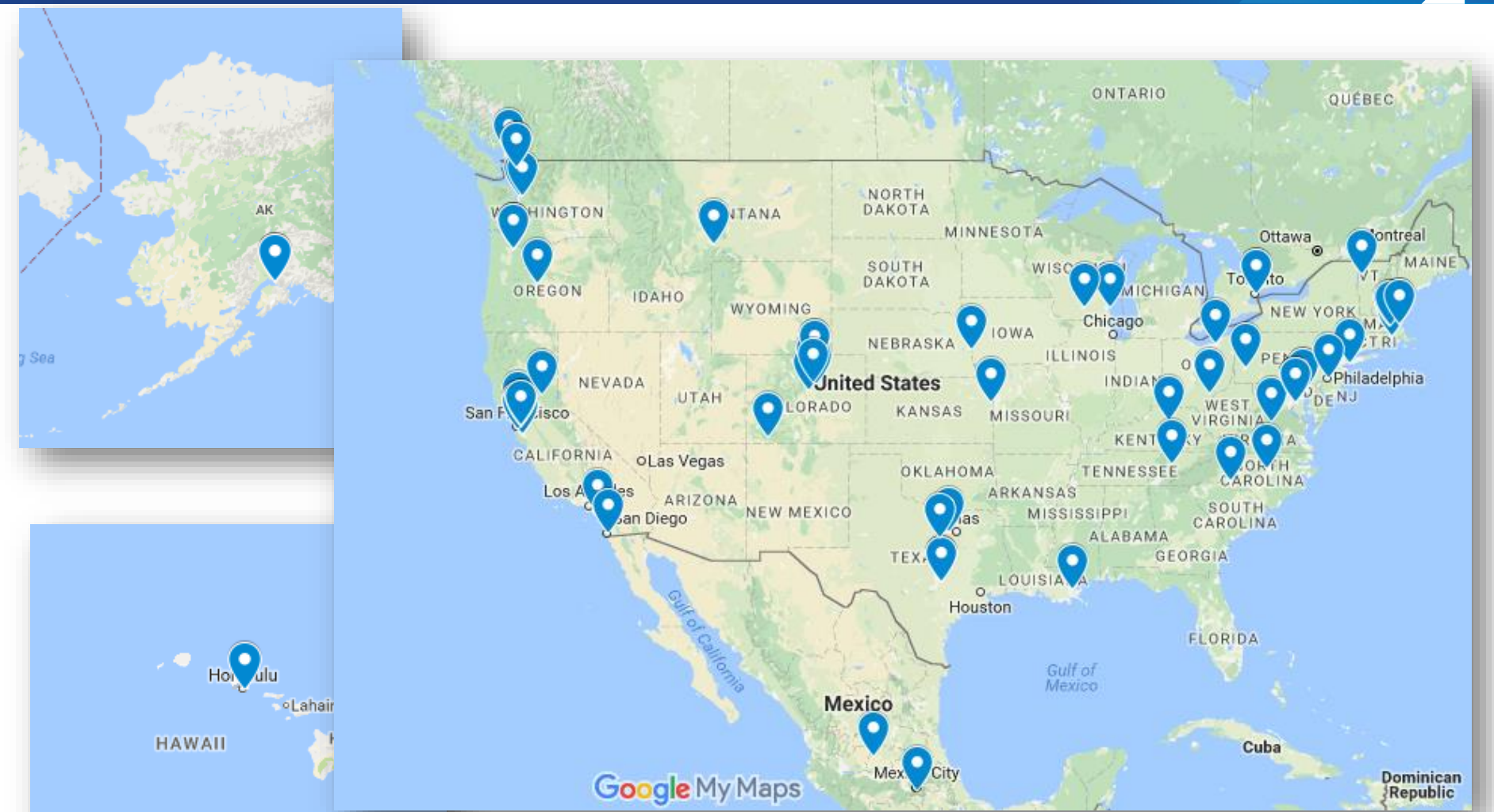
- November 17: Diversifying Funding Sources and Building New Revenue Streams (201)
- November 24: No Call – Thanksgiving
- December 1: America's Next Top Energy Model: Tools and Best Practices (101)
- December 8: Saving Energy in Manufactured Homes (301)

Send call topic ideas to peerexchange@rossstrategic.com

See the Better Buildings Residential Network Program [website](#) to register

Addenda: Attendee Information and Poll Results

Call Attendee Locations



Opening Poll #1

- Which of the following best describes your organization's experience with connecting the co-benefits of energy efficiency to other goals?
 - Some experience/familiarity – **46%**
 - Very experienced/familiar – **27%**
 - Limited experience/familiarity – **24%**
 - No experience/familiarity – **2%**
 - Not applicable – **0%**

Poll: Connecting the Dots on a Future Call

- Which of the following topics related to the co-benefits of residential energy efficiency would you be interested in hearing more about on a future peer exchange call?
 - Resiliency – **37%**
 - Other (please chat in) – **20%** (*economic development; health outcomes*)
 - Water conservation – **17%**
 - Disaster preparedness – **13%**
 - Food waste reduction – **13%**

Closing Poll

- After today's call, what will you do?
 - Seek out additional information on one or more of the ideas – **70%**
 - Make no changes to your current approach – **20%**
 - Consider implementing one or more of the ideas discussed – **10%**
 - Other (please explain) – **0%**