CETA, CPA and Clean Energy Implementation Plan

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Review with IRP Technical Advisory Group

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- +1:00 Welcome
- +1:05 1:20 Clean Energy Implementation Plan
- +1:20-1:45 Clean Energy Transformation Act and Equity Indicators
- + 1:45- 1:50 Stretch Break
- +1:50 2:20 Potential Assessment Recommendations (CPA and DR)
- +2:20-2:50 CEIP Targets Review
- +2:50-3:00 Next Steps

What is CETA?

- + <u>Washington State Clean Energy Transformation Act</u>
- + Washington State law signed by Governor May 7, 2019
- + Guides transitions to a clean energy economy to address climate change
- + Aims for 100% of Washington's electricity to be greenhouse gas-free by 2045
- + Key deliverable:
 Clean Energy Implementation Plan
 (Utility's plan for how 2022-2025; filed every 4 years)





IRP+CEIP+CEAP+CEEP

+ How are all these connected?

- Integrated Resources Plan
- Clean Energy Action Plan
- Clean Energy Implementation Plan
- Clean Energy Equity Plan



Clean Energy Transformation Act and Equity





What does CETA say about equity?

+ Directs utilities to consider equity implications in utility planning and processes



+Core equity provision is in RCW 19.405.040(8)

"an electric utility must, consistent with the requirements of RCW <u>19.280.030</u> and <u>19.405.140</u>, ensure that **all customers are benefiting from the transition to clean energy:** Through the equitable distribution of energy and nonenergy benefits and reduction of burdens to vulnerable populations and highly impacted communities; long-term and short-term public health and environmental benefits and reduction of costs and risks; and energy security and resiliency."

Equity indicators and outcomes – defined by CETA

+ Indicator as it pertains to CETA is an:

- Attribute, either quantitative or qualitative, of a condition, resource, program or related distribution investment that is tracked for the purpose of evaluating change over time in CEIP
- + CETA Section 4(8) requires development of indicators to **measure and track** specific targets for equitable distribution of energy and non-energy benefits across a range of equity areas.
- Indicators were developed to track progress towards equitable distribution of benefits across eight (8) Equity Areas and targeted Equity Outcomes

+ *Equity Outcomes* are defined as:

- The *results* of utility actions where it is assumed all communities and populations do not start with equal opportunities to participate in or benefit from programs and investments.
- Targeting vulnerable populations & highlyimpacted communities



CETA aims for **all customers to benefit from the transition to clean energy.**

We want this vision to become a reality for Seattle City Light customers.

Indulge us for a moment and close your eyes for 30 seconds: What words / pictures / phrases do you associate with this future?



Equity Indicators and Outcomes

No.	Equity Outcome	Equity Indicator			
1	Community Assets	• Expenditures of existing and planned community energy projects	 Equity Outcome aligned with 		 Equity Outcome aligned with
2	Community Collaboration	 Locations of existing and planned community energy projects 	indicators		
3	Economic Opportunities and Youth Pathways	Career development	 Indicators to be further refined and added to through future public input 		
4	Equitable Access	 Awareness of programs Public energy education Burden to program participation Accessibility to non-single-family homeowners 			
5	Healthy Planet, Healthy Lives	• Outdoor air pollution (concentration of diesel particulate matter in air and reduction of greenhouse gas emissions)			
6	Affordable & Reliable Electricity	 Feeder outages (causes, number, locations, average duration, average response time) by census tract Response time to outages 			

Questions for you

- 1. Go back and reflect on the visions we shared. Do the draft indicators align with those visions?
 - "No" is perfectly OK.
 - How might we adjust the indicators?
- 2. How would you rank the draft indicators? Which ones might be most impactful toward achieving the visions we described?
- 3. What is missing?
- 4. How might we measure these indicators over time?

Using the IRP analytical framework and CPA to set the targets



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Clean Energy Implementation Plan Provisions 2022-2025

Provision	SCL Process identified
Resource Adequacy Standard	2020 IRP Progress Report
Measures of Resource Adequacy	2020 IRP Progress Report (Energy needs updated for 2022 CPA)
Interim Target: % Retail Load served by Renewable and Non- Emitting Resource	Updated with 2022 CPA and DR Potential Assessments
Specific Targets: Energy Efficiency, Demand Response , Renewable Energy	Updated with 2022 CPA and DR Potential Assessments , 2020 IRP Progress Report
Actions to Ensure Equitable Transition: Identify Highly Impacted Communities, Vulnerable Populations and Indicators	2021 SCL Clean Energy Equity Plan

Updates after 2020 IRP Progress Report, focus for today

CEIP = IRP Framework + Potential Assessments



2022 Potential Assessments Update





Last time we met...



Proposed targets (by sector)

	2 Yr (I-937) 2022-2023 A		4 Yr (CEIP) 2022-2023 A		10 Yr (I-937) 2022-2031 A	
	aMW	Percent of Total	aMW	Percent of Total	aMW	Percent of Total
Residential	3	15%	5	14%	11	14%
Commercial	14	74%	26	74%	57	74%
Industrial	2	11%	4	12%	9	12%
Total	18.7		35.2		76.9	

^A 2022-2023 CPA targets have not been approved as of July 2021 and are still considered draft.

How the proposed two-year target compares (by sector)

	2 2020	2 Yr)-2021	² Yr 2022-2023 A		Percent	
	aMW	Percent of Total	aMW	Percent of Total	Change	
Residential	3	13%	3	15%	4%	
Commercial	16	76%	14	74%	-14%	
Industrial	2	11%	2	11%	-17%	
Total	21		18.7		-12%	

A 2022-2023 CPA targets have not been approved as of July 2021 and are still considered draft.

The commercial sector continues to provide most of the economic potential.

20-Year achievable economic **commercial** potential

(2022 CPA compared to the 2020 CPA)



Commercial lighting potential decreased by approximately 50% in large part due to the CBSA IV data which showed a large shift towards LED lamps and fixtures compared to the prior CBSA III.

20-Year achievable economic residential potential

(2022 CPA compared to the 2020 CPA)



How we arrived at a target (for the 2022 CPA)

City Light reviewed a range of potential futures, or scenarios, to develop its achievable economic potential.



Scenarios (tested in the 2022 CPA)				CEIP		
	Optimal Conservation Bundle by Maximum Levelized Cost and Sector	Scenario(s)	2 Yr (aMW) 2022-2023	4 Yr (aMW) 2022-2025	10 Yr (aMW) 2022-2031	20 Yr (aMW) 2022-2041
	R<=\$40, I\$all, C<=\$70	 Baseline Resource Adequacy need delayed to 2030 Forced selection of low cost demand response options 	18.7	35	77	106
	R\$<=20, I<=\$60, C<=\$50	 Use short-term REC purchases to meet I- 937 (no more than 22 aMW in a year) No I-937 renewable energy requirement 	15	28	63	85
	R<=\$40,I<=\$60,C<=\$100	No future winter Resource Adequacy needs	21	39	84	115
	R<=\$70, I\$AII , C<=\$130	• High Load 2030 to 2041	22	43	93	137
	R<=\$70, I\$AII , C<=\$100	• High Load 2030 to 2041 and No I-937	21	40	88	130

What these results mean for City Light customers

- + New opportunities for dryers, refrigerators and freezers
- + Fewer opportunities for lighting
- + Targeted incentives for delivered savings in Dec-Jan and Jul-Aug
- + Improved customer experience. City Light will proactively seek customer and community voice as we design and refine programs

What changed?



Less technical potential, notably less lighting potential.

due to program achievements, increased saturation of LED lighting, higher state standards and the transition to the draft 2021 Plan



There are fewer low-cost measures.

due to a new 2021 Plan and past program achievements



New methodology to determine the value of conservation

City Light used the IRP framework to determine 'economic' potential. The framework is better able to reflect conservation's value to the utility by considering timing, resource adequacy and greenhouse gas requirements.

2022 DR Potential Assessment





Key findings: DR Sensitives across different scenarios

- + Timing matters, DR can defer or displace renewables. Demand response program (ResBYOT) delayed or reduced 25-50 MWs of renewables under some scenarios.
 - Residential Thermostat Program adds approximately half to over 1% of portfolio costs
 - Residential Water Heating Direct Load Control adds about 5% to portfolio costs

+ DR and conservation are complementary across scenarios; more DR tends to chose higher conservation since DR does not have clean energy value for CETA/I-937 benefits

2022 DR Analysis Recommended Follow Up Actions

+ Further work on DR driven by uncertainties:

- Electrification loads, climate change impacts on RA needs
- Alternative I-937 compliance options
 - How CETA/I-937 work post 2030; impacts of fuel mix report by month or hour

+ Other DR benefits need to be included in DR evaluation:

- Avoided T&D costs can be higher in certain locations within the service area
- If DR can be dispatched more frequently and for longer duration, DR can improve SCL's net position and defer/displace renewables
- + DR costs can be further refined for SCL specific programs through pilots based on the DR potential assessment study.
- + Faster ramp up of DR programs needs to be examined to maximize its potential to defer or displace renewables

Winter Demand Response Potential by Year



2026: 18.8% of DR total potential

2022 CEIP Draft Targets





Proposed Targets – Median Hydro Conditions

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



Specific targets (WAC 194-40-200(3)):

Resource	Amount
Energy Efficiency 2025 savings	35 aMW
Renewable energy 4-yr sum	32,685,546 MWh
Demand response	Pilot programs planned

IRP Framework Portfolio Results-Baseline (early RECs)

Renewable Builds	Year	Capacity (MW)
Gorge Wind	2026	25
SE OR Solar	2026	100
E WA Solar	2026	300
Gorge Wind	2027	50
E WA Solar	2030	25
E WA Solar	2032	25

400 - 475 MW renewables across scenarios before 2028

Conservation, BPA & Spot RECs	Year	Energy (aMW)
Cumulative Conservation Savings (2-Year)	2023	19
BPA_(max energy entitlement is 500 aMW)	2023	431
Annual 1937 RECs	2024	5
Cumulative Conservation Savings (4-Year)	2025	35
BPA (max energy entitlement is 500 aMW)	2025	425
Annual 1937 RECs	2025	24
Cumulative Conservation Savings (20-Year)	2041	106
BPA (max energy entitlement is 500 aMW)	2041	469





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Action plans

+2020 IRP Progress Report Clean Energy Action Plan



City Light's other action plans to support the advancement of safe, reliable, affordable, and environmentally responsible energy services include:

Existing Resources and Enhancing Market Practices

- Ensure a well-functioning wholesale market that can enforce the provisions and rules of CETA with continued engagement in the Carbon Markets Workgroup in 2021. (two-year action).
- Sponsor and complete a proposed design for a Resource Adequacy Program with Northwest Power Pool members, increasing electric system reliability and affordability by pooling supply and demand to assist during stressed conditions.
- Relicense the Skagit River Hydroelectric Project by April 2025 and the South Fork Tolt Hydroelectric Project by 2027.
- Advocate for the US delegation to negotiate a new Columbia River Treaty seeking a fair distribution of benefits from treaty storage and operations.
- Collaborate in 2021 with the public power community and BPA on a post-2028 BPA contract, with a proposed final contract in late 2025 for a new contract starting Oct. 1, 2028.

Equitable Distribution of Energy and Non-Energy Benefits

- Prepare and review the City of Seattle's Racial Equity Toolkit with internal and external stakeholders. Use the toolkit to inform measures of social equity in the IRP process.
- Build a new team to identify impacted populations and develop metrics to track the distribution of the benefits of CETA.
- Launch a new public engagement campaign prioritizing impacted communities.

Resource Acquisition

- Implement a demand response program pilot, and update City Light's large commercial solar tariff by 2022.
- Early in 2021, conduct a Request for Proposals process for renewable energy to support a large customer renewable

energy program that would deliver new renewable energy to those customers in 2024.

- Develop a tariff and rate for the new large customer renewable energy program.
- Investigate future BPA product options.

Modeling and Analysis

- Update and refine modeling of clean energy policies in City Light's electric power price forecast.
- Include transportation and building electrification scenarios being developed by a separate City-wide electrification study process.
- Coordinate consistent inputs for evaluation of demand side resource potential at the distribution system level.
- Endeavor to include climate change sensitivity in the 2022 IRP with a plan to fully examine climate change in the 2024 IRP.

10-Year Clean Energy Action Plan/CETA compliance/ I-937 Compliance

- Complete, before Jan. 1, 2022, a conservation and demand response potential assessment that provides targets for I-937 and the CETA compliance.
- Identify resource adequacy metrics and targets.
- Identify the use of social cost of greenhouse gas in the analysis.
- Develop metrics to understand impacts on vulnerable communities.
- Include how City Light will ensure coal is not included in our portfolio.
- Include how City Light plans to meet 2030 to 2045 greenhouse gas neutrality.
- Identify any transmission limitations preventing an affordable CETA compliance.



What does all that we presented mean for City Light

- + Proactively seek customer and community voice as we design and refine demand-side programs and clean energy strategies
- +New opportunities for conservation (target highly impacted communities and vulnerable populations, geography, and season; pivot away from lighting; look towards efficient electrification)
- + Demand response offers value to City light; pilot demand response programs to fully identify the value streams
- + Implement a resource acquisition strategy guided by SCL's Strategic Plan and Clean Energy Equity Plan and consistent with the Clean Energy Implementation Plan and the 2022 IRP

2021 Next steps

- + Final CPA report expected August
- + Final CEIP report expected September
- + City Council CPA presentation planned for early fall
- +2022 IRP: Scheduling meetings to review EPRI Electrification study and start Climate Change analysis & scenario planning in early fall
- + City Council CEIP presentation planned for December

THANK YOU



Resource Adequacy Energy Needs Current Updates

- + Load forecast updates include:
 - Impacts of pandemic and recovery from the pandemic
 - Electrification impacts of new City building code on new construction
 - New light duty electric vehicle forecasts from EPRI(more linear)
 - Most recent 30 years for hourly temperature distributions
- + Distribution of hydro conditions uses historical actuals(1981-2019) instead of forecasts from NW River Forecast Center
- + Updated BPA contract high water mark from 521MWs to 500MWs