



SOLAR ENERGY IN SEATTLE

Seattle City Light Review Panel
October 2015



AGENDA

- Current SCL Solar Programs
- Market Data
- Upcoming State Legislation
- SCL Next Steps



CURRENT PROGRAMS



SCL SOLAR PROGRAMS



Customer Generation

Customers install solar photovoltaic (PV) systems on their own premises



Community Solar

Customers purchase units of larger solar projects and get shared benefits of net metering and state production incentives



Education and Outreach

CUSTOMER GENERATION

- Washington State Production Incentive
 - Incentives paid to solar PV owners for generation
 - SCL is reimbursed through a credit state business tax credit
- Net Metering
 - Compensates customers for the energy they generate at the retail rate using net metering.
 - Municipal code revised to increase available net metering capacity

CUSTOMER GENERATION

Description	Incentive Rate/kWh
Manufactured Outside of WA	\$0.15
Panel Manufactured in WA	\$0.18
Inverter Manufactured in WA	\$0.36
All Manufactured in WA	\$0.54

The majority of installations have made-in-WA systems, particularly in recent years

CUSTOMER GENERATION

- Number of PV Systems: 2037 (Aug. 2015)
- Capacity: 10.7 MW (Aug. 2015)
- Incentives paid in 2015: \$3,390,000

COMMUNITY SOLAR

- Program Design:
 - SCL builds
 - Customers “pay back”
 - Host site gets long-term benefit
- City Light has chosen to work with non-profit sites
- Hosts chosen for community & conservation orientation mission plus solar feasibility

COMMUNITY SOLAR

- Low Entry Cost:
 - Units cost \$150; each represents a 28 watt piece of the system
 - Customers buy from 1 – 125 units
 - Current State production incentives (\$1.08/kWh) and bill credits for the energy produced (about 7.5 cents/kWh) add up to \$1.16 per kilowatt-hour of electricity
 - Online enrollment system; charges divided into 2 equal payments across 2 bills

COMMUNITY SOLAR

JEFFERSON PARK

SOLD OUT-2012
23.K kW

City Light completed its first Community Solar project at Jefferson Park in the Beacon Hill neighborhood in 2012. Participants helped build three new picnic shelters with solar electric panels installed on the roofs.



PHINNEY RIDGE

SOLD OUT-12/11/2014
74.79 kW

The Phinney Ridge project includes two solar arrays—one at the Phinney Neighborhood Association community center and one at the Woodland Park Zoo. Both groups are active in promoting solar energy.



SEATTLE AQUARIUM

SOLD OUT-2013
44.4 kW

Community Solar at the Seattle Aquarium opened for enrollment in September of 2013 and sold out the 1,850 available units in only 6 weeks.



HOLIDAY APARTMENTS

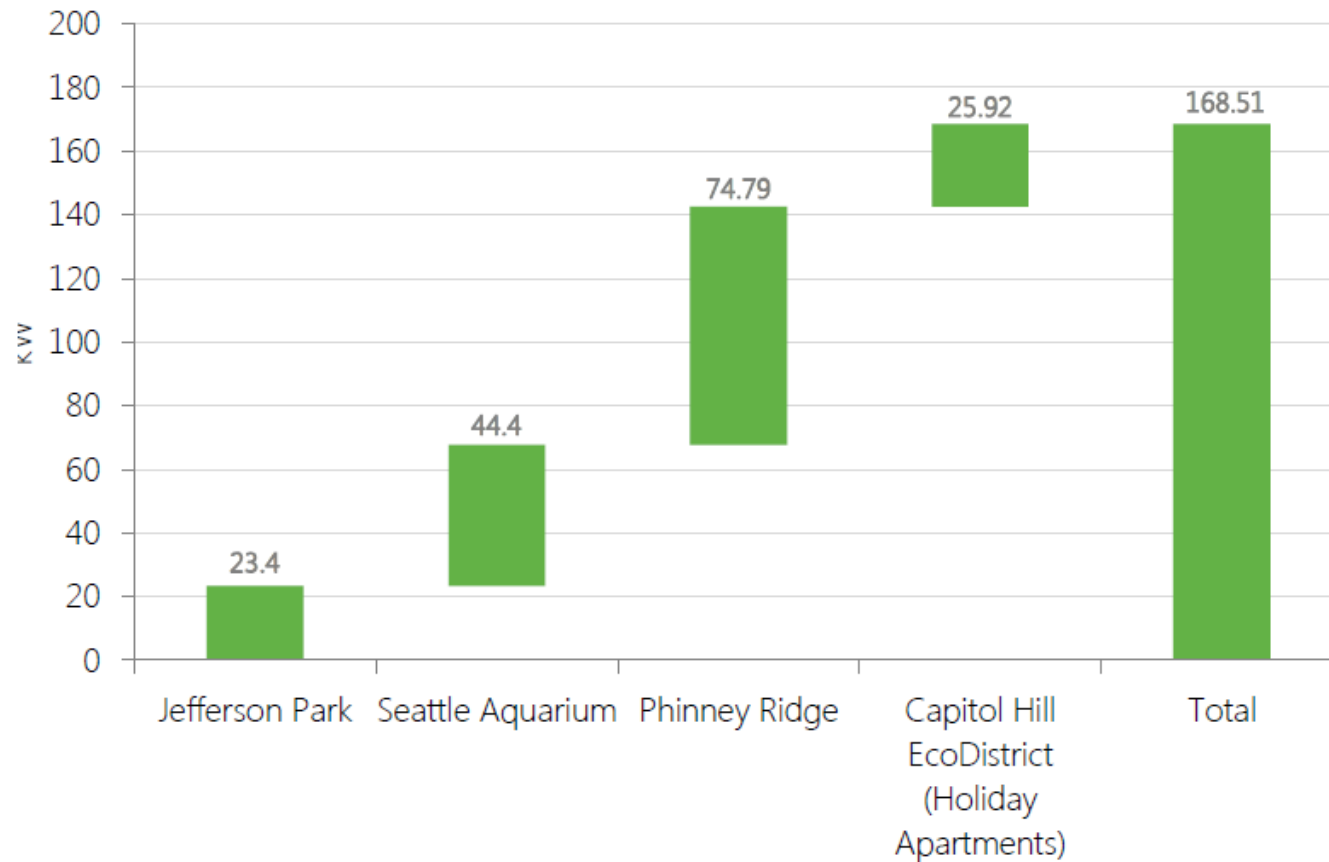
SOLD OUT-5/4/2015
25.92 kW

The project opened in November 2014 and includes a solar array located on a low-income apartment building in Capitol Hill. The project is a component of the Capitol Hill EcoDistrict, a neighborhood-based sustainability initiative.



COMMUNITY SOLAR

Installed Capacity by Project



EDUCATION AND OUTREACH

- Renewable energy presentations and events powered by 'MobE', the mobile-solar kiosk
- Community workshops with solar installers, solar lenders, and residential customers
- Teacher trainings to advance solar energy education at Seattle Schools
- Institutional partnerships with leaders in energy research and education, including the University of Washington

INCENTIVE CAP

- State renewable incentive law sets a cap on the tax credit per utility:
 - 0.5 percent of the utility's taxable power sales or \$100,000, whichever is greater
- City Light expects to exceed cap in the FY2016
 - Increased adoption of WA components
 - Larger average solar system size installed
 - Greater solar resources – More sunshine (actual production higher than previous estimates)
 - Decreased retail sales

INCENTIVE CAP

- 2016 incentive cap estimate: ~\$3.98 million
- 2016 projected incentive payments: \$5.77 million.
- Projected overage: \$1.79 million
- This number is highly variable and affected by:
 - Weather
 - Number and size of new installations
 - Made-in-WA systems
- Bottom line – could be 31% reduction in incentive payments

INCENTIVE CAP-OUTREACH

- Direct
 - SCL website
 - Solar installers email
 - Direct mail to all solar customers
- Media Push
 - Powerlines blog post
 - Press release
 - Social media
 - Light Reading Newsletter



The screenshot shows the Seattle City Light website. At the top, there is a navigation bar with the Seattle City Light logo, the name 'Seattle City Light', and the name of the Interim General Manager and CEO, Jim Baggs. Below this is a menu with links for Customer Service, For Home, For Business, Outages, About, and Contact Us (206.684.3000). There are also social media icons for Facebook, Twitter, YouTube, and LinkedIn. The main content area is titled 'SOLAR ENERGY' and features a 'MY ACCOUNT' and 'PAY MY BILL' button. A sidebar on the left lists various solar-related topics under three main categories: Solar, Community Solar, and Production Incentive. The main article is titled 'Solar Incentive Cap Update' and discusses the utility's approach to managing the solar incentive cap as it nears its limit. The article text is as follows:

Solar Incentive Cap Update

As solar generation becomes increasingly popular and customers continue to install solar systems, City Light is nearing the limit on renewable incentive payments provided by the Washington State Legislature. When a utility reaches its incentive cap, the State provides two options to the utility: proportionally reduce the incentive payments to all solar customers or stop accepting new solar applications for the State incentive program and continue paying customers already in the program the incentive at the rate in effect when it stops taking new participants.

The estimated proportional reduction of solar incentive payments will be about 31 percent. City Light will be providing the exact reduction amount once the utility has final numbers for both production and taxable power sales for the period July 1, 2015 - June 30, 2016, which will be around August 2016.

Despite the proportional production incentive payment reduction, City Light continues to support its customers desire to engage in solar generation, whether through Community Solar Programs or residential solar generation. City Light solar customers receive a variety of additional benefits, such as the federal solar incentive tax credit, Washington State sales tax exemption for systems less than 10kW, and net metering benefits. Learn more about these solar incentive tax credits.

To learn more about this issue, view the Solar Incentive Cap Frequently Asked Questions document.

RELATED CONTENT

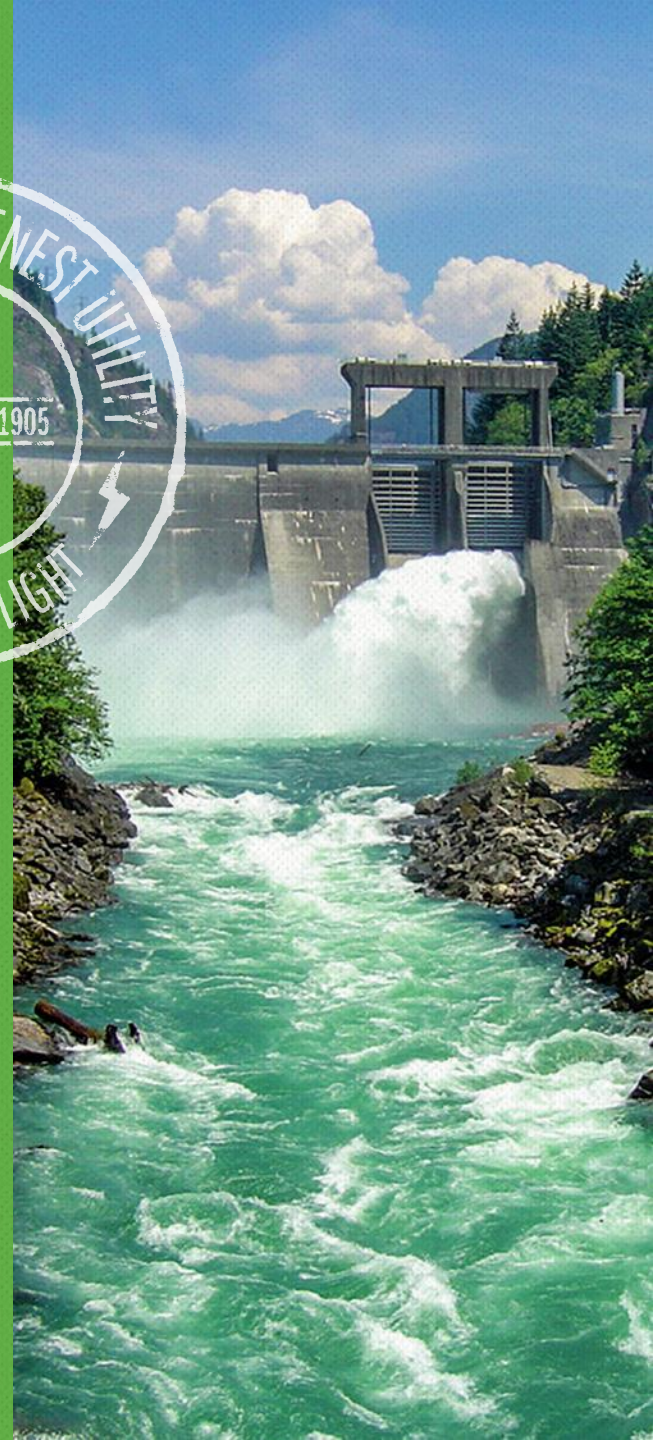
- Renewable Energy Options to help increase the supply of renewable energy and help protect the environment.
- Sign up for Community Solar email alerts
- Sign up for Green eNews

CONTACT US

Energy Advisors

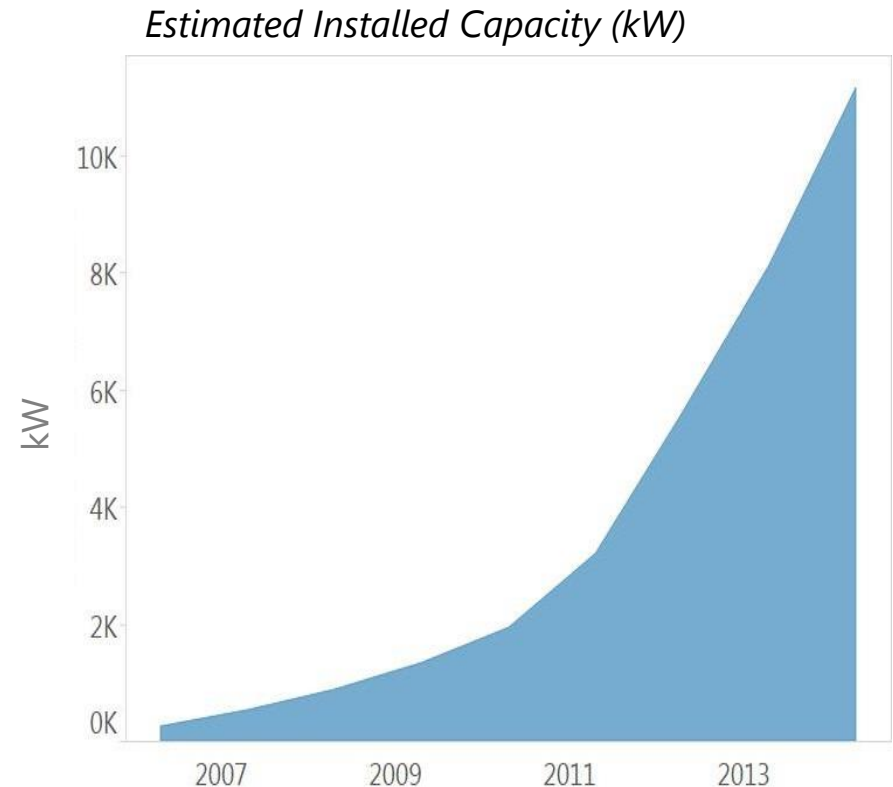


MARKET DATA

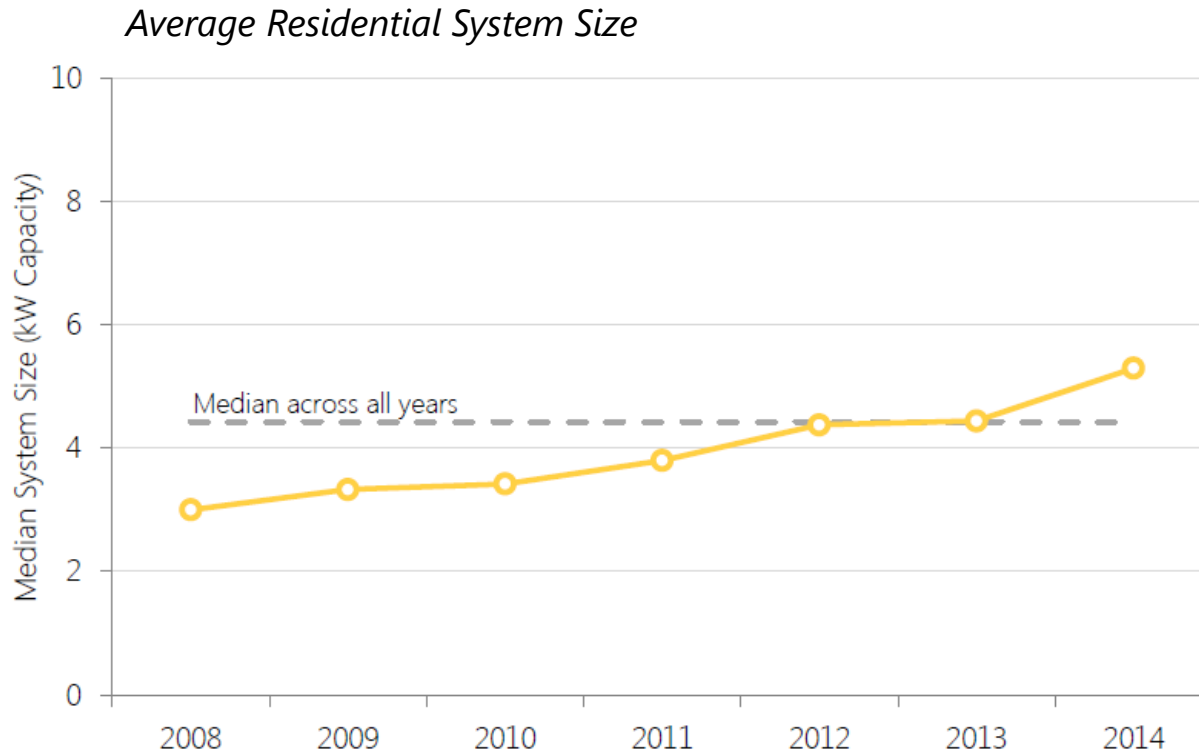


CAPACITY

- 10,660 kW installed
- Residential systems average 5-6 kW
- Non-residential systems are much larger, 10kW-200 kW

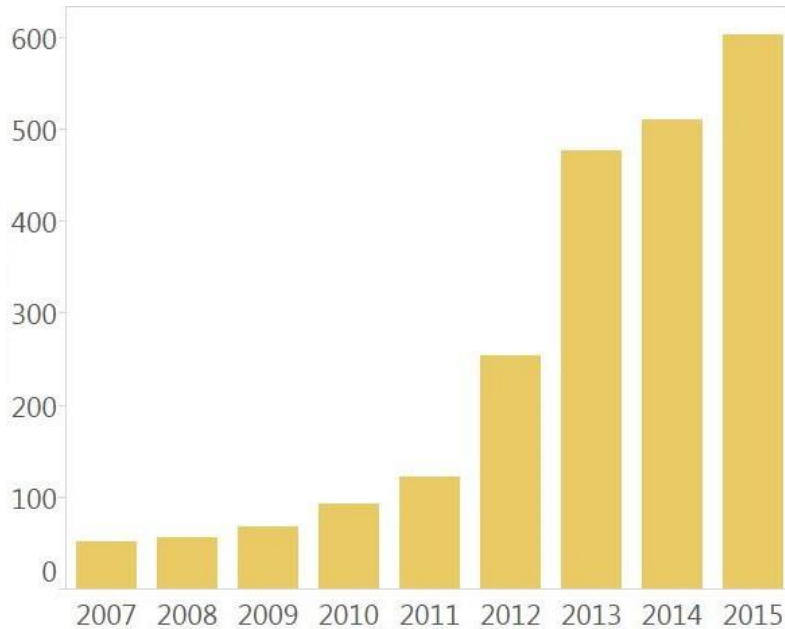


SYSTEM SIZE

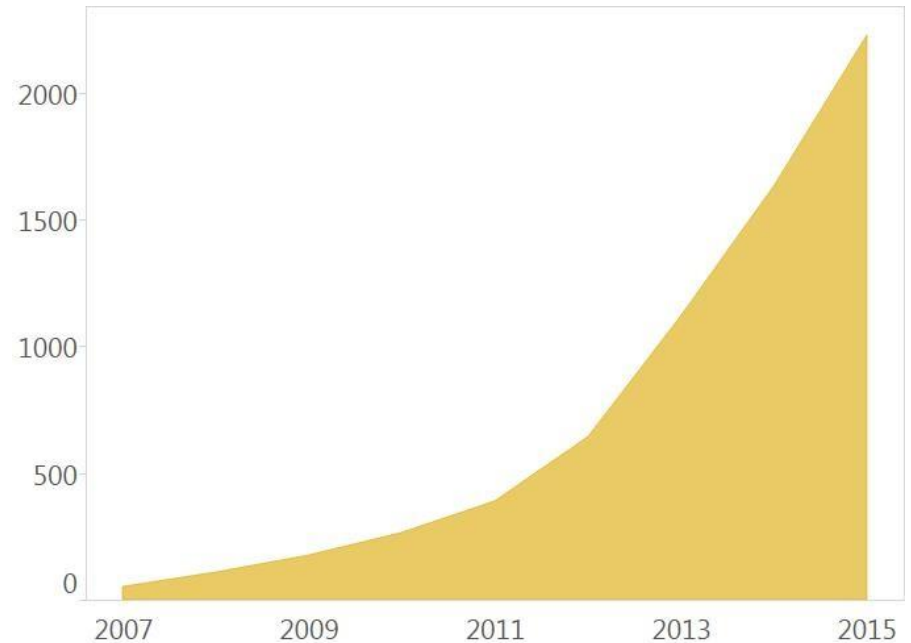


CUSTOMERS

New Customers by Year

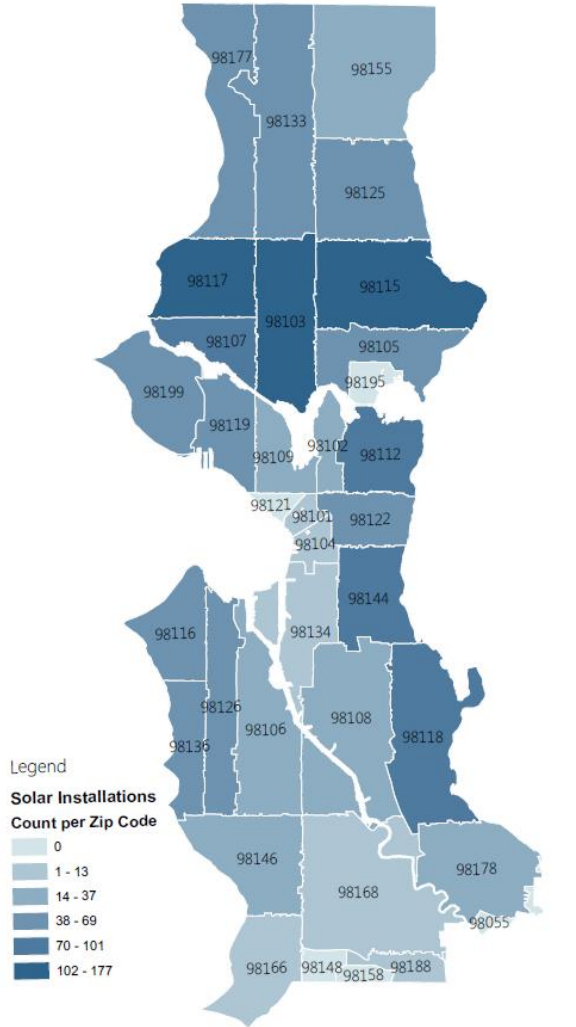


Total Number of Customers by Year

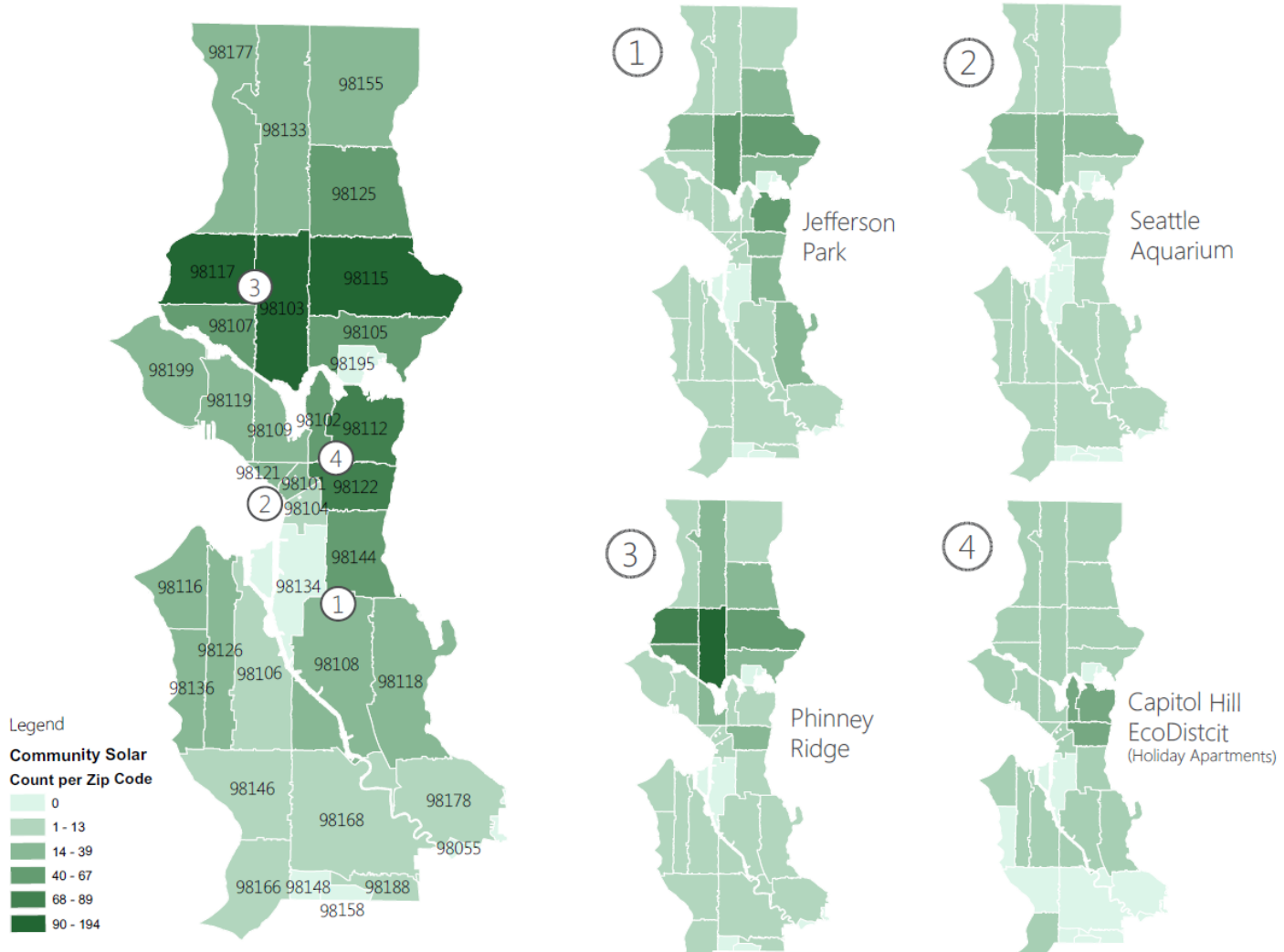


- 93% of our solar customers are residential
- The majority of customers receive the state incentive

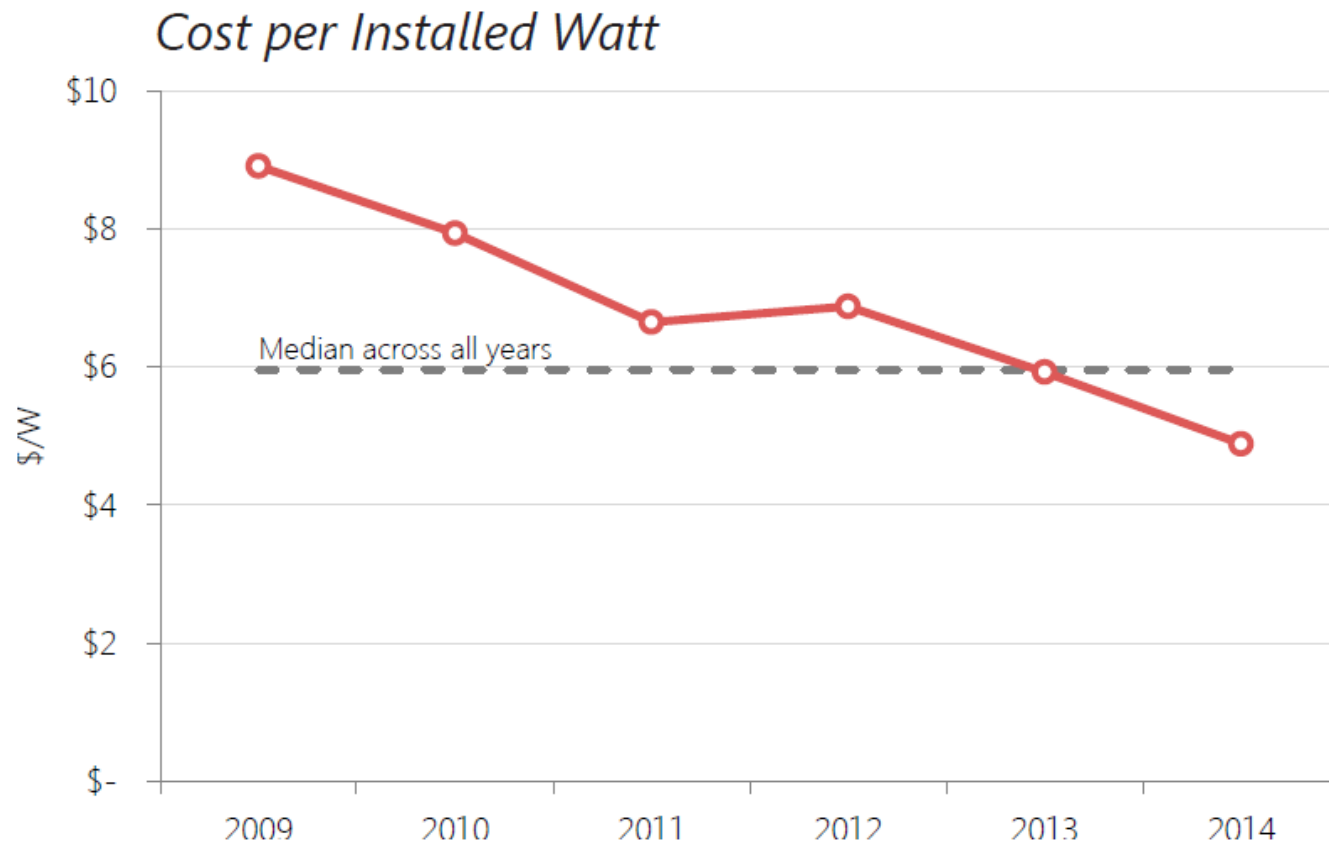
DEMOGRAPHICS – CUSTOMER SOLAR



DEMOGRAPHICS – COMMUNITY SOLAR



COST



NATIONAL TRENDS

- Similar to Seattle, rapid growth in the solar industry can be attributed to:
 - The decline in installed system prices
 - Increasing productivity
 - More streamlined installation
- However, adoption differs from California/SW
 - Third-party ownership (leased solar)
 - Available solar resource

NATIONAL TRENDS

Megawatts

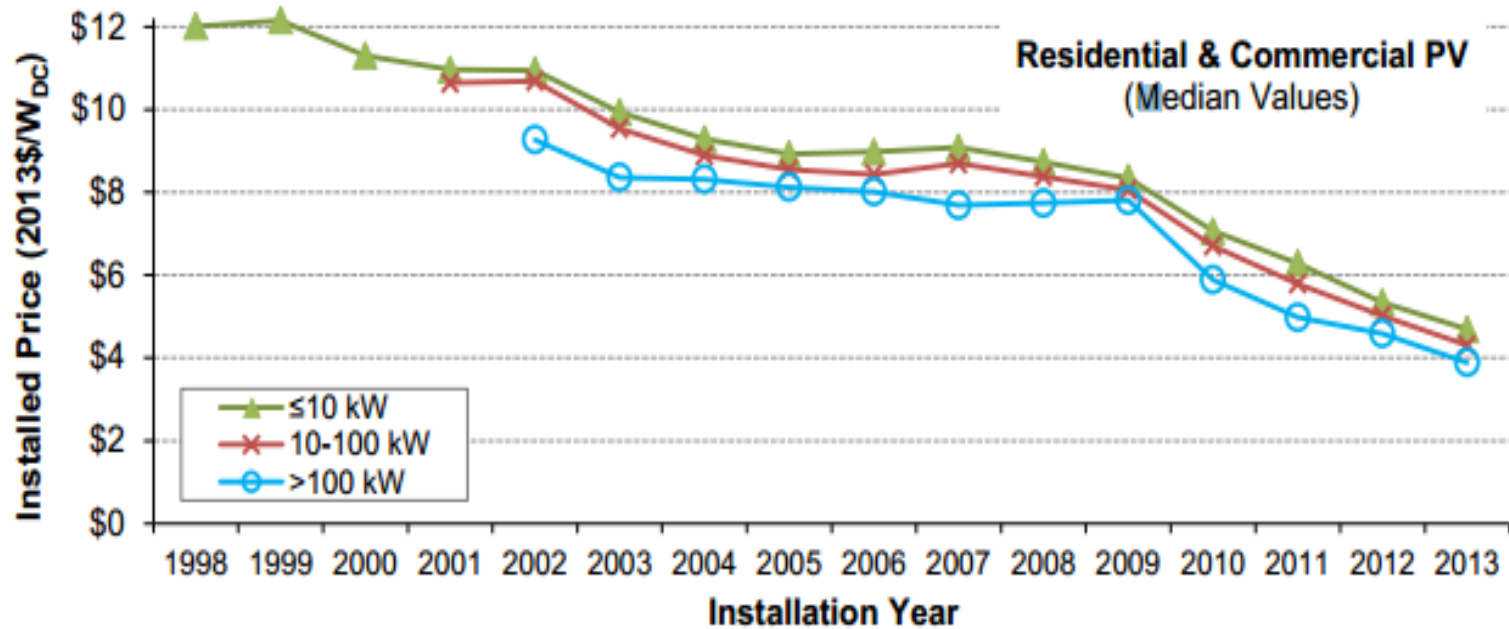


Number of installations



Source: SEPA 2015

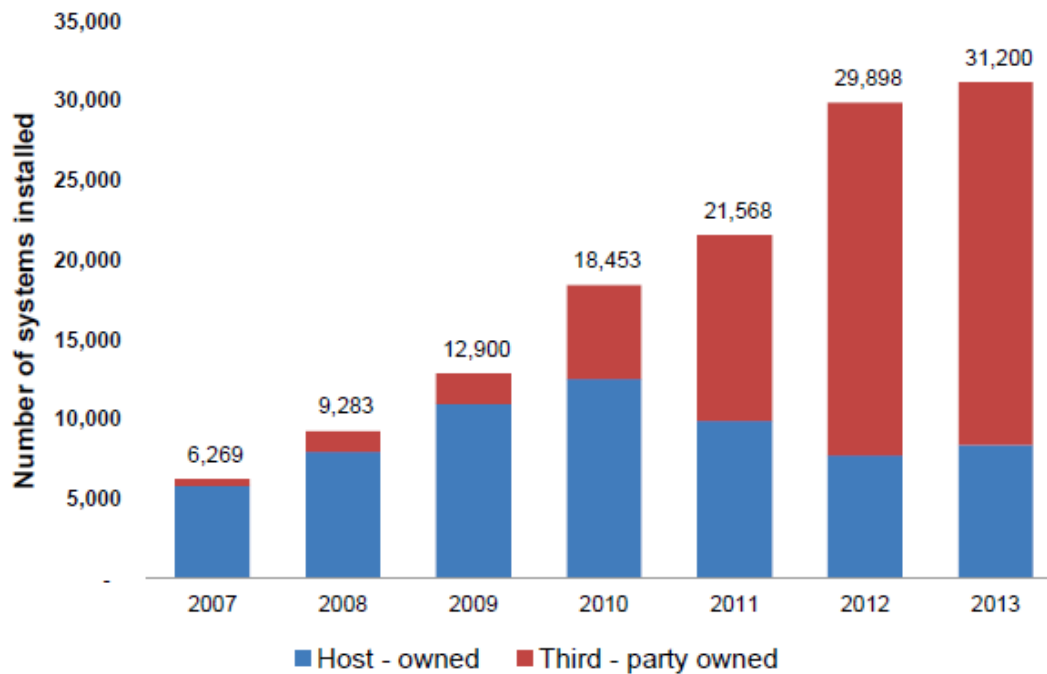
NATIONAL TRENDS



Source: NREL 2014

NATIONAL TRENDS

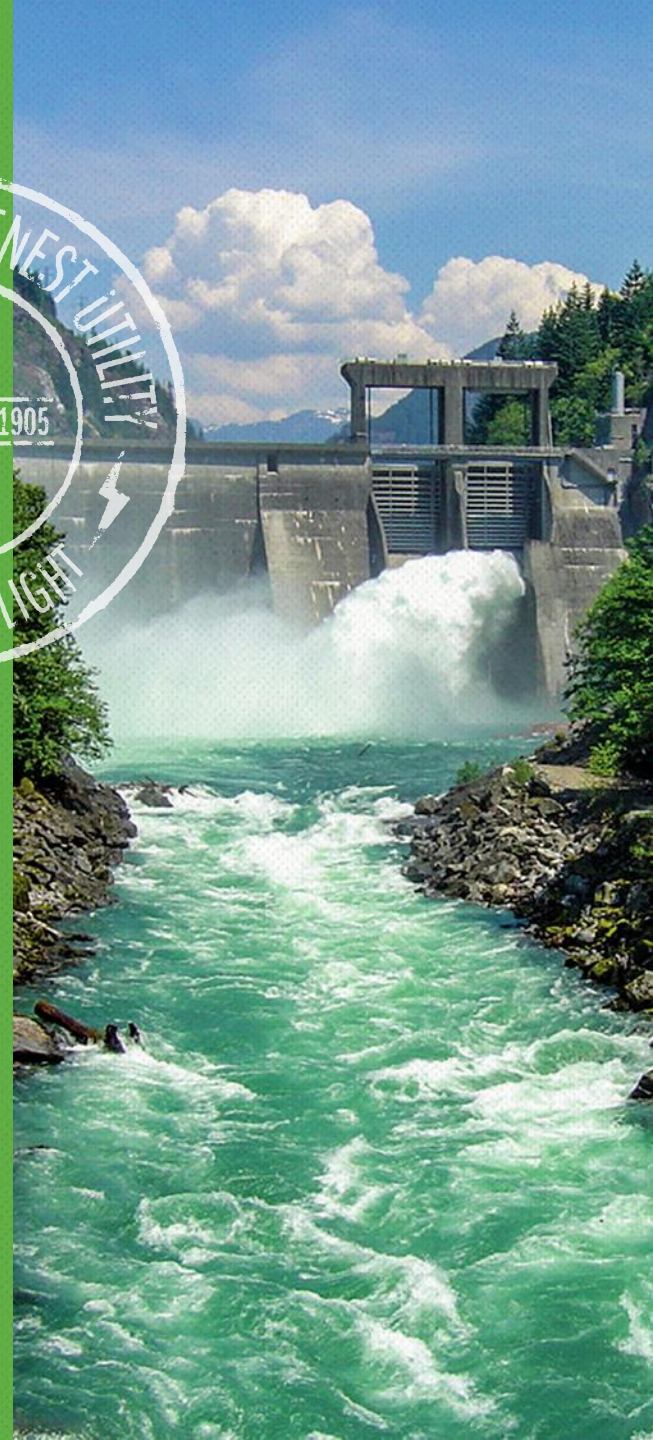
Annual Residential PV in California by Ownership Type



Source: NREL 2014



UPCOMING LEGISLATION



UTILITY INCENTIVE CAP

- Washington State's Renewable Energy System Cost Recovery program (RCW 82.16.120) establishes incentive cap
 - Other utilities are also exceeding their cap (e.g. Orcas Power and Light)
 - Hoping legislation will raise the per-utility cap and extend the incentive
 - City of Seattle to include this issue in its 2016 State Legislative Agenda

NET METERING POLICY

- Under Washington law (RCW 80.60.010), all utilities are required to offer net metering for systems up to 100 kilowatts
- In Washington, utilities are required to make net-metering available, but only up to a relatively low capacity limit
 - 0.5 % of 1996 peak load

THIRD PARTY OWNERSHIP MODEL

- The state production incentive is unavailable to third party owners or users of leased systems
- Production incentive capped at \$5,000 per recipient per year, which does not encourage third-party-owned or commercial systems



NEXT STEPS



SOLAR POTENTIAL ASSESSMENT

- Current study to assess the potential for SCL to add new distributed PV capacity over the next 20 years
- Two views:
 - Service territory solar potential
 - Solar potential broken out geographically (by substations)
 - Is there more value in investing in solar in certain locations?
 - How might SCL's system benefit from solar?

SOLAR STRATEGY

- Seattle City Light seeks to better define our role in a rapidly changing PV market, while balancing the needs of the utility and all its customers.
 - Assemble cross-functional team in next several months
 - Collaborative analysis and research approach
 - Recommend program strategy for City Light

SOLAR STRATEGY

- Issues in play:
 - Rate/tariff design (net metering, feed-in tariff, equity issues)
 - Distribution system impacts
 - Legislative authority
 - Utility program/service program options



CITY LIGHT

OUR VISION

To set the standard—to deliver the best customer service experience of any utility in the nation.

OUR MISSION

Seattle City Light is dedicated to exceeding our customers' expectations in producing and delivering environmentally responsible, safe, low-cost and reliable power.

OUR VALUES

Excellence, Accountability, Trust and Stewardship.

