



## CITY LIGHT REVIEW PANEL MEETING

Wednesday, February 15, 2023

9:00 – 11:00 A.M.

SMT 2821

—or—

Microsoft Teams Meeting

Proposed Agenda

<u>Item</u>	<u>Lead</u>
1. Welcome (5 min.)	Mikel Hansen, Panel Chair
2. Public Comment (5 min.)	
3. Standing Items: (10 min.)	
a. Chair's Report (Mikel)	
b. Review of agenda (Julie Ryan)	
c. <b>Action:</b> Review and approval of meeting minutes of Jan. 18, 2023	
d. Communications to Panel (Leigh Barreca)	
4. General Manager Update (30 min.)	Debra Smith
a. Current Culture overview	DaVonna Johnson/Namura Nkeze
5. Physical and Cyber Security (20 min.)	Jeff Brausieck/Brendan Armstrong
6. Markets Overview/Wholesale Market Risks (30 min.)	Jim Baggs
a. Western Resource Adequacy Program (WRAP) (20 min.)	Siobhan Doherty
7. Adjourn	

*Next Meeting: Wednesday, March 22, 2023*



**City Light Review Panel Meeting  
Meeting Minutes**

**Date of Meeting: January 18, 2023 | 9:00 – 11:00 AM |  
Meeting held in SMT 2821 and via Microsoft Teams “Draft”**

<b>MEETING ATTENDANCE</b>					
<b>Panel Members:</b>					
<b>Names</b>		Name		Name	
Anne Ayre	√	Leo Lam		John Putz	√
Mikel Hansen	√	Kerry Meade	√	Tim Skeel	√
Scott Haskins	√	Joel Paisner		Michelle Mitchell-Brannon	
<b>Staff and Others:</b>					
Debra Smith	√	Jen Chan	√	Julie Ryan (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	√	Leigh Barreca	√
Greg Shiring	√	Carsten Croff	√	Angela Bertrand	√
Eric McConaghy	√	Caia Caldwell		Brian Taubeneck	√
Robert Shelley (Piper Sandler)	√				

**Welcome and Introductions.** The meeting was called to order at 9:05 a.m.

**Public Comment.** There was no public comment.

**Standing Items:**

**Chair’s Report.** Mikel Hansen expressed appreciation for the panel charter refresh and the staff’s responsiveness to the panel.

**Review Agenda.**

- a. Recap of meetings with panel members – Leigh Barreca thanked the panel members for taking part in individual meetings with her and Julie Ryan. Leigh shared a high-level recap of key themes from the meetings.
  - a. A utility glossary is included in the materials
  - b. An updated workplan is included in the materials
- b. Review Panel charter refresh – Julie reviewed the Review Panel charter and discussed panel member roles and responsibilities.

**Approval of Nov. 22, 2022, Meeting Minutes.** Minutes were approved as presented.

**Communications to Panel.** Leigh reported that no emails were received.



## City Light Review Panel Meeting Meeting Minutes

### General Manager's update.

1. Arrearage Funds - As of Dec. 20, City Light staff had applied all \$9,756,647.05 of Washington State COVID Arrears funding to customer accounts. In total, 16,891 accounts received this one-time assistance. We prioritized the distribution based on customers participation in other assistance programs: LIHEAP, UDP, other bill assistance, Recovery 3 Payment Arrangements, short-term pay plans.

2. Year in Review -

After a few tumultuous years, 2022 felt like a step in the right direction and there was certainly plenty to celebrate. As we look ahead to an even brighter 2023, here is a sampling of the milestones, achievements, and accolades Seattle City Light marked in 2022.

- a. **Transportation Electrification**: Electrification was certainly a huge theme for City Light in 2022. We started off the year by completing our Electrification Assessment with industry-leader Electric Power Research Institute (EPRI). This work will help us better understand our energy needs as we tackle the electrification of buildings, transportation, and commercial and industrial applications.
  - i. Metro Charging Facility - In March, we were on hand to celebrate the opening of the Metro Transit South Base charging facility for King County Metro's new fleet of all-electric buses. These buses went into service that very day, supporting our efforts to provide accessible electrified public transit and help reduce air and noise pollution in communities that are most impacted.
  - ii. Curbside Charging - Last summer we began taking requests from residents asking where they would like to see curbside electric vehicle chargers installed in their communities. Following extensive media coverage, we received nearly 2,000 responses and identified 30 pilot sites to install Level 2 curbside chargers in early 2023.
- b. **Working with our community**: In 2022 we established and participated in a number of efforts to further strengthen our connections to our community.
  - i. Social Responsibility Program- As a local, not-for-profit, public utility, social responsibility is at the core of everything we do. The program shares the stories of City Light employees who give back to their communities. Our employees participated in Seattle's Pride parade, adopted highways, helped build homes, and much more.
  - ii. Training Future Leaders - In April, we hosted 16 middle-school students and their mentors from SPIN Girls, a leadership program that provides immersive STEM experiences, for a STEAM in Power Workshop. Women from across the utility introduced participants to science, technology, engineering, arts, and math (STEAM) fields through hands-on activities at our South Service Center.



## City Light Review Panel Meeting Meeting Minutes

- c. **Awards Received** – We were proud to be the recipients of two industry awards/rankings last year.
- i. JD Power - In November, J.D. Power bestowed City Light with the highest business customer satisfaction index score of any midsize electrical utility in the Western United States. The recognition is a testament to the work of countless City Light employees who make it their mission to be a champion for the customer every day.
  - ii. Escalant - In addition, City Light was recently named a 2022 Escalant Business Customer Champion, topping the Western region with the highest Customer Engagement Benchmark Performance index score (847) of any utility in the country regardless of size.

We thank our employees, community partners, Review Panel members and customers who create a shared energy future. Here's to an even better and brighter 2023.

**Q:** Do you know how the existing chargers are being used?

**A:** Transportation electrification program manager, Angela Song provides an update, and we'll bring that back to you in the future. Two of our stations are out of service due to vandalism. Electric Utility vandalism is up nationwide, so this is not a Seattle crime problem, but a larger issue.

**Strategic Plan.** Leigh introduced the Strategic Plan status topic, Future Financial Health & Affordability, and debt strategy. This is a continuation of the presentation that occurred in November. The presentation is in meeting packets.

Carsten Croff and Rob Shelley from Piper Sandler presented on City Light's debt strategy. Consistent with the financial policies the debt strategy is to use more conservative financial targets to ensure there is adequate funding for capital projects.

**Q:** Is this level of debt sustainable? How much of every dollar goes to debt service?

**A:** We track debt as a percentage of total assets. We also track how load has been declining, but customer count is growing. Also, we track debt cost as a percentage of the total costs. (The Panel member requested a ten-year history showing the debt portion of the total costs, which Staff will provide.)

**Q:** What are the future capital investments that will be required beyond the 10 years shown?

**A:** We will talk about capital investments as a part of the "We Power" strategy presentation in June.

**Q:** I would be interested to hear about the retail sales projection.



## City Light Review Panel Meeting Meeting Minutes

**A:** We'll be updating our load use model in preparation for next year's strategic plan update, which can be brought to the Panel in late Q3/early Q4.

**Q:** Are city taxes included in the 1.8x DSC ratio?

**A:** The DSC ratio in the Debt Strategy is before city taxes.

**A:** Municipal utility bond contracts require that transfers to the general fund or payment of city taxes, are made after debt service is made. Sometimes we look at DSC ratio with city taxes because the credit rating agencies look at this measure both with and without the city tax or general fund transfer. They understand municipal utilities will endeavor to pay the city taxes unless something unusual occurs.

**Q:** Could you give us rationale again for raising DSC target?

**A:** An additional 0.2x coverage is fiscally more conservative. It provides ~\$50M more cash to fund CIP. While this increases retail rates, it provides capital needed for system investment. Additionally, more cash means less debt will have to be issued.

**A:** The increase will give us a buffer against unknown expenses that could relate to inflation risk, unplanned expenses, and supply chain impacts.

**A:** In the past, we often have not met the 1.8x target or 40% cash target. The Debt Strategy is to raise the target to 2.0x, and for 1.8x to be the minimum in any given year. Similarly, the strategy is to make 40% cash target the minimum.

**Q:** Having another longer-term objective around debt level might be beneficial. Maybe it is debt to revenue target or debt as a percentage of the customer rate.

**A:** It is important to understand that while reducing the Debt Service Coverage ratio can help keep rates low, it has negative long-term impacts. Without adequate capital, City Light cannot maintain the system, which negatively impacts reliability and service.

**A:** If you wanted to make sure the percent of bill that went to debt stayed stable, you would keep the debt service coverage ratio stable. Together, the debt service coverage ratio and leverage ratio would give you the view you're looking for.

**Q:** At a high level, how does SCL compare to peer utilities?

**A:** City Light ranks well next to peers. There are some measures where City Light is at the low end, so there is room to improve. As a whole, City Light is very strong.

As the meeting closed, City Light explained the next step will be to document the recommended debt strategy in a white paper which will be completed in the coming months. The recommendations will then become an appendix to the Financial Forecast in the 2025 – 2030 Strategic Plan update.

**Adjourn:** Meeting adjourned at 11:04 a.m.

**Next meeting:** Feb. 15, 2023, 9:00 – 11:00 a.m.

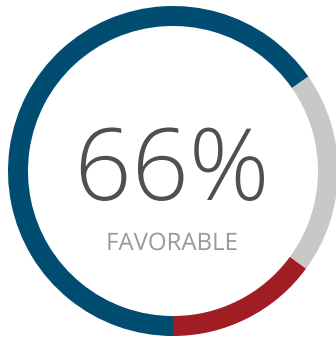
# Summary

**STRUCTURE:** Seattle City Light

**FILTERS:** None

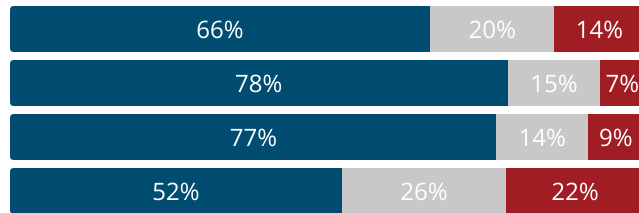
**PARTICIPATION RATE:** 902 of 1546 (58%)

## OVERALL FAVORABLE SCORE

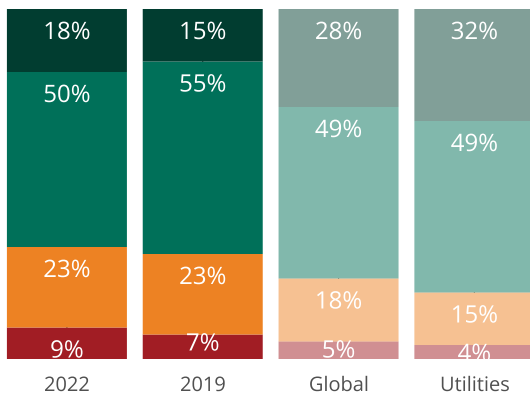


My Job  
My Team  
My Supervisor  
City Light

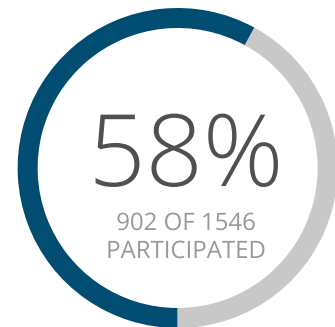
## DIMENSION SUMMARY



## ENGAGEMENT SPECTRUM



## PARTICIPATION



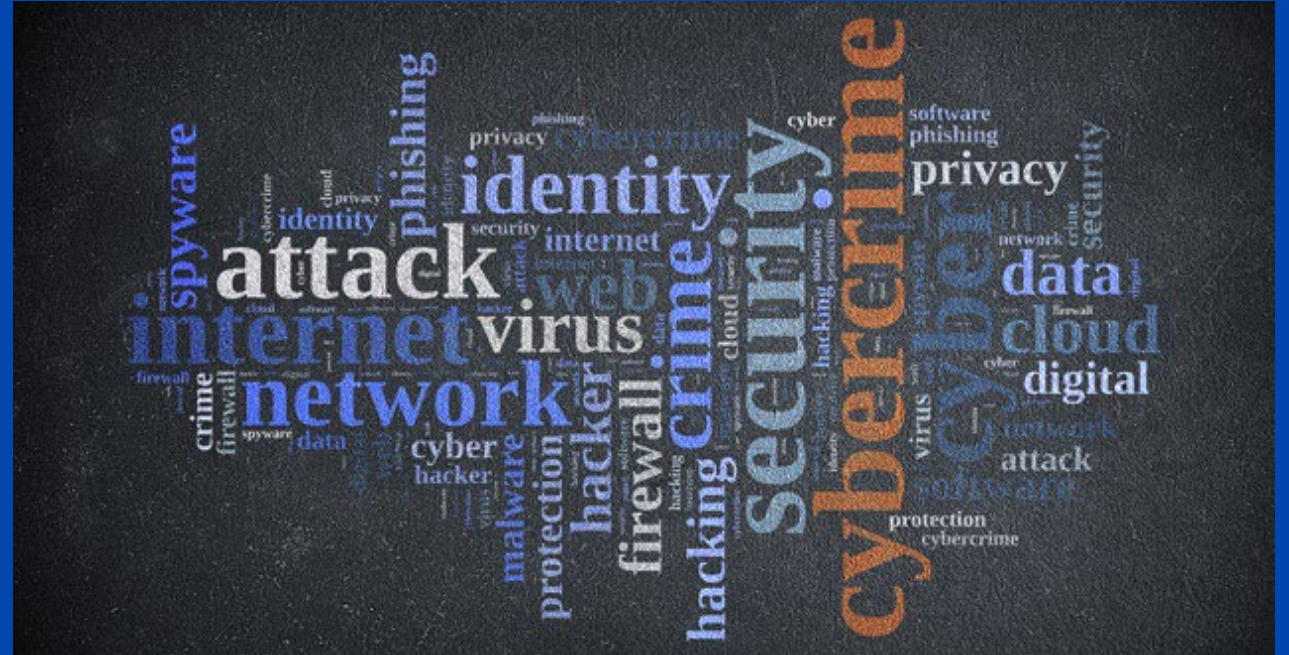
## HIGHEST SCORING ITEMS

Item	Score	Change from 2019
26. My supervisor promotes a safe working environment.	86%	5
18. The people I work with treat me with respect.	85%	1
24. I enjoy working with the people in my work group.	85%	3
29. My supervisor is approachable and easy to talk to.	83%	5
2. I have the tools and resources I need to do my job safely.	83%	1

## LOWEST SCORING ITEMS

Item	Score	Change from 2019
42. City Light's review process is an effective method of evaluating the performance of employees.	28%	1
36. We work effectively across departments and functions.	32%	3
46. City Light is responsive to ideas and suggestions for improvement.	33%	5
43. Senior leaders know what is going on in City Light.	34%	3
44. City Light communicates well with all employees about what is going on.	36%	5

# Cyber Security



# Enterprise Cyber Security Program

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## **VISION**

- Enable technology innovation and adoption, and trustworthy service delivery, through mature and proactive cyber security risk reduction activities and a proficient incident detection and response capability.

## **MISSION**

- Develop the cyber security governance structures, risk frameworks, process improvements, and operational capabilities necessary to safeguard City Light's mission critical technology; to respond effectively to cyber incidents; and to operate in accordance with the requirements of applicable regulatory and compliance regimes.



# Enterprise Cyber Security Business View

## Example Cyber Risks

### Safety and Service Delivery

- Failure of safety or protection systems
- Service impact due to lack of resiliency or inability to monitor/operate critical systems
- Increased attack exposure as technology expands out of substations and toward customers
- Inability to keep up with digital transformations and customer needs
- Damage to bespoke / high value / hard to replace equipment

### Financial Impacts

- Inability to generate and/or collect retail revenue
- Inability to generate wholesale revenue
- Incident containment and recovery costs
- Customer/Employee PII exposure and identity theft response costs
- Higher costs for bonds and insurance
- Compliance violation penalties

### Reputational, Environmental, Liability

- Loss of trust could hamper efforts to lead customer-end technology innovation
- Civil Liabilities, Environmental Damage

## Program Focus Areas



## Example Enabled Goals

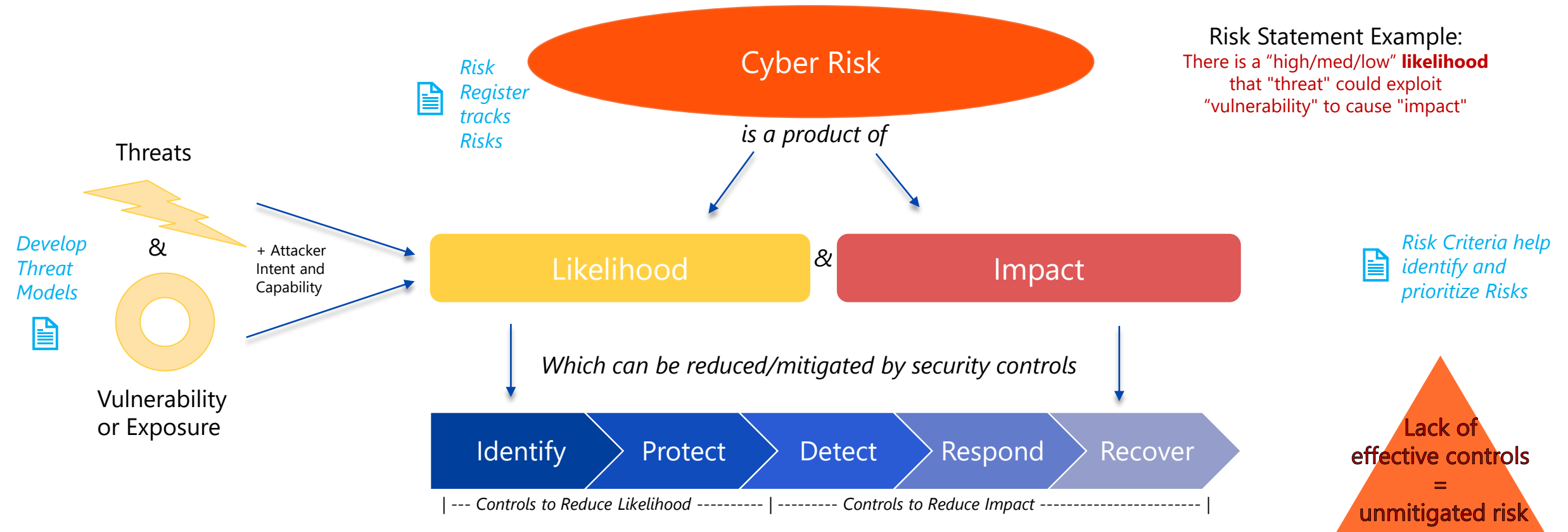


Mitigate these things...

...By doing these things...

...To help achieve these things

# CYBER SECURITY RISK MANAGEMENT



City Light has adopted the **NIST Cyber Security Framework (CSF)** and **ISA/IEC 62443** in addition to **NERC-CIP** for security controls; and the Department of Energy **Cybersecurity Capability Maturity Model (DOE-C2M2)** for program measurement

# Threat Actors and Motives

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- Nation state threats for political and/or wartime posturing, theft of intellectual property, espionage
- Terrorist threats to cause physical harm to humans and/or physical destruction of infrastructure
- Activist/Hacktivist or “Domestic Extremist” threats to government and critical infrastructure entities (denial of service attacks, data theft, doxing, embarrassment, destruction of property.)
- Criminal threats:
  - Compromise employee/customer data for identity theft
  - Ransomware attacks typically for financial gain (and sometimes to cover up Nation state attacks)
- Insider threats from compromised or disgruntled employee
- Collateral Risk
  - Increasing risk of collateral damage from cyber-attacks that inadvertently spread via the Internet beyond their intended targets
  - Shared services and shared data center infrastructure introduces collateral risk from attacks targeting other City departments

# Cyber Threat Updates

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- An expanding pool of bad actors we believe may target us with cyber-attacks, including politically motivated cyber attacks
  - **Cyber-attacks are now considered a likely response to geopolitical unrest.** The Russian invasion of Ukraine continues, as does U.S. support of Ukraine in the form of weapons and sanctions. Though most cyber-attacks have been focused directly on Ukraine so far, the threats of cyber-attacks against U.S. critical infrastructure remain. Attacks may come directly from Russian actors through proxy groups..
  - **Disruption of Viasat satellite** communications over Ukraine in lead up to armed conflict **demonstrates cyber's emerging role in modern warfare.** This had significant collateral effects to other entities relying on the satellite service including a German wind farm.
  - A **Russian hacking team targeted three nuclear research laboratories** in the United States, according to internet records reviewed by Reuters and cybersecurity experts (occurring between August and September 2022, as Vladimir Putin indicated Russia would be willing to use nuclear weapons to defend its territory).
  - A **Russian hacking group claimed to have taken down multiple US state government** and government services websites, including Alabama, Connecticut, Colorado, Delaware, and Hawaii
  - **New cyber security concerns may develop** in association with geopolitical challenges in regard to China/Taiwan, Iran/Israel, and North Korea/.\*

# Cyber Threats

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- A reduced level of sophistication needed to conduct an attack (as new malware and attack techniques become readily available)
  - **New malware was detected** targeting Ukraine substations **that is capable of automating attacks against operational technology (OT)** (e.g. the power grid!). In contrast to the destructive impacts of malware on information technology (IT) systems, OT environments tend to use different systems and communications protocols which are not as easily impacted by most malware. Once this malware gets into an OT environment, it can spread and cause harm without direct control by an attacker.
- New players entering the field
  - **Cybercriminals joined the war**, with pro-Russian criminals targeting Ukraine, and “Anonymous” attacking Russia.
  - A particular interesting development is **the “IT Army” called into service by Ukraine**, consisting of hundreds of thousands of volunteer members around the globe.
  - **Artificial Intelligence democratized** (ChatGPT/DeepFakes/etc) and can be used **to craft targeted attacks** and create realistic phishing messages (and generally sow discord in society)

# In Better News

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- **Ukraine has withstood tremendous cyber attacks** over the past year, demonstrating that **good defense is possible!**
- The **US Government took unprecedented action in 2022 to protect critical infrastructure** by
  - proactively communicating to the critical infrastructure community and the general public in advance of the Russian invasion of Ukraine
  - Providing guidance specific to the expected attack vectors.
  - Continuing to provide updates and guidance as the situation evolved.
  - Including direct cyber security funding in both the Infrastructure Investment and Jobs Act and the Inflation Reduction Act.
  - CISA Director visited Seattle for a “listening tour” to see how they can better serve us
- Renewed momentum from government and industry groups to collaborate on cyber security solutions, including LPPC, APPA, E-ISAC, DOE, and national labs.
- Within City Light, **we continue to build and mature our cyber security capabilities**, and to collaborate with industry, state, and federal government partners.
  - Highlight: City Light participated in a Washington State Cyber Incident Response Summit that included PNNL, CISA, WSFC, WA National Guard, and stakeholders from across the state to discuss strategies and pilot a collaborative approach to improve cyber incident response readiness within the state.

# Physical Security



# Physical Security Threat Landscape

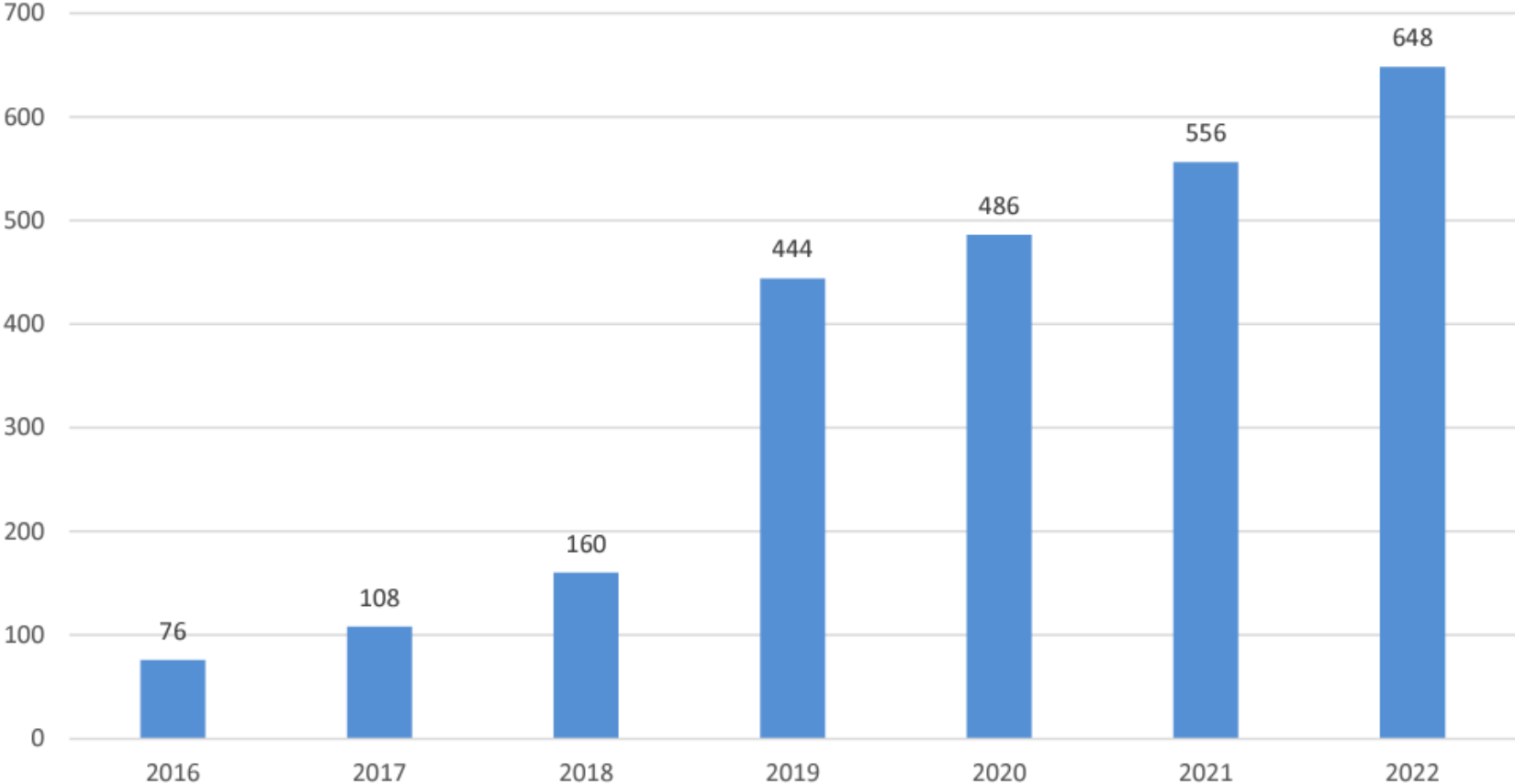
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- Based on federal law enforcement reporting and intelligence since 2021: Threat actors have been targeting US critical infrastructure in the energy sector.
  - Specific information circulated around transmission and distribution substations, cooling components and equipment.
- There are not determined links between incidents nationwide or observed coordinated efforts
- Domestic Violent Extremists have stated goal of disruption critical infrastructure through physical attacks; current incidents have no primary link



# Physical Security Trends

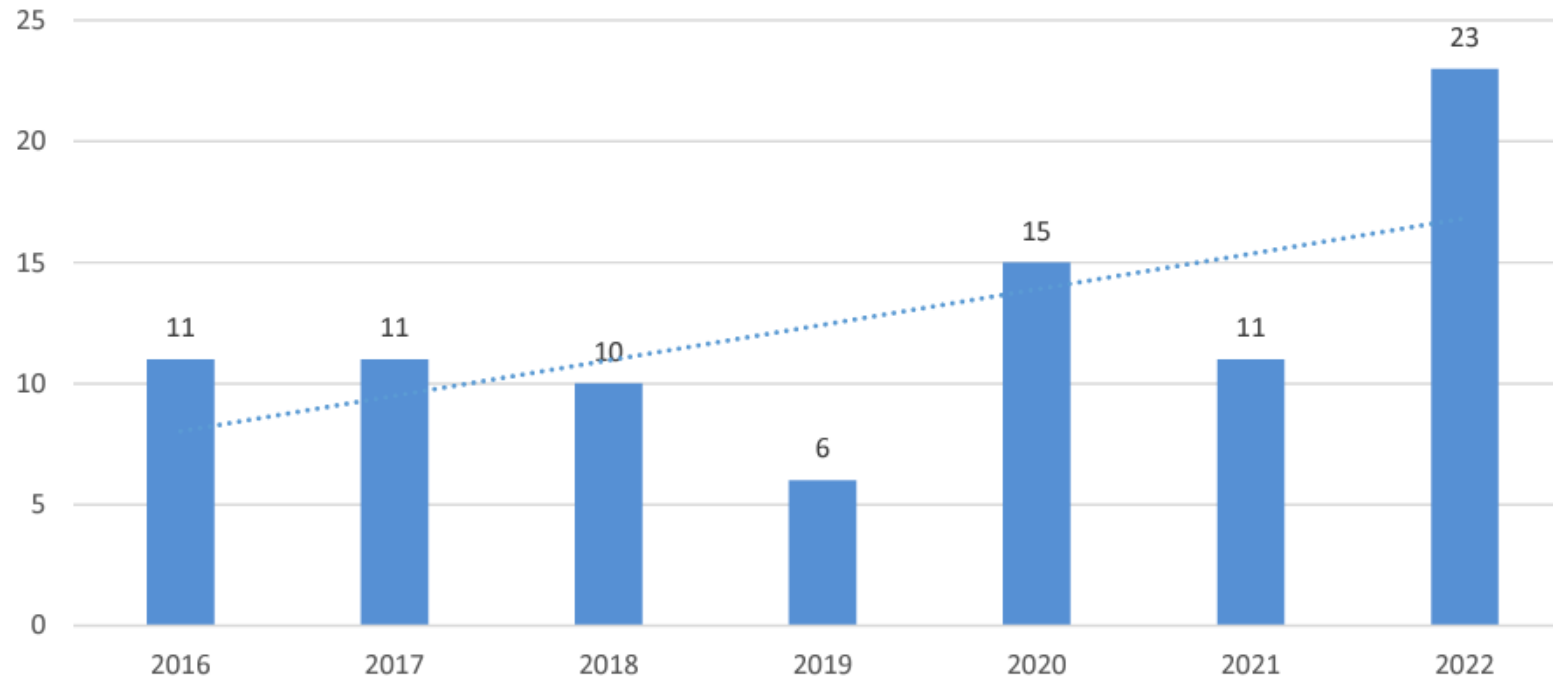
**Figure 1.3: Annual Number of Incidents at Substations (2016-2022)**



# Physical Security Trends

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**Figure 1.4: Annual Number of Ballistic Incidents at Substations (2016-2022)**



# Regional Incidents

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Incident Date	Location	Method
October 2022 (multiple)	Puyallup, WA	Arson
November 2022	Woodland, WA	Tampering
November 2022	Tumwater, WA	Ballistic
November 2022	Oregon City, OR	Ballistic
November 2022	Clackamas County, OR	Tampering
December 2022 (multiple)	Puyallup, WA	Tampering
January 2023	Umatilla, OR	Surveillance

# City Light's Measures and Response

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- Information Sharing
  - Utility Partners and lessons learned
  - Intelligence Sources
- Security Posture Adjustments
- Current and Future Strategic Capital Investments

# THANK YOU

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**Seattle City Light**

# Western Energy Markets & Resource Adequacy

*Seattle City Light Review Panel Meeting  
February 15, 2023*

# Presentation Flow

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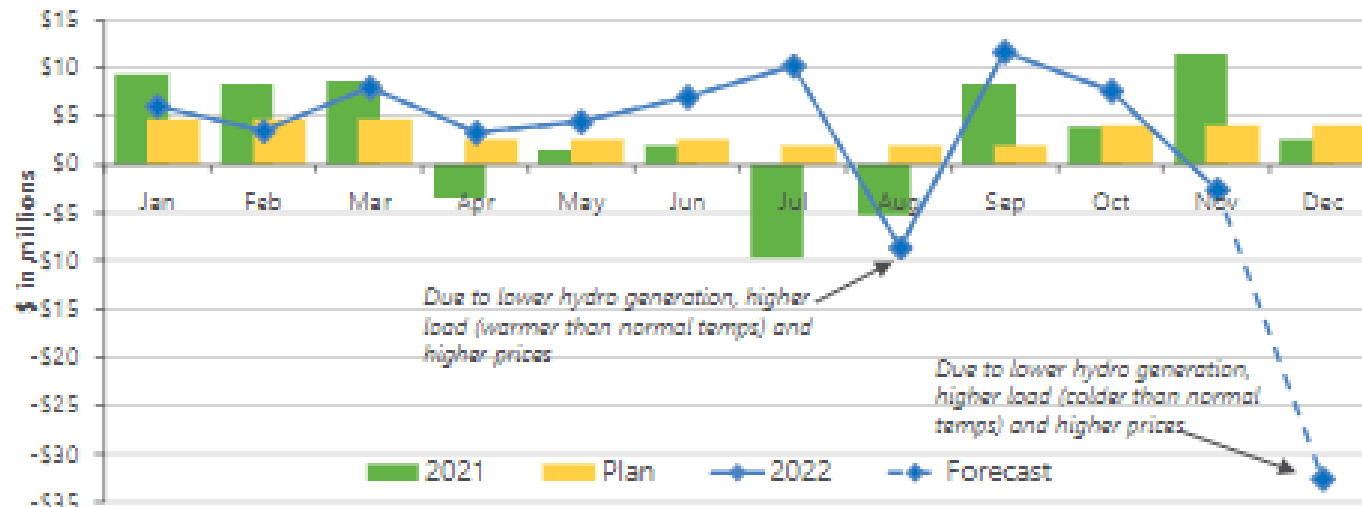
- Energy Markets and Finances
- The Western Interconnection
  - Energy Participant Interdependence
  - Historical Market Efforts
  - Significant WEIM Success
- Current Market Development Focus
- Early Collaboration -The Resource Adequacy Element (WRAP)



# A Real World Example

## NET WHOLESALE REVENUE

\$ in millions	2021	2022	Plan	Variance-Y/Y	Variance-Plan
Full Year	\$37.6	\$17.3	\$40.0	(\$20.2)	(\$22.7)
YTD	\$34.9	\$49.9	\$36.0	\$15.0	\$13.9



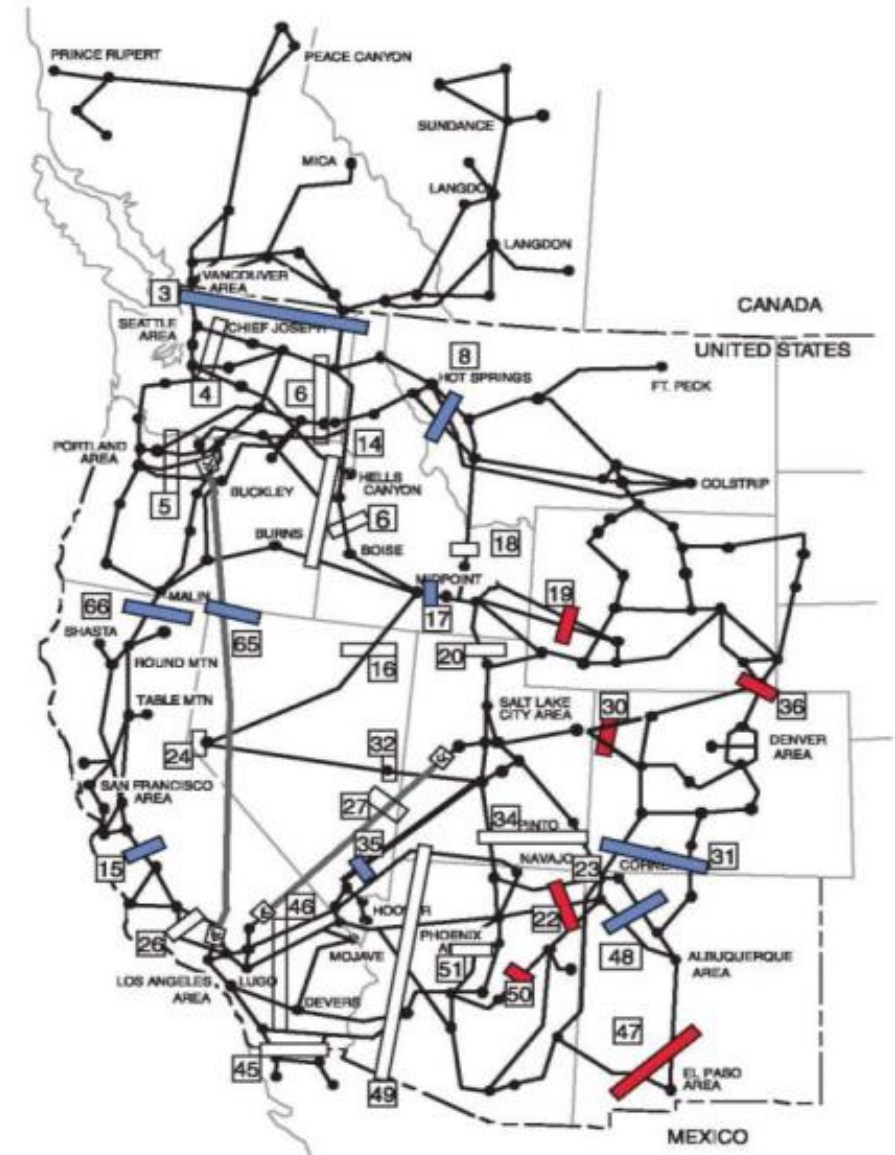
As of December 7, 2022	5 Year Avg	2022 Avg	% of 5 Yr Avg
SCL Hydro Generation (GWh)	5,911	6,079	103%
Market Prices (On-Peak Hours)	\$36.30	\$87.06	240%

- Everyday Challenges
- Retail Cost Consequences (Rates)
- Environmental Factors
- Organized Markets Would Impact

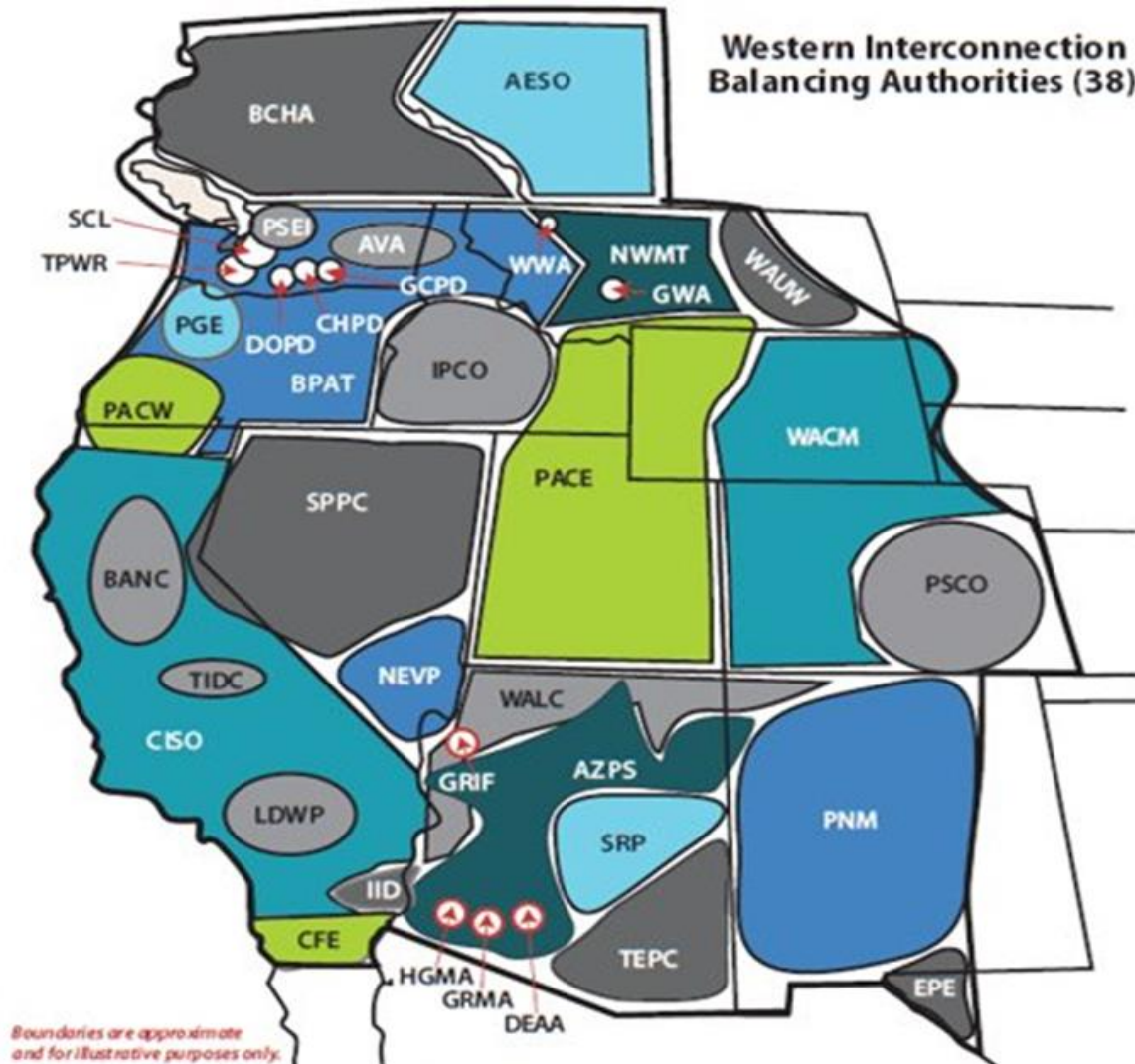


# A Single Western Interconnected Grid

- More than 1.8 Million Square Miles
- All or Part of 14 US States plus British Columbia, Alberta & Northern Baja
- Population > 80 Million
- Large Share of Generation from Hydroelectric and Variable (wind and solar) Resources
- About 136,000 Miles of High Voltage Transmission Lines – Many Long to connect Hydro and Other Remote Generation with Population Centers



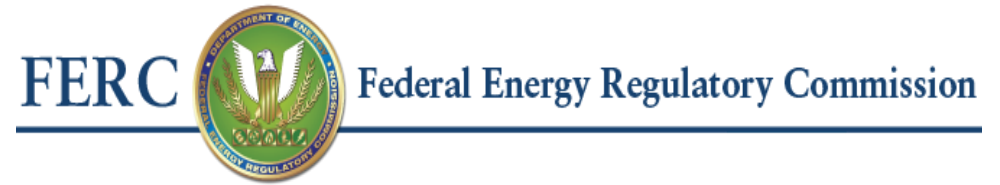
# Western Interconnection Balancing Authorities



# Regulatory Oversight

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- Critical Infrastructure Protection Requirements
- Operations & Planning Standards
- Open Access Transmission Tariffs
- Market Behavior Rules
- Regional Transmission Planning
- Required Reliability Coordinator
- Mandatory & Enforceable Reliability Standards



# Regional Energy Market Stages of Evolution

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- Bilateral Only (before 2015)
- Western Energy Imbalance Market (WEIM, 2014-Present)
- Day-Ahead Market (Incremental Step)
- Full Regional Transmission Organization/Independent System Operator (RTO/ISO)

# Market Opportunities – Past Regional Attempts

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- Indego
- California ISO and CalPX Formed
- RTO West/Grid West
- WestConnect (SW)
- MC Initiative
- **Energy Imbalance Market**

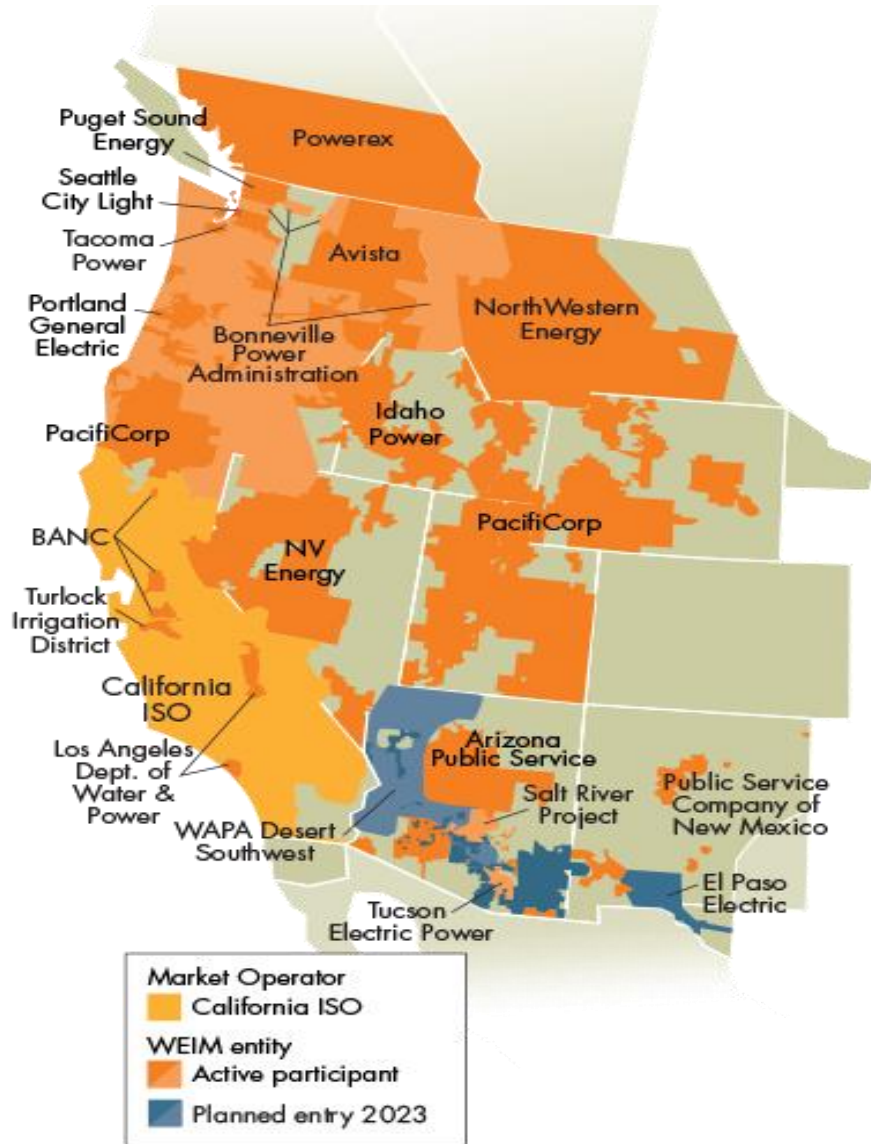


# Seattle City Light's WEIM Participation

Pre- and Post- Market  
Participation



# Western Energy Imbalance Market (WEIM)



- California ISO – Started in 2014
- Seattle City Light – Joined April 1, 2020
- Cost Savings to Meet Demand
- Improves Integration of Renewable Energy
- Over 80% of Load in the West Participating

# WEIM Decision – Recapping Our Why?

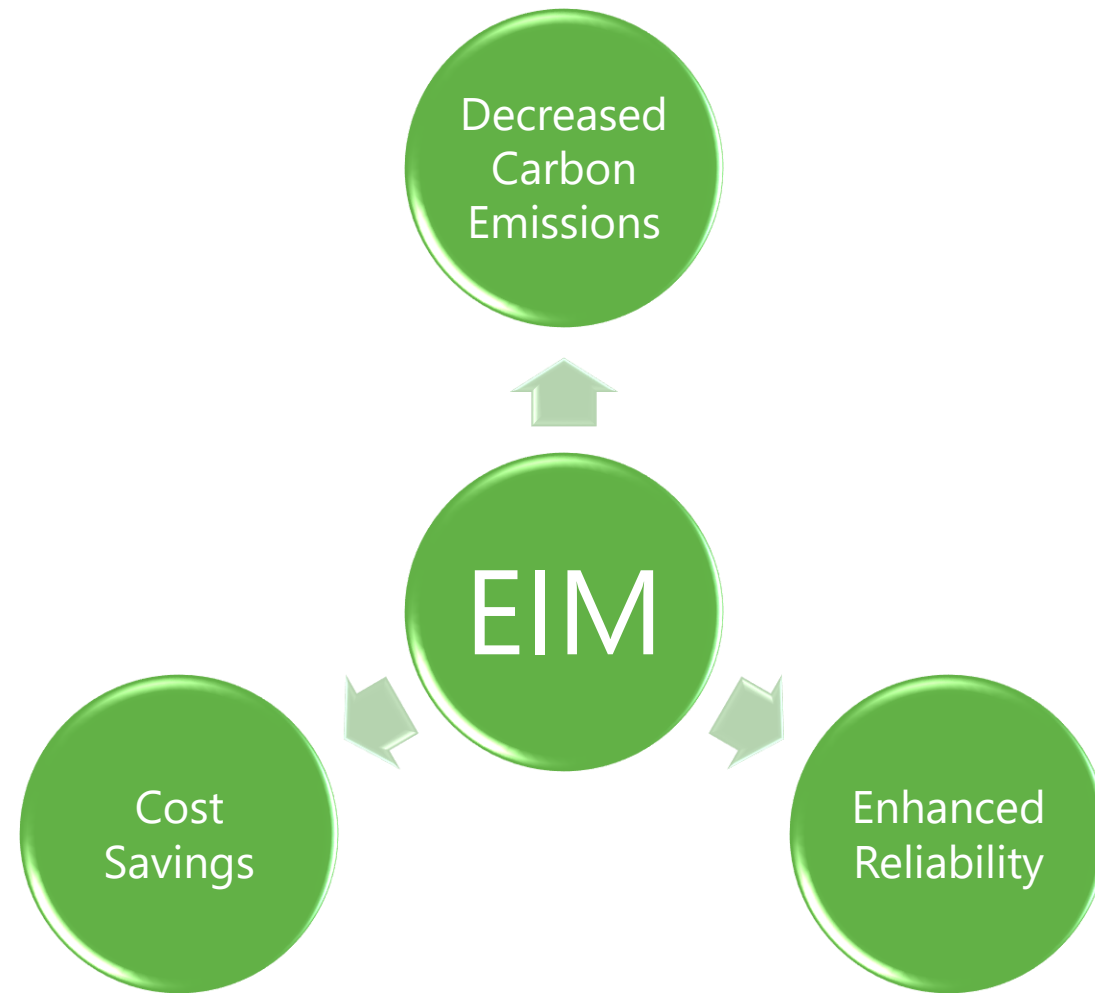
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# WEIM's Three Primary Benefits

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# Environmental & Economic Benefits Achieved

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- Cost-effective Integration of Renewable Energy
  - Variable Energy Resources (Wind/Solar) Forecasts Incorporated into the Market Solution
- Avoided Carbon Emissions
  - 310,856 metrics tons of CO<sub>2</sub> savings through avoided regional renewable energy curtailments
- Net EIM Transfers for City Light
  - 586,377 MWh Net Exports
  - 529,504 MWh Net Imports
- SCL Customer Financial Benefit - \$30.73M



# Energy Market Opportunities

Current and Emerging



# The Time is Right

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- Mutual Dependence
- Cooperation
- Willing Collaboration
- Shared Desirable Outcomes
  - Carbon Reduction
  - Improved Reliability
  - Cost Reduction



# Specific Organized Market Opportunities

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- California Independent System Operator
  - EDAM (Extended Day Ahead Market) Design & Implementation
  - Possible Future ISO Expansion (AB538)
- Southwest Power Pool Markets Plus
  - Eastern Interconnection Market Operator
  - Designing for Day Ahead Market
  - Possible RTO Expansion into West
- Western Markets Exploratory Group
  - Somewhat Like-Minded Utilities (25)
  - Exploratory – Wide Ranging Possibilities



# Desirable Western Market Outcomes

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- A “Well-designed” Market
  - Should Produce Overall Benefits for Entire Market Footprint
  - Should Create Efficiency and Reduce Overall Customer Costs
- Examples of Anticipated Benefits:
  - Reduced Production Costs
  - Investment Cost Savings
  - Potential Balancing Area Consolidation
  - Ability to Realize Benefits of Resource, Peak, and Weather Diversity
  - Improved Reliability



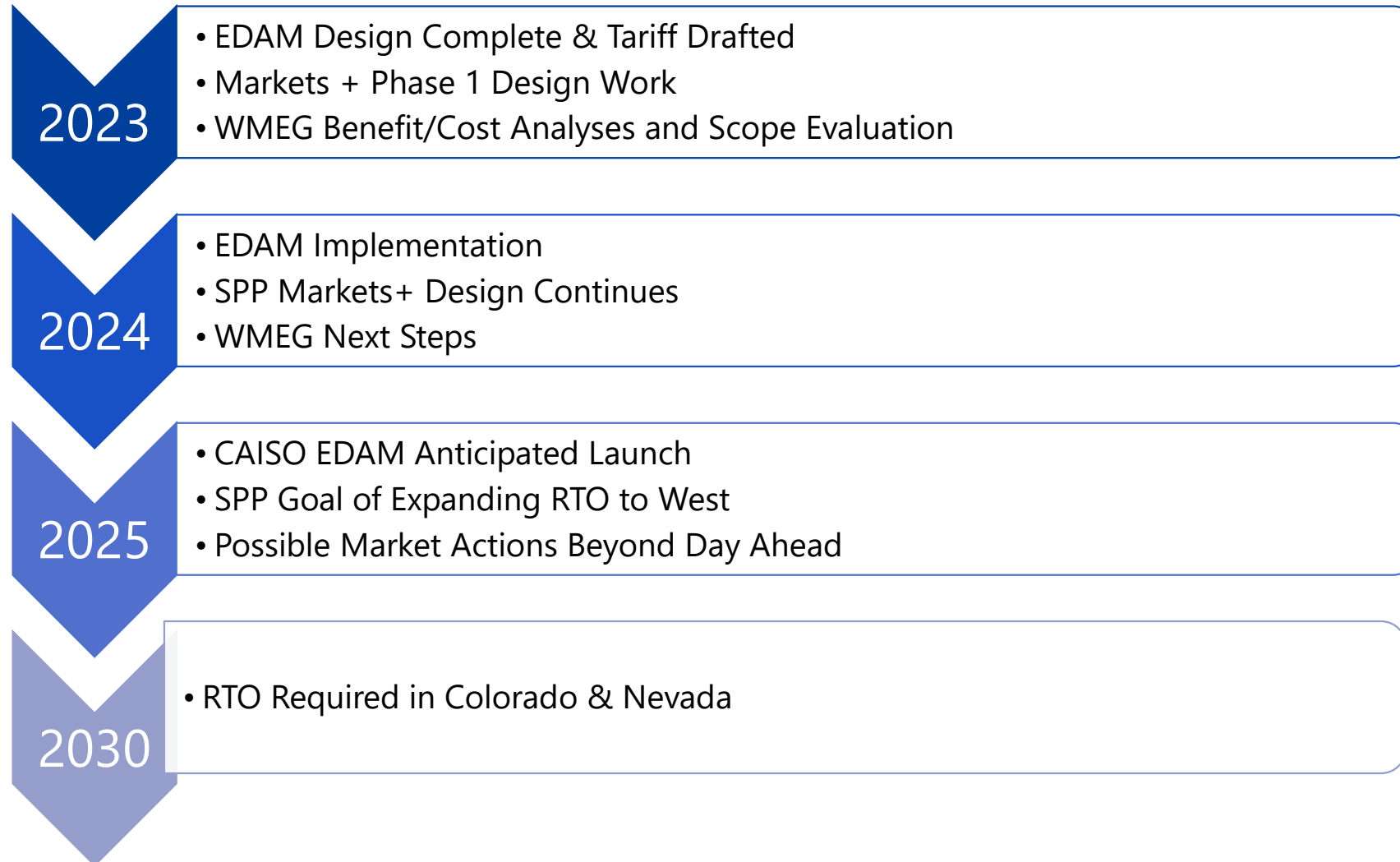
# Desirable Western Market Outcomes

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- Market Will Facilitate the Integration of Existing and Additional Renewable Resources to Decarbonize Regional Mix
- Must Have Processes that Can Accommodate and Don't Conflict with Individual State Clean Energy Requirements
- Focus on Results for the Market as a Whole, In Addition to Specific Participant Outcomes
- Well-functioning Markets will Emphasize Resource and Transmission Efficiency and Transparency
- Incentives Are Provided Based on Availability, Scarcity and Risk

# Timeline, Coordination and Communication

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# FIRST LOOK: Moving the West forward on Resource Adequacy

Western Resource  
Adequacy Program (WRAP)



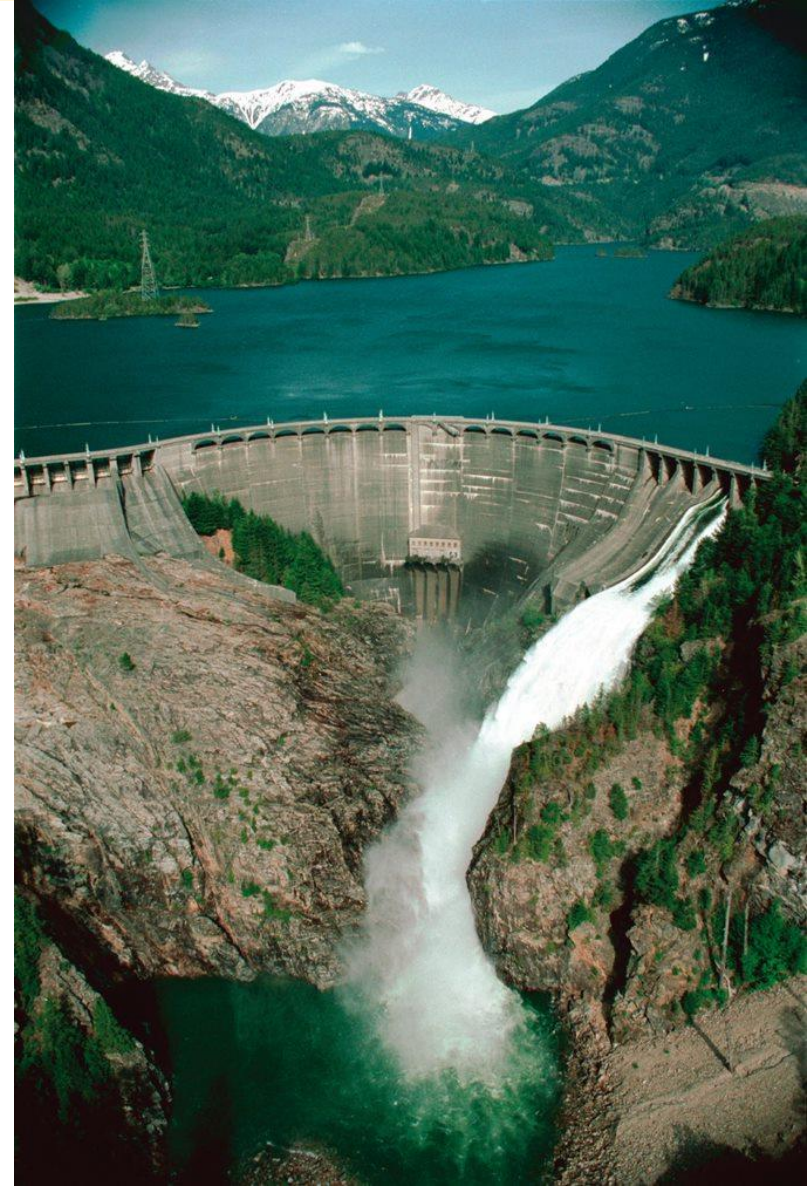
**Seattle City Light**



# Why Now? Resource Adequacy & Reliability Challenges

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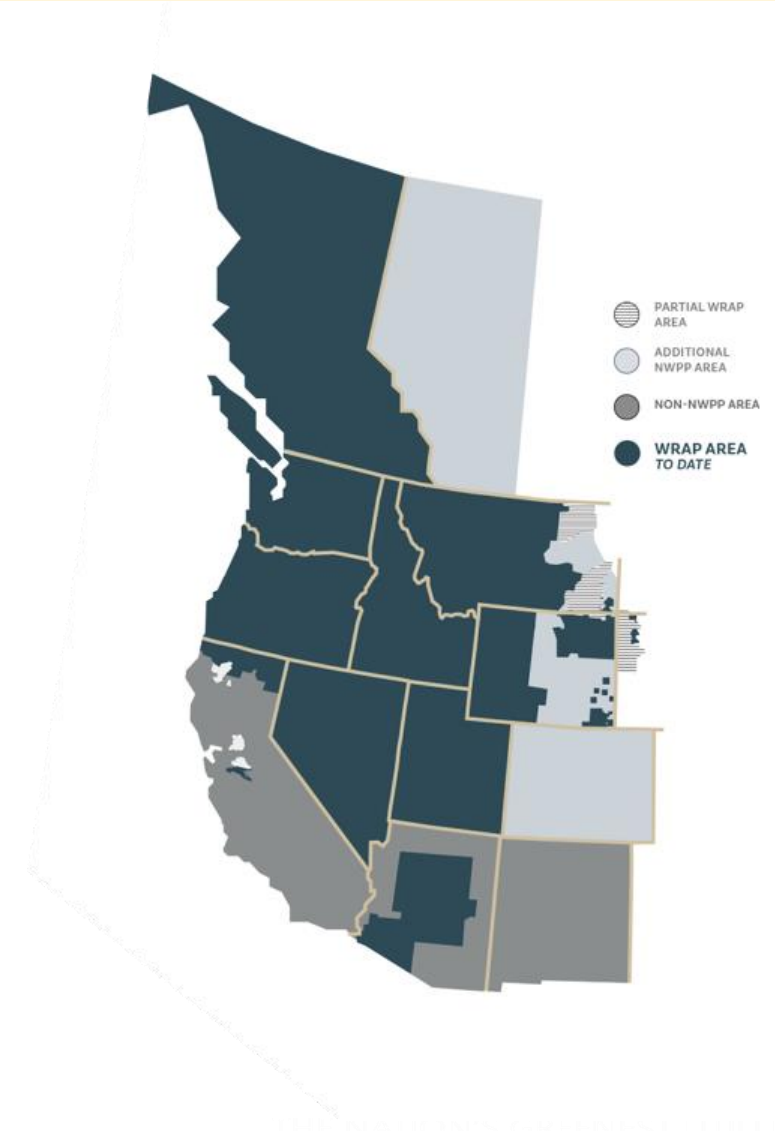
- Recent studies demonstrate resource shortfall by mid-2020s across western U.S.
- Driven by multiple factors
  - Retirement of fossil generation
  - Increasing intermittent renewables
  - Load growth: Data center & agricultural sectors; acceleration of transportation and building electrification
  - Drought conditions and extreme weather events



# Resource Adequacy

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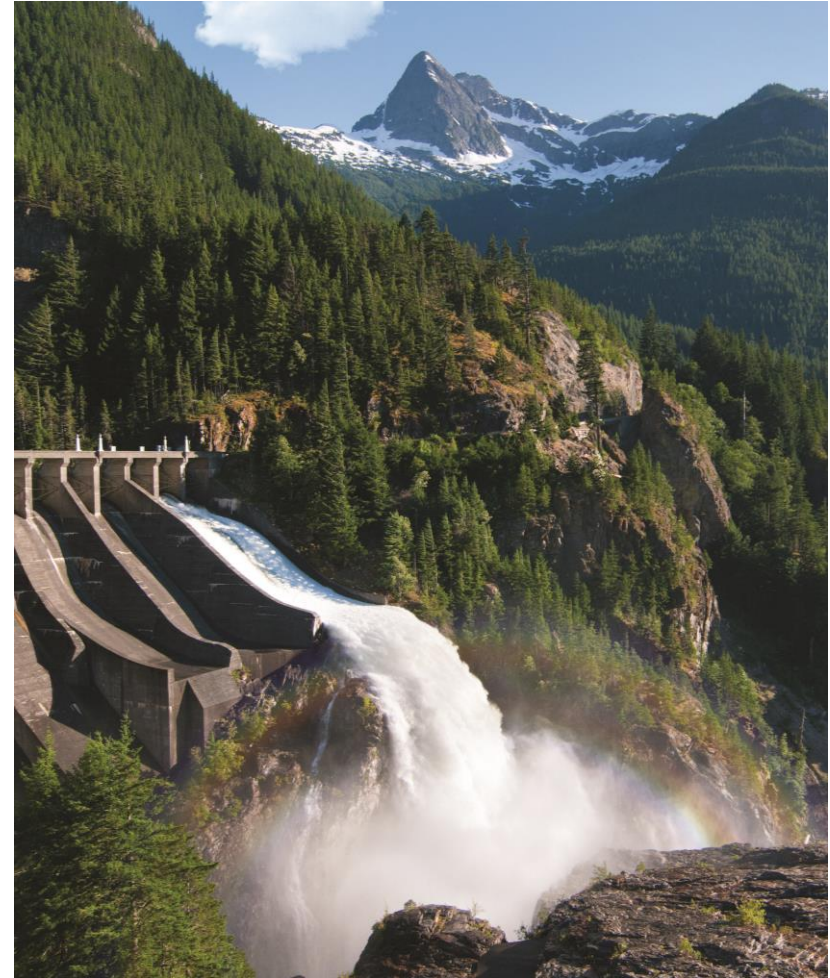
- Reliability Focus – ensuring sufficient resources to serve electricity demand
- Western Resource Adequacy Program (WRAP)
  - Related Parallel Development
  - Successful Regional Collaboration
  - Solid Operational & Governance Model
  - Enhances Reliability
  - Is **NOT** an Organized Market



# Value Proposition

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- Enhances reliability
- Leverages diversity of resources, loads and transmission across a broad footprint
- Safely help inform resource selection for the region driving investment savings for members and their customers



# Program Elements

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- Forward Showing
  - Participants demonstrate they have secured their share of capacity for upcoming season
  - 7 months in advance of binding season
  - Regional reliability metric – 1 event-day in 10 years
- Operational Program
  - Evaluates real time operational situation relative for Forward Showing assumptions
  - Members with surplus assist participants with deficits in the hours of highest need

**Determine  
Program  
Capacity  
Requirement**



**Determine  
Resource  
Capacity  
Contribution**



**Compliance  
Review of  
Portfolio**

# WRAP Current Status & Timeline

- City Light plans to request City Council approval this Spring to join WRAP



# Questions?



## **Bio for Jeff Brausieck**

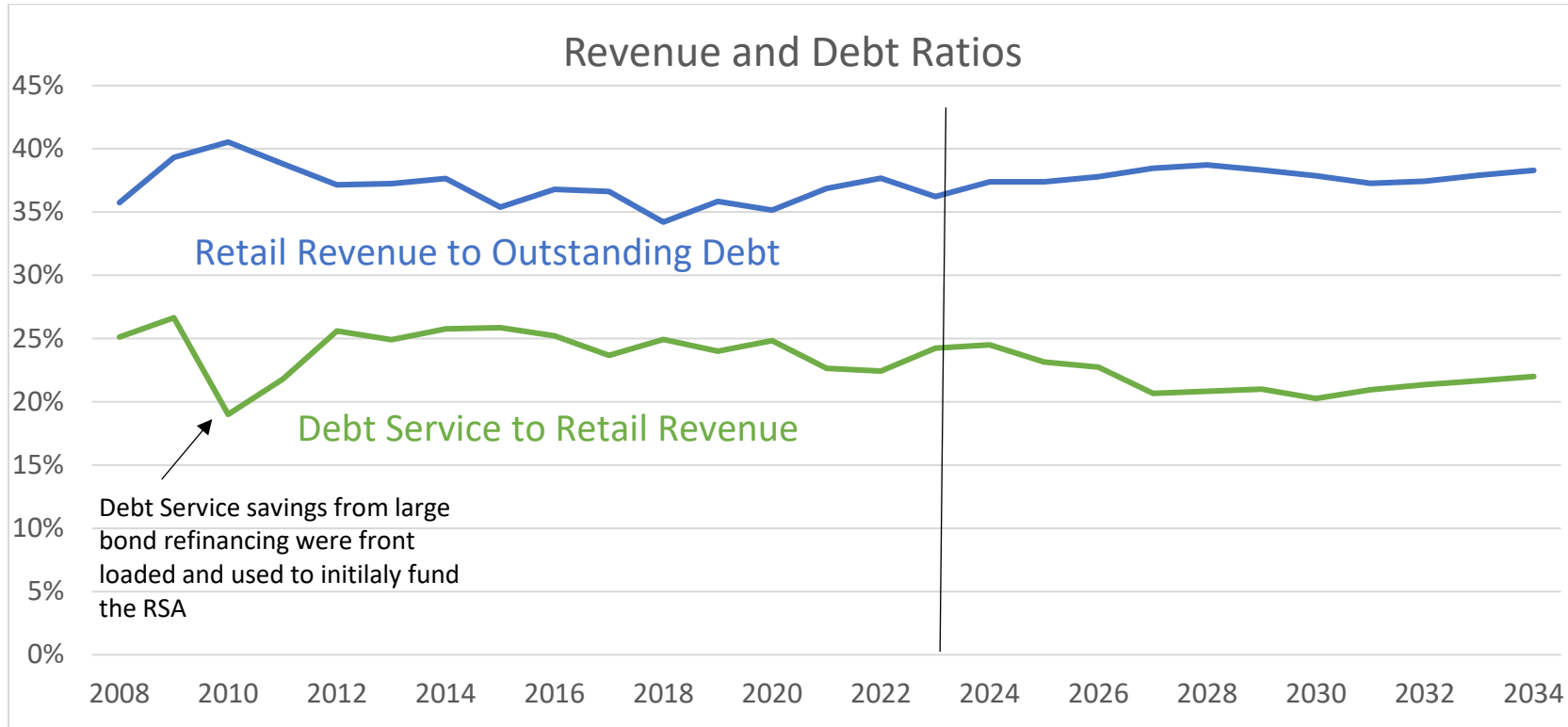
### **Seattle City Light Cyber Security Senior Manager**

Jeff Brausieck serves as City Light's Cyber Security Sr Manager, CISO. He has been with the City of Seattle for 7 years in multiple roles in both City Light and the Seattle IT Department - supporting cyber security for both IT and Operational Technologies. His background includes a master's degree in cyber security, a bachelors in Information Systems Management, as well as 20+ years' experience in enterprise scale technology, risk management, and cyber security operations - most of which was in military and government environments including the US Air Force, US Army, the US Senate, and NATO.



## Revenue to Debt Metrics

In the January 2023 City Light Review Panel Meeting two additional metrics were requested to be shared: retail revenue as a percent of overall debt and debt service as a percent of retail revenue. These metrics are shown below and both are relatively stable over time.



In addition, the below chart shows the net uses of retail revenue expressed as percentages over time.

