

CITY LIGHT REVIEW PANEL MEETING

Tuesday, June 7, 2022 12:30 – 3:30 P.M. SMT 3253

-or-

Microsoft Teams Meeting

Proposed Agenda

<u>Item</u> <u>Lead</u>

12:30 - 1:00 p.m. Optional lunch and socializing

1. Welcome (5 min.) Mikel Hansen, Panel Chair

- 2. Public Comment (5 min.)
- 3. Standing Items: (5 min.)
 - a. Review of agenda (Karen Reed)
 - b. Action: Review and approval of meeting minutes of April 26, 2022
 - c. Chair's Report (Mikel)
 - d. Communications to Panel (Leigh Barreca)
- 4. 2023 2024 Rate Ordinance (90 min.)

Kirsty Grainger

- a. Cost of Service Analysis (COSA)
- b. Rate Design
- c. Time-of-Day process

----BREAK----

5. Integrated Resource Plan (IRP) Overview (30 min.)

Emeka Anyanwu

6. Adjourn

Next meeting: July 26, 2022, 9:00 – 11:00 a.m. (Agenda items include: Panel 2-year workplan, Chair and Vice Chair elections, quarterly Strategic Plan updates.)



Date of Meeting: April 26, 2022 | 9:00 – 11:00 AM | Meeting held via Microsoft Teams "Draft"

MEETING ATTENDANC	Έ				
Panel Members:					
Names		Name		Name	
Anne Ayre	√	Leo Lam	√	John Putz	√
Mikel Hansen	√	Kerry Meade	√	Tim Skeel	√
Scott Haskins	√	Joel Paisner	√	Michelle Mitchell-Brannon	√
Staff and Others:		,			
Debra Smith	√	Jen Chan	√	Karen Reed (Consultant /RP	√
				Facilitator)	
Kirsty Grainger	√	Mike Haynes	√	Craig Smith	√
Jim Baggs		DaVonna Johnson		Michelle Vargo	√
Kalyana Kakani		Emeka Anyanwu		Maura Brueger	√
Julie Moore	√	Chris Ruffini	√	Chris Tantoco	√
Greg Shiring	√	Carsten Croff	√	Leigh Barreca	√
Eric McConaghy	√	Caia Caldwell	√	Angela Bertrand	√
Kate Nolan	√	Brian Taubeneck	√	Jenny Levesque	√
Reagen Price	√	Rico Moore (Guest)	√	Vanessa Lund (Lund Faucett)	√

Welcome and Introductions. The meeting was called to order at 9:04 a.m.

Public Comment. There was no public comment.

Standing Items:

Review Agenda. Karen Reed reviewed the agenda.

Approval of April 14, 2022 Meeting Minutes. Minutes were approved as presented.

Chair's Report. No report.

Communications to Panel. Leigh Barreca reported that there were no communications to the Panel.

General Manager's update.

Miller Community Center Microgrid Dedication. It was an exciting event – it was great to have folks come together. Governor Jay Inslee, Mayor Bruce Harrel and CM Sara Nelson attended the event. This project was a collaboration between Seattle City Light and Seattle Parks and Recreation. It was funded in part by a \$1.5 million Clean Energy Fund grant from the Washington



State Department of Commerce. The project included the installation of 132 solar panels on the Miller Community Centers roof, which send energy to a battery storage system. This system provides backup power storage for the community center during emergency events, such as a windstorm or unplanned power outage. During such an event, the microgrid generates and supplies power allowing the center to continue providing valuable services to the community. It also helps to meet the City of Seattle's goals by reducing greenhouse gas emissions through renewable (solar) energy and enhances the resiliency of Seattle's electricity grid.

https://powerlines.seattle.gov/2022/04/21/city-of-seattle-celebrates-earth-day-with-completion-of-miller-community-center-microgrid-project/

• <u>GridFWD Conference</u>. More than 400 attendees assembled at the Bell Harbor Conference Center to discuss grid modernization. Seattle City Light served as cohost for the event along with organizer, GridFWD. This was the organization's first in-person event in over two years. Mayor Bruce Harrell was on hand to kick off the event with his welcome remarks that set the tone for the event and supported this year's theme of "Keeping Pace with the Energy Transition."

They Mayor talked about the Strategic Planning Process and the Review Panel and spoke highly of the Panel.

• Regional Meetings. The Public Power Council (PCC) is resuming in-person meetings next week on a quarterly basis. This is an important way our regional partners come together.

Equity Labs. Reagan Price presented

'Equity Labs' are an open space for conversation around how to solve complex issues. They bring program and project teams, the Race & Social Justice Change Team, and the Racial Equity Toolkit together into the budget process. We are iterating and learning throughout the process. Goals include refining equity outcomes (impact *not* output), identifying marginalized stakeholders, and plan for true costs (including engagement, language & disability access, timeline.)

In the Equity labs, we review Budget Change Requests, specifically the questions related to race and social justice as well as ADA. The shadow goal is to develop leaders across City Light with a racial equity lens

Q: Will this presentation be shared with the Panel?

A: Yes, we will send to you after the meeting.

2023 - 2028 Strategic Plan

a. Financial Requirements

Kirsty Grainger and Carsten Croff presented. The Strategic Plan Financial Forecast is in the packet.



The two big changes from last year's document are the (1) increase in inflation for this year as well as (2) incorporation of new resource acquisition.

Q: Can you say more about the resource acquisition?

A: This is the first time we're including new resources since the early 2000s. We don't have a lot of details yet about what the resource will be. We will bring the Panel more information about our resource outlook as a part of our discussion around our upcoming Integrated Resource Plan updated (IRP).

Q: Could you talk some more about your confidence in demand projections?

A: There are a lot of uncertainties, particularly with the play between energy efficiency and electrification. We do expect our retail load will grow but the question is when this will occur. We are particularly looking at our winter resource adequacy to meet increased heating demand. We also have market driven resource adequacy needs in the summer that reduce supply.

Q: What is the capacity situation? What resources are you looking at?

A: This is a great question to dive into when the IRP comes out. They are looking at a large array of resources including wind and solar. The wind tends to be stronger for the winter resource adequacy. These are placeholder values and do not represent final decisions or contracts.

Q: Any updates from Metro on their electrification timeline?

A: We just had the ribbon cutting for the first charging station in Tukwila. We do not expect them to make changes to their commitment to have an all-electric fleet by 2035.

https://powerlines.seattle.gov/2022/03/30/city-light-king-county-announce-opening-of-new-electric-bus-charging-base/

- **b.** <u>Final Draft Strategic Plan</u> Vanessa Lund presented. This is the version that will go to the Mayor's office in May with the Panel letter. It is still going through copy editing so there may be a few small tweaks.
- **c. Final Outreach Update** Jenny Levesque, External Communications Manager, presented.
- **d.** <u>Continued Discussion of Review Panel Letter</u> Karen presented. Materials are in the Panel packet. Panel members Mikel Hansen and Scott Haskins included some edits for discussion.

Key Panel Comments included:

- Re: Financial Health and Affordability. Request more around debt service strategy.
 - Suggested addition: "We also look forward to the utility developing, in the coming year, a long-term debt strategy which ensures a sustainable and robust path for debt load given the unpredictability in load growth, borrowing costs and capital investments."



- There is nothing significant here in the panel letter around RSJ and/or low-income customers. We may want to, as a panel, add a sentence to this effect. This impacts all facets of the organization's work.
- Re: Organizational Agility. There's a line around organizational change management include that this is to adapt to the future of work. Make it work towards something.

Karen will recirculate the revised letter for final approval by Panel members.

Adjourn: Meeting adjourned at 10:23 a.m.

Next meeting: The May 4th meeting will likely be cancelled if the Panel can complete their letter via email. Will reconvene in June.

2023/2024 Draft City Light Retail Rates





2023-2024 Rate Design Goals

Rate design goals come from City Light's 2018 Rate Design Report

- Commissioned by Resolution 31819
- Clerk File 321222

Rate design goals were reiterated in an April 2021 memo to the Review Panel

Near Term Priorities

- 1. Bill Redesign
- 2. Adjust Residential Block Rates
- 3. Time of Day (TOD) Rates
- 4. Budget and Flat Rate Residential Billing
- 5. Fixed Charge Recovery for Customer Costs in all Rate Schedules
- 6. Interruptible/Demand Response Pilot Rate

Goal/End	Definition
Transparency	Rates should be structured so that customers can easily understand what services they are paying for.
Revenue Sufficiency	Rates should be designed to collect the approved revenue requirement with a reasonable degree of certainty.
Cost-Based	Rates should reflect the Utility's cost of service, and each charge included on a customer bill should be designed to signal to customers the actual cost of providing the relevant service.
Stable & Predictable	To aid customers in managing the financial impacts of their electricity bills, rate changes should be deliberate and gradual.
Efficiency	To conserve finite natural resources and minimize overall system costs, rates should be structured to encourage efficient use of power. This applies to electricity produced and purchased, as well as the wires and associated equipment needed for energy delivery.
Decarbonization	Rate design should reflect the goals of Seattle's Climate Action Plan, including promoting the use of clean power, incentivizing transportation electrification, and reducing greenhouse gas emissions.
Affordability	Rates should be designed to make electric service accessible for all customers; therefore, rates may be discounted for qualified low-income residential customers
Customer Choice	Rate and billing options should reflect the diversity of our customers' energy needs and interests, so that customers may feel empowered to actively manage their energy consumption.

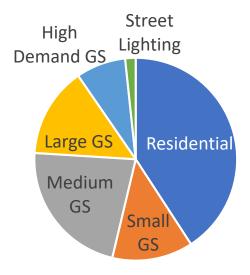
City Light Rates 101: Three Steps

1. Revenue Requirement

- How much revenue do we need to collect from retail customers
- Needs to cover all operating expenses and debt service, plus a portion of capital costs (target > 40%)
- + Operating Expenses
- Other Revenue Sources
- + Debt Service
- + Capital Funding from Operations
- = Revenue Requirement

2. Cost of Service

- How much it costs to serve each type of customer
- Allocates the revenue requirement to each customer class based on relative cost of service.



% of Total Revenue Requirement GS = General Service (non-residential)

3. Rate Design

- How the revenue will be collected from customers
- Rates and charges designed to collect the revenue requirement from each class
- Customer classes have different rate designs to achieve different objectives

Common Rates

- Per kilowatt hour (kWh) energy charge
- Per kilowatt (kW) demand charge: based on monthly peak use (measures max stress put on distribution equipment)
- Fixed charge Fixed amount per bill regardless of consumption

Cost of Service Summary

2023 Average Rate Increases

	Total	Residential	Small	Medium	Large	High Demand
All areas	4.4%	5.7%	5.6%	3.3%	3.4%	2.7%
Non-Network	4.7%	5.7%	5.6%	3.9%	4.4%	2.7%
Network	1.4%			1.7%	1.2%	

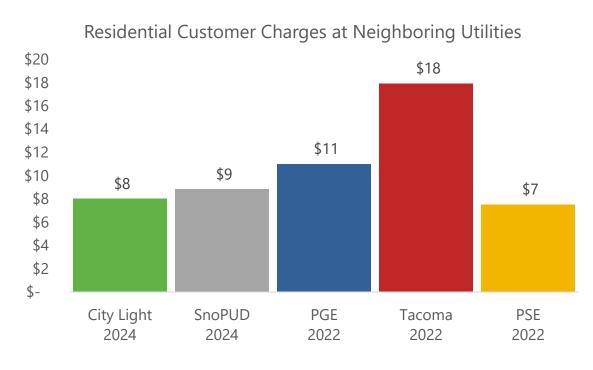
2024 Average Rate Increases

	Total	Residential	Small	Medium	Large	High Demand
All areas	4.4%	5.0%	4.7%	4.0%	3.0%	4.7%
Non-Network	4.8%	5.0%	4.7%	4.7%	4.6%	4.7%
Network	1.4%			1.7%	1.2%	

All areas - After Discounts	4.5%	5.3%				
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Fixed Charge Strategy (Customer Charges)

Customer Charge (\$/month)	2022	2023	2024	Full Customer Charge*
Residential	\$6	\$7	\$8	\$19
Small General Service		\$7	\$14	\$28
Medium General Service		\$27	\$55	\$110
Large General Service		\$334	\$688	\$1,376
HD General Service		\$1,761	\$3,625	\$7,249



Residential

- Slow ramp up, \$1/month increase in both years
- Put some of the increase in the first block

General Service

- Gradually phase in customer charge over 4 years
- 2023 = 25%, 2024 = 50%

*Customer costs include the costs for metering, billing, collecting payments and providing customer service. The "full" customer charge reflects recovering all costs identified as customer costs through a fixed charge.

Time-of-Day (TOD) Rates

Goals

- Develop rates that better reflect actual cost of service at different times of the day
- Provide customers more choice in how they manage their electricity bills
- Support electrification/decarbonization goals
- Starting place flexible framework to build on in the future

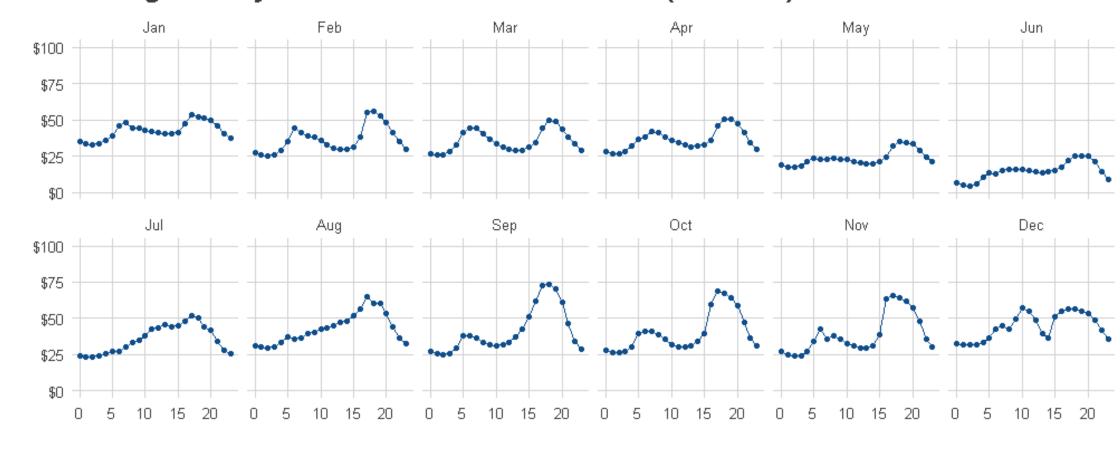
General Approach

- Estimate hourly costs
- Determine optimal structure (i.e., two period or three period)
- Set price differential to balance costs structure and goals

Daily Wholesale Price Shapes

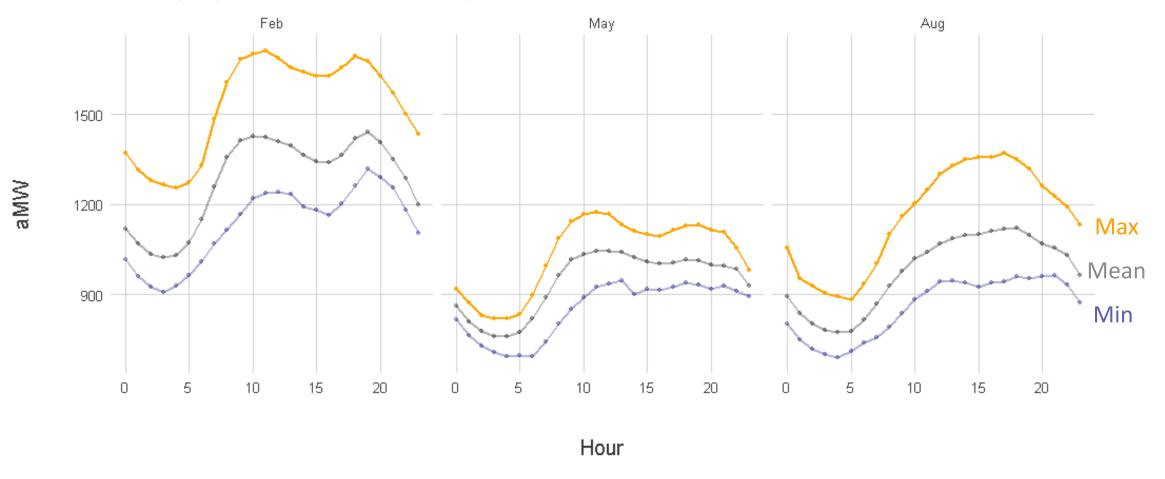
Hourly Price (\$/MWh)

Average Hourly Prices for Wholesale Forecast (IHS 2022)



City Light System Load Shape

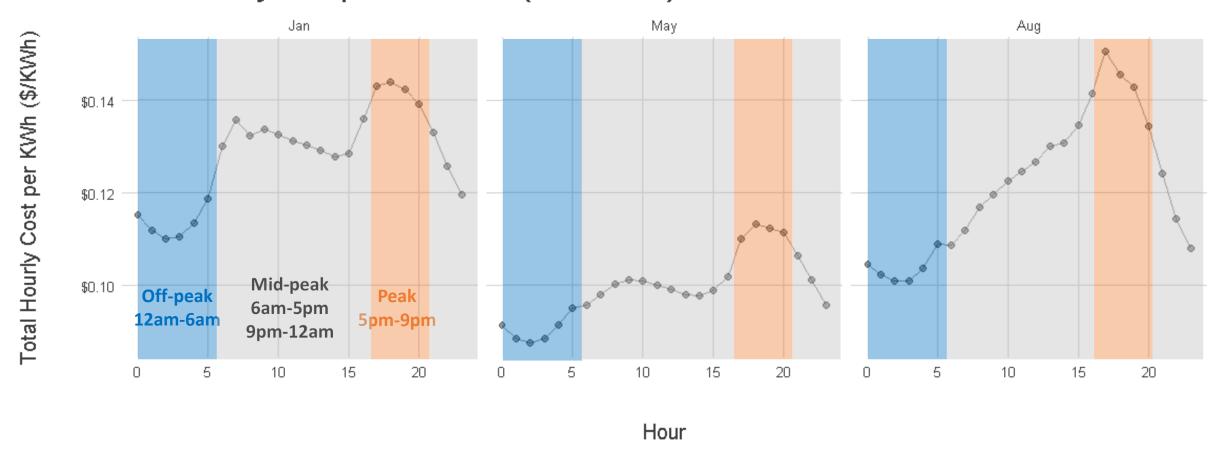
Hourly System Load - Monthly Min, Mean, Max: 2021



Takeaway: No significant short-duration peak we are trying to shave

Selecting TOD Periods

Total Hourly Cost per KWH: 2024 (Residential)



Proposal: Single Season, Three-Period TOD Rates - same as current rate pilots

Proposed TOD Rates

General Strategy for 2024 TOD Rates

- Send meaningful price signal for off-peak consumption
- Keep Peak and Mid-Peak Price signal modest

Proposed

- 2.0x Peak/Off-Peak Ratio
- 1.75x Mid-Peak Ratio

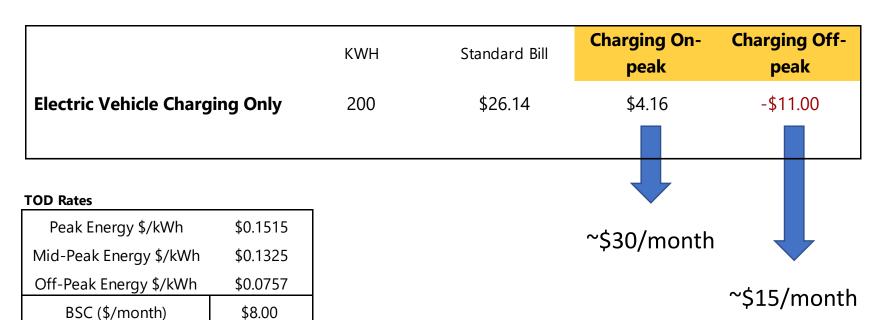
Cost Based

- 1.3x 1.5x Peak/Off-Peak Ratio
- 1.2x Mid-Peak Ratio



Example Bill Impacts: TOD Rates

Partition of a Communication	Avg Monthly	2024 Standard	2024 TOD Bill (incremental)				
Residential General Service	KWH	Rate Bill	No shifting	5% shifting	25% shifting		
MF Electric baseboard/resistance heating	829	\$105.27	\$1.47	\$0.85	-\$1.50		
SF Electric furnace or boiler	1,054	\$134.66	\$0.54	-\$0.18	-\$2.89		
SF Gas furnace or boiler	1,080	\$138.08	-\$4.17	-\$4.84	-\$7.33		
SF Heat pump	1,504	\$193.44	-\$3.02	-\$4.21	-\$8.68		



Standard (Blocked) Rates

First Block (\$/kWh)	\$0.1229	
Second Block (\$/kWh)	\$0.1307	

BSC (\$/month) \$8.00

Impacts on Non-TOD Customers and Revenue Risk

- ➤ Having optional pricing plans adds risk
- Anticipated TOD savings, means extra revenue needs to be collected from standard rate customers, requiring additional small rate increases
- ➤ Higher than anticipated TOD savings means revenue shortfalls

Potential TOD Savings Amount of savings if all customers who would save under TOD rates opted-in. No assumed change in consumption.	~\$8 Million
Planned TOD Savings The amount of savings anticipated for customers who opt-in. Assumes 10% of the customer class opts-in and shift 5% of peak usage to off-peak.	~\$2 Million

Rate Class	Planned Impact to Standard Rates from TOD Savings
Residential	0.5%
Small	0.2%
Medium Non-Network	0.1%
Medium Network	0.1%

Residential Rates and Bill Impacts

Residential City Standar	ď					2022	2023	2024
2023 average rate change	e:	6.0%		First Blo	ck (\$/kWh)	\$0.1056	\$0.1132	\$0.1229
2024 average rate change	e:	5.5%		End-Blo	ck (\$/kWh)	\$0.1307	\$0.1307	\$0.1307
Number of meters:		362,926	Base S	Service Charge	(\$/month)	\$6.00	\$7.00	\$8.00
First Block/Second Block	Ratio					0.81	0.87	0.94
Monthly Bills	kWh	2022	2023	Increase	%	2024	Increase	%
Apt- Gas/Oil Heat	204	\$27	\$30	\$3	10%	\$33	\$3	10%
Apartment- Electric Heat	463	\$57	\$61	\$4	7%	\$66	\$5	8%
SF Home - Gas/Oil Heat	634	\$79	\$83	\$4	5%	\$88	\$5	6%
SF Home - Electric Heat	841	\$106	\$110	\$4	4%	\$115	\$5	4%
SF Home - High User	1,180	\$150	\$154	\$4	3%	\$159	\$5	3%
Monthly Bills - UDP								
Apt- Gas/Oil Heat	204	\$11	\$12	\$1	10%	\$13	\$1	10%
SF Home- Electric Heat	841	\$42	\$44	\$2	4%	\$46	\$2	4%

UDP Rates are 40% of standard residential rates

Non-Residential Rate Design Highlights

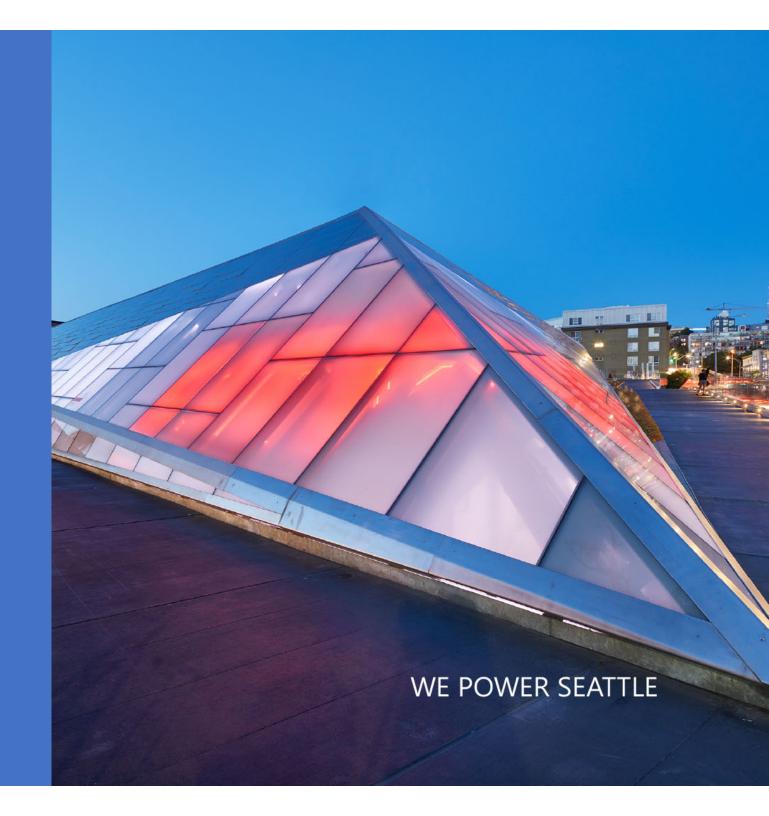
- Introduce Customer Charge
- Demand Charge (Excluding Small General Service)
 - Continue to set at 20% Marginal Cost of Distribution
 - Increases between 12% to 20% in 2023
 - Highest for Network Customers
 - Minor bill impacts since they have lowest avg rate increases
- Large and High Demand
 - Currently on default two-period TOD Rates
 - Increase Peak/Off-Peak Ratio

LG and HD	2022	2023	2024
Peak/Off-Peak Ratio	1.5x	1.6x	1.8x

- Commercial Charging Rate in 2024
 - Continuation of rate pilot
 - TOD rate with higher energy charges and lower/no demand charge
 - No demand charge in 2024, to be phased in over time

2023-2024 Proposed Rates





City Standard Rates 2022-2024

Standard Rates	Residential						
Standard Nates	2022	2023	2024				
Base Service Charge \$/month	\$6	\$7	\$8				
First Block Energy \$/kWh	\$0.1056	\$0.1132	\$0.1229				
Second Block Energy \$/kWh	\$0.1307	\$0.1307	\$0.1307				

Standard Rates	Small			Medium Non-Network			Medium Network		
	2022	2023	2024	2022	2023	2024	2022	2023	2024
Base Service Charge \$/month		\$7	\$14		\$27	\$55		\$27	\$55
Energy Charge \$/kWh	\$0.1075	\$0.1103	\$0.1124	\$0.0815	\$0.0831	\$0.0870	\$0.1006	\$0.0973	\$0.0985
Demand Charge \$/kW				\$4.17	\$4.74	\$4.86	\$8.97	\$10.81	\$11.06
Minimum Bill \$/month	\$13	\$13	\$14	\$40	\$40	\$55	\$40	\$40	\$55

2024 Time of Day & Commercial Charging Rates

		Opt-in T	Opt-in Commercial Charging Rates			
2024 Rates	Residential Small		Medium Non-Network	Medium Network	Medium Non-Network	Medium Network
Peak Energy \$/kWh	\$0.1515	\$0.1379	\$0.1070	\$0.1210	\$0.1235	\$0.1585
Mid-Peak Energy \$/kWh	\$0.1325	\$0.1207	\$0.0936	\$0.1058	\$0.1081	\$0.1387
Off-Peak Energy \$/kWh	\$0.0757	\$0.0690	\$0.0535	\$0.0605	\$0.0618	\$0.0792
Peak Demand \$/kW			\$4.86	\$11.06		
Off-Peak Demand \$/kW			\$0.30	\$0.30		
Base Service Charge \$/month	\$8	\$14	\$55	\$55	\$55	\$55
TOD Statistics						
Peak/Off-Peak	2.0	2.0	2.0	2.0	2.0	2.0
Mid-Peak/Off-Peak	1.75	1.75	1.75	1.75	1.75	1.75
Peak Energy - Mid-Peak Energy \$/kWh	0.02	0.02	0.01	0.02	0.02	0.02
Mid-Peak Energy - Off-Peak Energy \$/kWh	0.06	0.05	0.04	0.05	0.05	0.06
Peak Energy – Off-Peak Energy \$/kWh	0.08	0.07	0.05	0.06	0.06	0.08

Peak

Mid-Peak

Off-Peak

5 pm - 9 pm Mon - Sat excluding holidays

6 am - 5 pm & 9 pm-12 am Mon-Sat; 6 am - 12 am Sun & holidays

12 am - 6 am daily

Large and High Demand Rates 2022-2024

		Standard Rates								Opt-in Commercial Charging	
	Large Non-Network			Large Network			High Demand			Large Non- Network	Large Network
	2022	2023	2024	2022	2023	2024	2022	2023	2024	2024	2024
Peak Energy \$/kWh	\$0.0930	\$0.0965	\$0.1036	\$0.1067	\$0.1070	\$0.1106	\$0.0882	\$0.0902	\$0.0978	\$0.1087	\$0.1347
Off-Peak Energy \$/kWh	\$0.0606	\$0.0603	\$0.0576	\$0.0698	\$0.0669	\$0.0615	\$0.0575	\$0.0564	\$0.0543	\$0.0604	\$0.0748
Peak Demand \$/kW	\$4.00	\$4.58	\$4.69	\$8.71	\$9.80	\$10.02	\$4.00	\$4.58	\$4.69		
Off-Peak Demand \$/kW	\$0.28	\$0.29	\$0.30	\$0.28	\$0.29	\$0.30	\$0.28	\$0.29	\$0.30		
Base Service Charge \$/month	\$0	\$334	\$688	\$0	\$334	\$688	\$0	\$1,761	\$3,625	\$688	\$688
Minimum Bill \$/month	\$957	\$957	\$957	\$957	\$957	\$957	\$2,950	\$2,950	\$3,625		
Peak/Off-Peak Ratio	1.5	1.6	1.8	1.5	1.6	1.8	1.5	1.6	1.8	1.8	1.8
Peak Energy - Off-Peak Energy (¢)	3.2	3.6	4.6	3.7	4.0	4.9	3.1	3.4	4.3	4.8	6.0

Peak

Off-Peak

6 am - 10 pm Mon - Sat

10 pm - 6 am Mon – Sat and all day Sun & Holidays







WE POWER SEATTLE

AGENDA

- What is an IRP
- Why we do IRPs
- IRP Process
- 2022 IRP Conclusions

What is an Integrated Resource Plan?

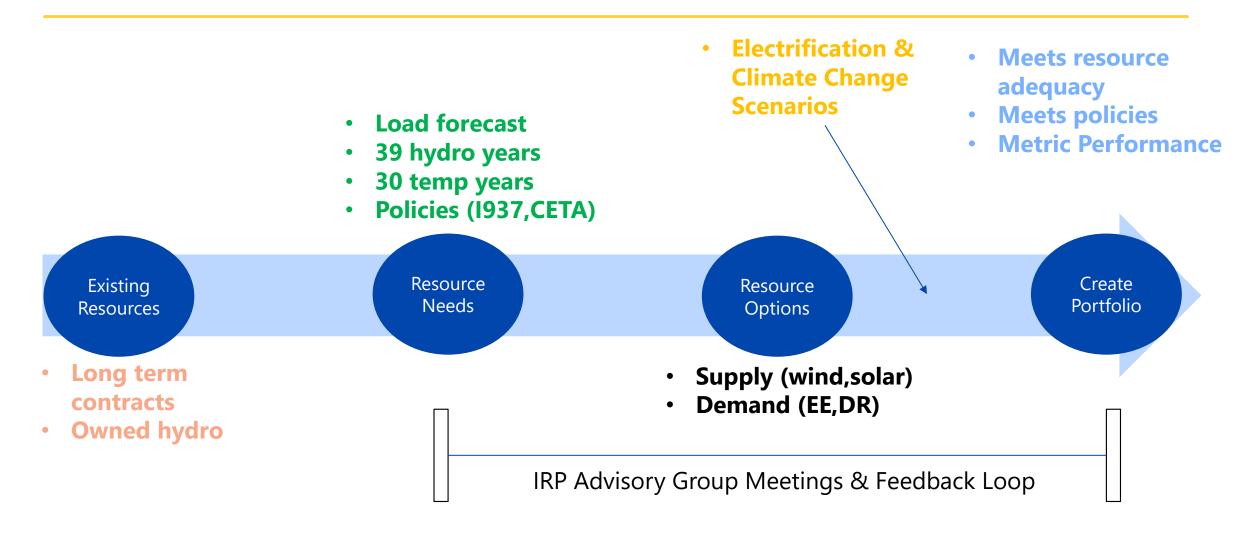
- Biennial plan describing a path to meet the Seattle area's electric power needs for the next 20 years
- An opportunity for customers and stakeholders to share their vision for our future power supply mix
- Reviewed and updated every two years
- Must be approved by Seattle City Council
- Not intended for a literal prescription for specific resource actions
- Is more of a general & proportional start to resource actions



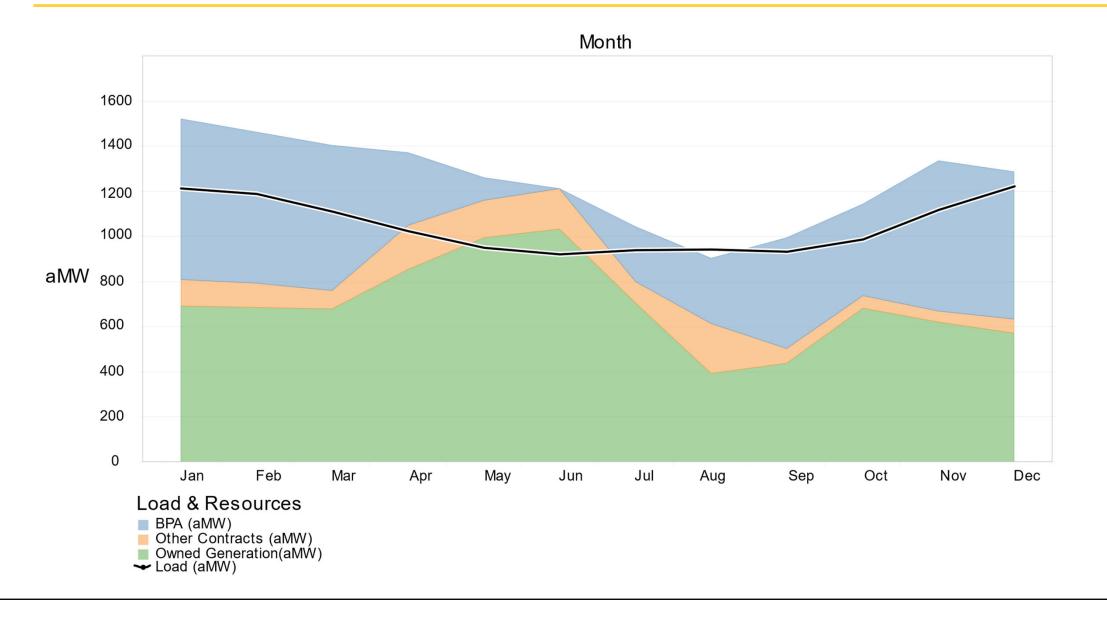
Why create an Integrated Resource Plan?

- 1. Vital feedback loop and communication plan between customers, stakeholders & governing bodies
- 2. Revised Code of Washington (RCW) 19.280
 - ✓ Introduced formal Integrated Resource Planning process in 2006 for all utilities in the state with over 25,000 customers
 - ✓ Recognizes the significance of considering opportunities for customers to reduce power use and new power generation as sources to meet electric demand
 - ✓ Recognizes importance of sharing utility plans with customers and stakeholders because decisions are long-term

2022 IRP Process



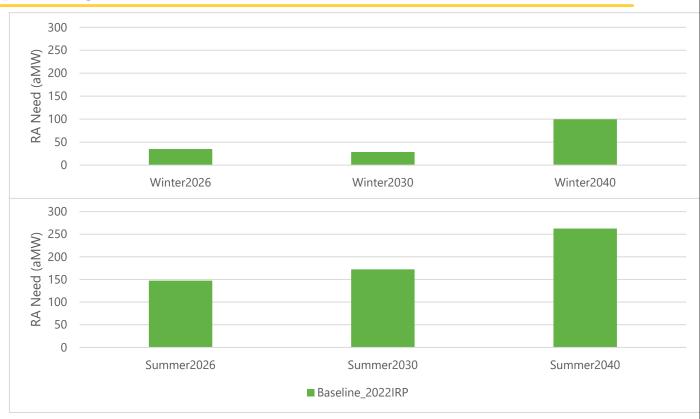
2022 IRP Existing Resources



2022 IRP Resource Adequacy(RA) Needs

SCL's RA model is ...

- A probabilistic energy adequacy model,
- Simulates future hourly load and hydro conditions using historical temperatures and hydro inflows,
- Looks at seasonal RA needs (July/August for Summer, December/January for Winter),
- Risk metric used is Loss of Load Events or LOLEV:
 - Target LOLEV = 0.2 events/year for the month
 - Market reliance= 200 aMW

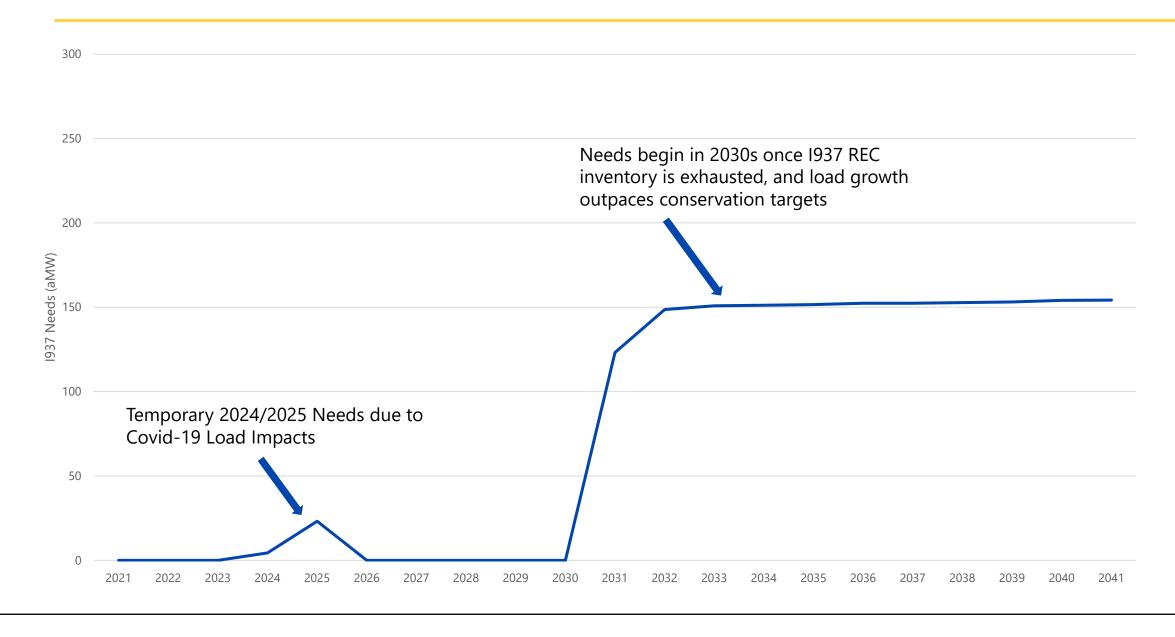




Policy: 1937- Energy Independence Act of 2006

- If the utility has an increasing load...
 - must have 15% of their load be from eligible renewable resources or acquire equivalent renewable energy credits (max expenditure of 4% retail revenue requirement)
- If the utility has a decreasing load...
 - must contribute 1% of their retail revenue requirement towards eligible renewable resources or acquire equivalent renewable energy credits

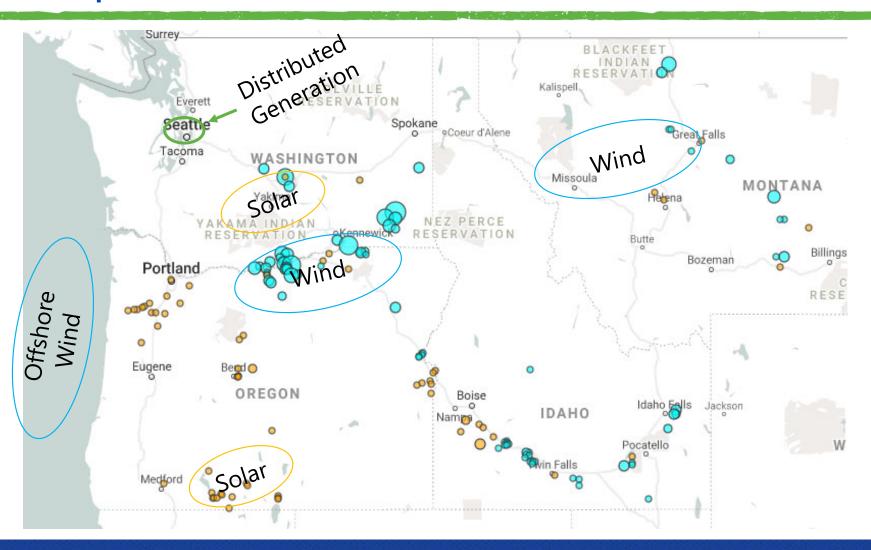
1937 - Renewable Portfolio Standard Needs



Policy: Clean Energy Transformation Act of 2019

- Utilities must remove coal-fired generation from Washington's allocation of electricity by 2026
 - Forecasts of 2,150MW coal retirements by 2027 in the Northwest
- Washington retail sales must be greenhouse gas neutral, with at least 80% renewable or non-emitting by 2030
 - City Light usually more than 90% greenhouse gas free on a net monthly basis
- Washington retail sales must be 100% renewable or non-emitting by 2045

Resource Options



IRP Framework

Goal: Identify using optimization methods the lowest cost combination of demand and supply resources for the next twenty years to meet resource needs



Demand Side Resources+**ΔBPA contract**

Supply Side Resources (Includes delivery costs and constraints)

New Portfolio Investment Choices

City Light's Supply Portfolio and Demand

Δ Energy position

Regulatory Constraints

- Energy Independence Act (I-937)
- Resource Adequacy
- SCL Greenhouse Gas Neutrality
- Clean Energy
 Transformation Act

Minimize Portfolio Cost

2022 IRP Portfolio Strategies Matrix

Integrated Resource Plan



Lowest Cost Portfolio



Resource Adequacy Risk Reduction





100% Clean by 2030



Maximize Energy Efficiency and Demand Response Programs





Higher Market Reliance



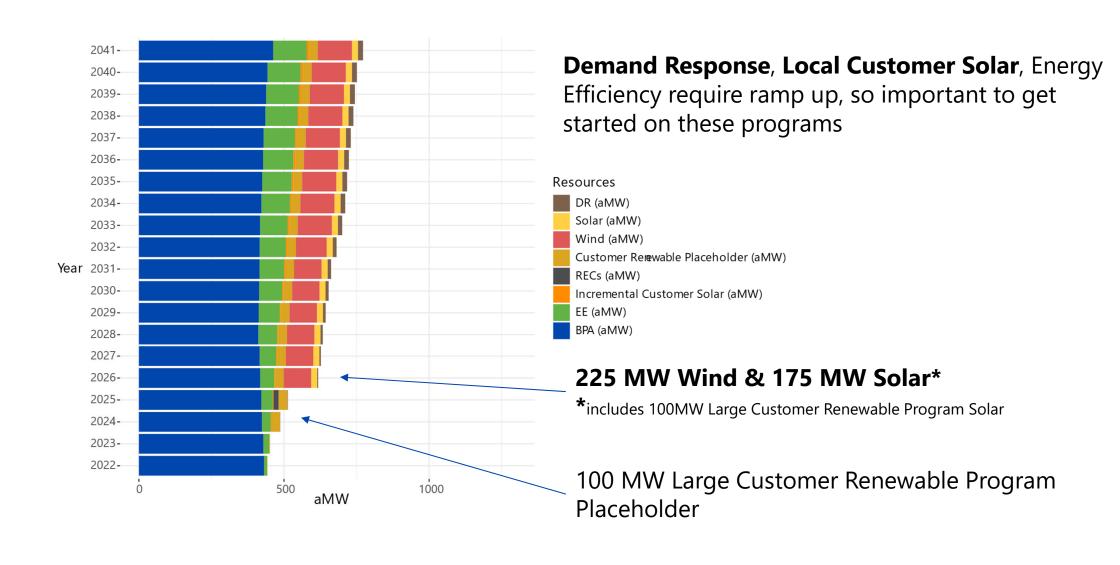
Other Strategies



2022 IRP Top Portfolio

2022 Top Portfolio IRP Plan									
New Resource Additions By Time Period	2022-2031	2032-2041	Total						
Solar (MW)	175	0	175						
Wind (MW)	225	50	275						
Energy Efficiency (aMW)	85	31	116						
Customer Solar Programs (MW)	24	28	52						
Summer Demand Response (MW)	47	31	78						
Winter Demand Response (MW)	79	43	122						

2022 Integrated Resource Plan

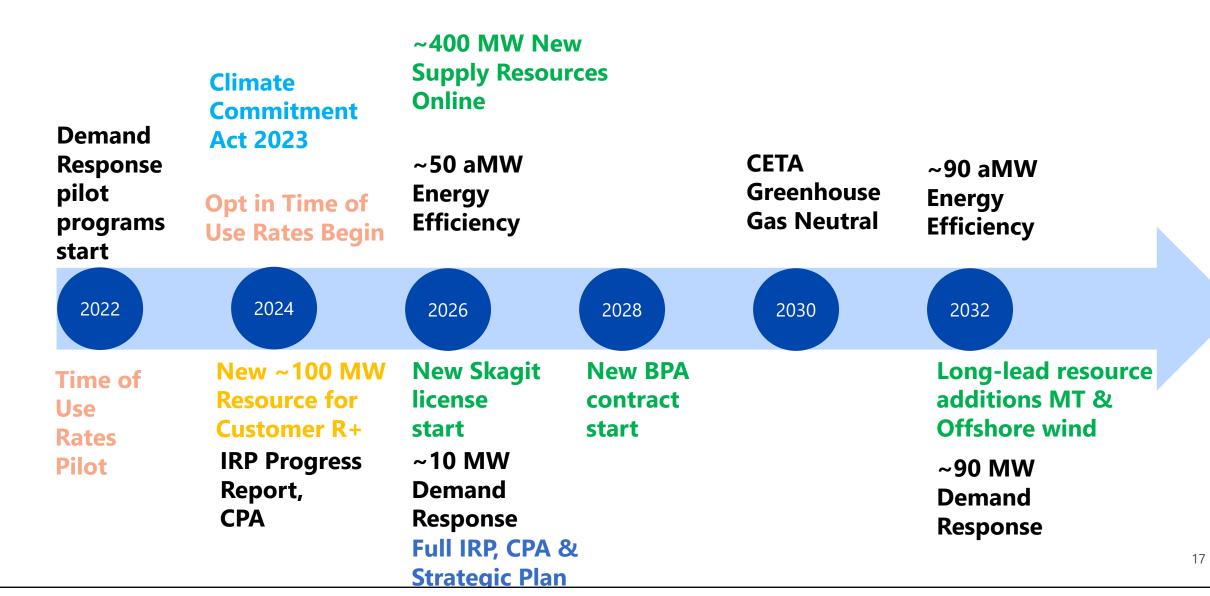


2022 IRP Conclusions

Key Conclusions compared to 2020 IRP Progress Report

- Summer needs still a concern
- Winter needs are higher due to new load forecast and additional electrification from new codes & buildings, and faster EV growth
- First full IRP calling for new resources in the strategic planning period window
 - 400 MW renewables online by 2026
- Developing Uncertainties
 - Pace of electrification
 - Transmission availability
 - Climate change
 - Intermittent resource reliance as electrification loads increase
 - Development of renewable energy projects (inflation, tariff investigations, supply chain of components, etc.)

2022 IRP 10-Year Important Milestones



2022 IRP- Extra slides

2022 IRP vs 2022 CPA Energy Efficiency Plan

	2-Year (2022-2023)	4-Year (2022-2025)		20-Year (2022-2041)
2022 CPA	19	35	77	106
2022 IRP	21	39	85	116

External Advisory Meetings Summary

Demand response

- How optimistic is the DR ramp rate and total achievable contribution?
- What are DR program costs? How large does the DR program need to be in order for it to be cost effective?

Risk

- If proposed new resources (such as wind, DR, etc.) only contributed 80% of the energy we expect by a given date, how would that impact resource adequacy?
- City Light should examine resource adequacy sensitivity to incremental changes in energy contribution of new resources at the margins
- DR, EE, conservation, behind the meter solar, and other non-wires solutions have significant benefit in that they remove transmission risk

External Advisory Meetings Summary Cont'd

Utility scale supply resources

- How confident are we that we can actually get the recommend portfolio's supply resources? City Light to improve transparency into supply resource viability.
- City Light should monitor and consider development of new energy generation and storage technology to meet future load.

Customer solar program

- Concern about feasibility/risk of expected ramp rate
- City Light should ensure customer solar programs are implemented with equity in mind

External Advisory Meetings Summary Cont'd

Energy Efficiency Programs

- Need to recognize that weatherization/energy efficiency improvements to buildings has an important equity opportunity.
- This is one of the few actions that can actually be tilted to favor low-income customers.
- Under the State Constitution this is one of the few ways City Light can actually loan money to the homeowner and have it paid back monthly on the bill or on sale of the property

External Advisory Meetings Summary Cont'd

Electrification

- Need for City Light to be working more closely with other departments that have implementation/responsibility to avoid stranded assets from electrification loads not materializing.
- We will only achieve the rapid electrification that we absolutely need to accomplish if we all work together. If each department says, after you Alphonse, we will fail

2022 IRP Portfolio Metrics – Extra slide

- Net Present Value
- Greenhouse Gas Emissions
- Climate Change Preparedness
- Electrification Preparedness
- Transmission Risk
- Customer side opportunities



2022 IRP Conclusions: What do they mean?

- RCW Chapter 19.280 RCW 'Electric Utility Resource Plans'
 - The legislature intends that information obtained from integrated resource planning under this chapter will be *used to assist* in identifying and developing: (1) New energy generation; (2) conservation and efficiency resources; (3) methods, commercially available technologies, and facilities for integrating renewable resources, including addressing any overgeneration event; and (4) related infrastructure to meet the state's electricity needs (**RCW** 19.280.010)
 - Will be updated at a minimum every two years (RCW 19.280.030 (8))

2022 IRP Draft Top Portfolios – Extra slide

All these portfolios follow the historical hydro generation and historical load temperature, for this 2022 IRP, we call this the **Base Lowest Cost** scenario.

Portfolio	Description
P1: LowestCost	Base Lowest Cost
P6: 2DR	Base Lowest Cost + 2 Demand Response
P7: 4DR	Base Lowest Cost + 4 Demand Response
P11: Balanced	Base Lowest Cost + 2 Demand Response + Customer Solar
P34: 2032 Elect	Base Lowest Cost + 2032 Electrification Loads Begin + 2DR
P35: HighEE	Base Lowest Cost + High Energy Conservation
P36: Solar+Batt	Base Lowest Cost + Utility Scale Solar with Battery

2022 IRP Draft Top Portfolios – New Supply Additions

Portfolio	2024	2026	2027	2032	2033	2034-2041	Total
P1: LowestCost	100	300	25	75			500
P6: 2DR	100	275	25	75	25		500
P7: 4DR	100	275	25	75	25		500
P11: Balanced	100	300		25	25		450
P34: 2032 Elect	100	300	100	325	250	300	1,375
P35: HighEE	100	300				75	475
P36: Solar+Batt	100	300	25	75			500

Portfolio	Wind (MW)	Solar (MW)	EE (aMW)	DR (MW)	Added Customer Solar (MW)
P1: LowestCost	275	225	116		
P6: 2DR	300	200	115	122	
P7: 4DR	300	200	116	141	
P11: Balanced	275	175	116	122	52
P34: 2032 Elect	1050	325	116	59	
P35: HighEE	300	175	150		
P36: Solar+Batt	275	225	116		

Portfolio	Wind (MW)	Solar (MW)	EE (aMW)	DR (MW)	Added Customer Solar (MW)
P1: LowestCost	275	225	116		
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P7: 4DR	300	200	116	141	
P11: Balanced	275	175	116	122	52
P34: 2032 Elect	1050	325	116	59	
P35: HighEE	300	175	150		
P36: Solar+Batt	275	225	116		

P34 eliminated because:

- high cost
- the pace of electrification penetration assumptions is uncertain
- transmission assumptions associated with meeting electrification loads are uncertain
- a City Light portfolio with a significant % of *only* wind & solar renewables (>50%) presents significant challenges to balance energy in real time
- future supply/demand resource technology could better fit future electrification needs in the 2030s

Portfolio	Wind (MW)	Solar (MW)	EE (aMW)	DR (MW)	Added Customer Solar (MW)
P1: LowestCost	275	225	116		
P6: 2DR	300	200	115	122	
P7: 4DR	300	200	116	141	
P11: Balanced	275	175	116	122	52
P34: 2032 Elect	1050	325	116	59	
P35: HighEE	300	175	150		
P36: Solar+Batt	275	225	116		

P1, P35, P36 eliminated because:

- No demand response programs
 - Important tool for reducing climate change and/or electrification load uncertainties for summer and winter
 - Important tool for minimizing financial impacts of wholesale power prices
 - Important option for customer energy solutions/reducing energy burden
 - Important to start demand response programs as soon as possible in order for ramp rates to take effect

Portfolio	Wind (MW)	Solar (MW)	EE (aMW)	DR (MW)	Added Customer Solar (MW)
P1: LowestCost	275	225	116		
P6: 2DR	300	200	115	122	
P7: 4DR	300	200	116	141	
P11: Balanced	275	175	116	122	52
P34: 2032 Elect	1050	325	116	59	
P35: HighEE	300	175	150		
P36: Solar+Batt	275	225	116		

P7 eliminated because:

- The additional demand response programs are higher cost & lower potential
- Higher transmission risk than P11

P6 eliminated because:

- Higher transmission risk than P11
- Less customer energy solution options than P11

Future Work

- Look at slightly different BPA allocation and 100% clean energy product option for post 2028 contract given 2022 IRP scenario learnings.
- Work through the 2024 CPA Process to identify EE/DR/Customer Solar/Battery potential, incorporating climate change and electrification scenarios.
- Pursue equity value-streams for EE/DR/Customer Solar/Batteries.
- Additional analysis and modeling of potential electrification loads to incorporate into SCL's load forecast, CPA, and IRP.

Future Work (cont.)

- Study additional climate change scenarios to establish a more robust understanding and response.
- Continue to evaluate new resource options and technology potentials (e.g., hydrogen, additional battery configurations, geothermal, other 24/7 base load resources).
- Continue to refine portfolio metrics.

Next Steps

• Feel free to reach out to us at SCL.IRP@seattle.gov.

Milestone

Rough Draft of IRP Completed by EOD Wednesday, May 11th

Presentation to Debra – May 19th

Final Debrief with SCL – May 27th

SCL E-Team Presentation – June 1_{st}

Mayor's Office Briefing – Week of June 6th?

Legistar Submittal – June 27th

Mayor's Office Transmit to Council – July 6th

IRC - July 19_{th}

Committee Review – July 27_{th}

Full Council Vote – August 8th

Internal SCL Target for IRP Submittal to Commerce – By August 15th

Statutory deadline for Commerce - By Sept 1st

CETA Portfolio Needs

Interim target: Percentage of retail load to be served using renewable and nonemitting resources (WAC 194-40-200(2))

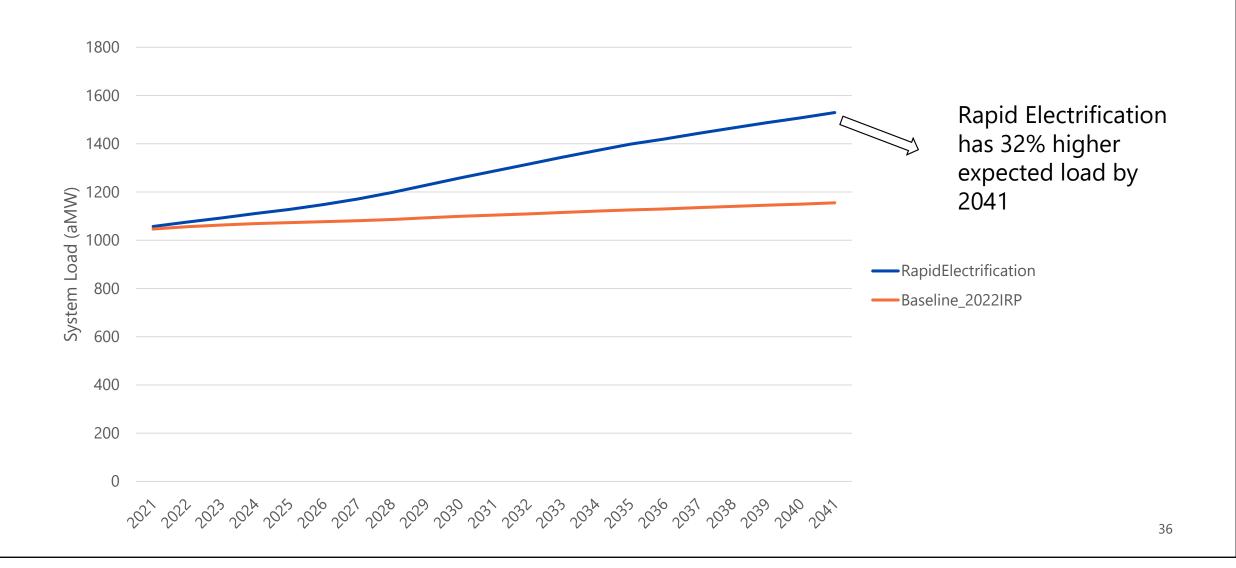
					4-year Period
Resource	2022	2023	2024	2025	Avg
Renewable	93%	93%	93%	93%	93%
Nonemitting	4%	4%	4%	4%	4%
Total	97%	97%	97%	97%	97%

Median hydro: SCL median historical generation, each month, over the operating period 1999 to 2020



SCL Portfolio very clean on a monthly or annual basis

IRP Load Forecast Annual



Integrated Resource Planning

RCW 19.280 CREATING PUBLIC TRANSPARENCY



Comprehensive plan describing how we plan to meet customer demand in the short and longterm (10- 20 year view) at lowest reasonable cost

Minimum analysis components prescribed in state law

Integral for setting City Light's cost-effective conservation targets

Must be approved by City Council after public review

Progress reports on Action Plans every two years

Thank you!

- 2022 IRP Advisory Panel
- Steve Gelb, Emerald Cities Collaborative
- Paul Munz, Bonneville Power Administration (BPA)
- Jeremy Park, P.E. University of Washington
- Yuri Rodrigues, Seattle Pacific University
- Mike Ruby, Ph.D., P.E., Envirometrics, Inc.
- Joni Bosh, NW Energy Coalition (Happy Retirement!)
- Amy Wheeless, NW Energy Coalition
- John Fazio, NW Power & Conservation Council
- Elizabeth Osborne, WA Department of Commerce
- Kelly Hall, Climate Solutions
- Joanne Ho

2022 – 2026 Strategic Plan Status Report





Recap: 2022 – 2026 Business Strategies & Objectives

Improve the Customer Experience

Consistently meet customers' needs by providing employees with the opportunities & training required to deliver targeted and responsive solutions.

We Power

Continue to advance our mission to provide our customers with affordable, reliable, and environmentally responsible energy services

Ensure financial health & affordability

Support long-term affordability in Seattle by offering rates that are transparent, understandable, reasonable, equitable, & consistent for all customers, including vulnerable populations. This commitment includes developing a sustainable and predictable approach to setting rates over time

Create our Energy Future

Build & maintain Build & maintain a smart, resilient, flexible, dynamic, & reliable grid infrastructure to prepare for the increased integration of distributed energy resources & more customer options.

Develop Workforce & Organizational Agility

Foster an organization that is nimble, adaptive, and responsive and cultivate a workforce with the skills and knowledge to advance social justice.

Business Strategy Status Dashboard

1. Improve the Customer Experience



On track

2. Create our Energy Future



On track

3. Develop Workforce & Organizational Agility



On track

4. Ensure Financial Health & Affordability



On track

5. We Power



On track

Q 1 2022 – Improve the Customer Experience

+Voice of the Customer

<u>Customer Survey Results</u>: Results from the recently completed Customer Satisfaction Survey (CSAT),

- the JD Power Residential & Business CSAT surveys, and Escalent/Cogent Residential & Business Brand Trust surveys were presented to City Light leadership and participating work groups.

 <u>Project Support</u>: Completed customer research, including customer surveys, for the Demand
- Response Pilot Project (initial research) and Grid Modernization efforts. This was supported by Customer Energy Solutions, Engineering & Strategic Technology, and Communications divisions.
- <u>Customers First Strategy</u>: The Draft Customers First Strategy (Vision & Focus Areas), along with potential roadmap was presented to Executive Team in February.
 - Culture Assessment Pilot: Began the Engineering Culture Assessment Project including voice of
- customer and employee insights. This project is acting as a pilot/proof of concept for a utility-wide Culture Assessment. Includes conducting customer and employee interviews, conducting an internal culture survey, and drafting action plans for areas identified to improvement.

+Strengthen and Improve Core Customer Services

- Specialized Customer Support: In the process of increasing staffing levels to support customers operations activities.
- <u>Presumptive Consumption</u>: Developed an estimated usage table (Presumptive Consumption), including three usage levels that will improve the resolution process for complex billing issues.
- <u>Utility Discount Program (UDP)</u>: Finalization of the scope for the business process improvement project for the UDP interdepartmental team.



Q 1 2022 – Improve the Customer Experience, continued

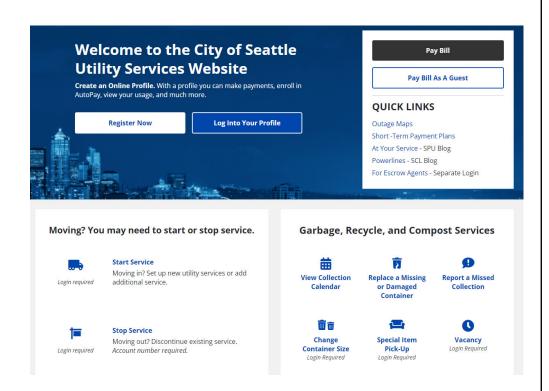
+Strengthen Core Services (Cont.)

<u>Service Connection Timeline</u>: Using 2021 Work and Asset Management

- (WAMS) data, analyze the service connection application process to determine which parts of application process have longer than estimated timeframes and report on reasons behind longer timeframes. Develop recommendations to shorten estimated times.
- <u>Billing Process Improvement</u>: Develop a list of billing issues that have been identified in by the Customer Accounts Manager. Develop and utilize a rating system to determine which issues to address first and which billing processes need improvement.

+ Expand Customer Service Options

- Renewable Plus Program: The program is open for enrollment. This program will provide large customers with a bundled solar/wind energy/Renewable Energy Certificates product to help them meet their sustainability goals.
- Solar Power Purchase Agreement (PPA) The agreement to sign a solar resource was delayed by the vendor due to price uncertainty stemming from a new US Department of Commerce investigation into solar panels. Utility Services Portal: Launched two new Portal features, Welcome Letter
- and Updated Payment Plans, in line with SCL's Road to Recovery and SPU's Resumption of Service.



Q 1 2022 – Create our Energy Future

+Utility Next

- Collaboration: Continued collaboration with EPRI, City of Seattle, and Community Roots Housing to support grid interactive efficient buildings (GEBs); City Light staff joined with staff from the City of Seattle Office of Housing, Community Roots Housing, and EPRI to perform site walk-throughs and assess four potential sites for the Connected Communities demonstration
- <u>Funding</u>: Ongoing monitoring of potential funding opportunities, coordination with partners, engagement in workshops. In negotiations WA Department of Commerce on two of the four CEF awards (Colman Dock BESS and Seattle Central College Ecodistrict). Preparing for negotiations on final two contracts.

+Grid Modernization

- Innovative microgrid on Capitol Hill nears completion with our support: Miller Community Center Microgrid will provide backup power storage for the community center during emergency events as well as reduce their electricity bill via the solar generation. In the future, we expect this project to generate opportunities for workforce development internally at SCL and externally as well.
- Reducing customer outages: Our work to configure DA-FLISR at our University substation will help minimize customer outages in the neighborhoods around the University of Washington. We're also updating the switching for Children's Hospital.
- Increasing safety and reducing costs: Siting has now been planned for a pilot of seven new remote switches throughout our service area, moving current manual switching to an automated system. We'll use this pilot to study and adjust before scaling up in the future.



2021 Grid Modernization Plan and Roadmap



Q 1 2022 – Create our Energy Future, continued

+Building Electrification

- <u>Building Electrification Strategy</u>: Continued to have discussions with stakeholders to introduce the strategy work. This month, we met with the Office of Economic Development, SCL Electrical Service Engineering team, and SCL Systems Planning.
- Heat Pump Engagement: Continued customer/partner interest in heat pump technologies via the Lighting Design Lab, with over 20 attendees at March education webinars and 3,700 subscribers to our e -newsletter.
- <u>Sharing Expertise</u>: Lighting Design Lab provided expertise and support to a range of partners including Boeing, Port of Seattle, and Holy Rosary Church in West Seattle to complete lighting audits and support upgrades that can improve efficiency and reduce costs.
- Supporting Policy: Supporting Office of Sustainability and Environment's Technical Advisory Group for the development of a carbon -based building performance standard.

+ Transportation Electrification

- <u>Transit Electrification</u>: King County Metro's new electrified South Base opened in March following two years of collaboration, partnership, and leadership.
- <u>Access to Charging</u>: Our Hosting Capacity Map will go live in Q3 2022 to support customers, distribution planners, and the public's awareness of locations that can accommodate electric vehicle charging.
- High Impact Partnerships: A team across SCL departments worked in March to address recent vandalism at public electric vehicle fast charging stations at Madison-Miller Residential Urban Village.



Q 1 2022 – Create our Energy Future, continued

+Western Market Development

- California ISO Extended Day-Ahead Market: City Light has been actively participating in The CAISO EDAM stakeholder processes that has been underway and meeting twice a week since early January. Three individual workgroups are addressing resource sufficiency, transmission commitment and congestion rent, and greenhouse gas accounting. The CAISO is now drafting their day ahead market straw proposal that should be available for stakeholder review by the end of April.
- Southwest Power Pool Markets + Program: City Light is also participating in a third major market centered effort in the West that is being promoted by the Southwest Power Pool (Markets +). Once developed, Markets + might provide a day-ahead market alternative to the CAISO EDAM for some utilities in the West. SPP has also created stakeholder design teams in the areas of governance, transmission availability, market products and price formation.
- Western Markets Exploration Group: City Light was asked to join a group of fourteen western utilities that will be examining, evaluating, and proposing transmission and resource approaches to a Western energy and ancillary services market. The group issued an RFP for facilitation services and selected a consultant to work with. The effort is progressing nicely but is about two months behind schedule because of extra time taken in the facilitator selection process.





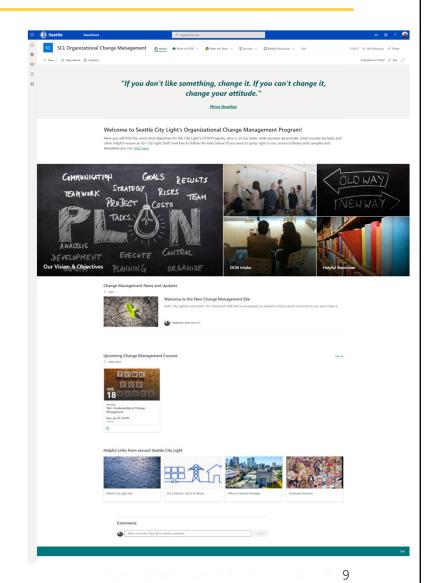
Q 1 2022 – Develop Workforce & Organizational Agility

+Organizational Change Management

- <u>Program Design</u>: The Office of Change Management (OCM) program vision/mission along with intake process and service offerings model were established and published on OCM SharePoint site.
- <u>Data Analysis</u>: Conducted an initial knowledge survey and analysis around "What is OCM and how important it is?" The team then gathered and analyzed the data. This information will inform program design and execution going forward.
- Project Support: Actively managed and responded to OCM resource requests and have been providing resources to support Utility-wide. (Ex: Road to Recovery, Service to Bill, People & Culture process simplification, SCL Energization, Operation Technology Cyber Security policies development and launch.)

+Agile Workforce

- Future of Work: The draft Future of Work plan has been developed and was presented to City Light leadership for feedback. Plan will be finalized in Q2.
- <u>Employee Development</u>: People & Culture (P&C) compiled existing data regarding employee development, reviewed existing emerging leaders and identified gaps, and implemented an emerging leaders' program with more structure. In progress for identifying a focus group and implementing the communication plan rollout strategy.
- <u>Employee Surveys</u>: P&C began work on implementing the Anniversary pulse surveys. Implementation is expected to be completed in Q2.
- Equity: P&C successfully launched multiple Equity Labs to support the development of the programs in the Strategic Plan and the 2023/2024 budget.



Q 1 2022 – Ensure financial health & affordability

+Control Rate Increases

- <u>Rates Path</u>: Proposed a Rate Path under CPI inflation. This path is supported by Mayor and City Light Review Panel. The Financial Forecast documentation nearly complete. This document is an attachment to the 2023 2028 Strategic Plan Update.
- <u>Capital Budget Development</u>: CIP Prioritization is underway. Staffing shortages delayed some of the key inputs, but the process is expected to be completed by the end of April.

+ Pricing Services for the Future

- Initial meeting with NWEC on fixed charges.
- TOD Rate Development is in Progress.

+Road to Recovery

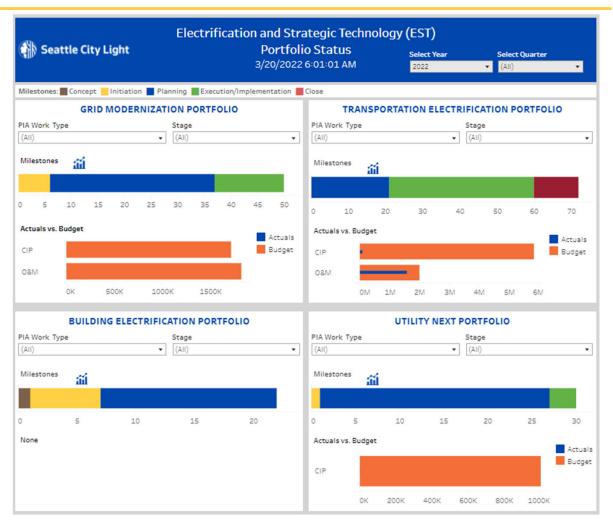
- Finalized new repayment and expanded financial assistance options for customers
- Developed internal policy and process documents
- Developed training materials for customer-facing staff
- Received Mayor's Office approval to proceed with customer engagement and collections resumption plan developed with SPU.



Q1 2022 - We Power

+We Power Dashboards

- <u>Electrification & Strategic Technology (EST)</u>
 <u>Dashboard</u>: Wrapping up division dashboard for Electrification and Strategic Technology division
- <u>Transmission & Distribution (T&D) Field Ops</u>
 <u>Dashboard</u>: Began work on T & D Field Operations dashboard



This is a sample draft of the EST Dashboard

THANK YOU



Mission, Vision & Values

Mission

Seattle City Light provides our customers with affordable, reliable and environmentally responsible energy services.

Vision

Create a shared energy future by partnering with our customers to meet their energy needs in whatever way they choose.

Values







- **Operational and Financial Excellence**
- Safe and Engaged Employees





Connections

MAY 2022



Microgrid Brings Clean Energy to the Miller Community Center

Governor Jay Inslee, Mayor Bruce Harrell and local leaders celebrated the completion of our first microgrid at Miller Community Center. The microgrid generates clean energy through solar panels and a battery system. When the power is out, the microgrid can continue providing electricity to the community center, creating a safe gathering space for the neighborhood.

Learn More



Spotlight

Meet Electrician Constructor Apprentice **Alexandre** Noble. In this position, Alexandre is learning critical skills while assisting journey workers with maintenance and projects in the utility's substations.

Learn More



Plugged In

The COVID-19 pandemic has made it difficult for some of our customers to afford utility services. We offer flexible payment plans to help you get caught up and stay current on your utility bills.

Learn More



Powerful Tips

It's a great time to do some spring cleaning and get your home ready for the upcoming summer heat. We have tips that help you save energy and money, while keeping your home cool.

Learn More

Have a topic you'd like to hear more about?

SUBMIT A TOPIC

Stay connected: **f y in o**











<u>Seattle City Light</u> 700 Fifth Avenue, P.O. Box 34023 Seattle, WA 98124-4023

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