



SEPTEMBER 2021

2021 Clean Energy Implementation Plan Report

OVERVIEW

The Clean Energy Transformation Act (CETA) adopted into law in 2019 seeks to decarbonize the economy of Washington state. CETA requires utilities like the City's City Light Department ("City Light") to plan for that outcome and to seek our governing board's approval of four and ten-year plans to do so – referred to as our Clean Energy Implementation Plan (CEIP). This report to the Mayor and City Council is intended to familiarize the City's elected officials with City Light's first four-year CEIP. This report summarizes the work performed in developing both the plan and the CEIP template that will be submitted to the Washington state Department of Commerce (Commerce) to demonstrate City Light's compliance with this new state law. City Light's planning and outreach processes have guided and informed City Light's CEIP and sets the stage for how City Light plans to support Highly Impacted Communities and Vulnerable Populations as we transition to a 100% clean electric system.

City Light's history is one of focus and action on environmental responsibility and stewardship. The generating resources City Light uses are predominately hydroelectric, and the service we have provided to our customers has been over 90% carbon free for nearly two decades. Operationally, we have been net-zero carbon neutral since 2005, utilizing high-quality offsets for those emissions that we have been unable to avoid.

City Light's CEIP also reflects City Light's long-standing environmental and social justice commitments and sets forth our anticipated path forward to continue to improve as we embrace the future. The Excel workbook attached to this report constitutes the compliance filing we will be making with Commerce at the end of the year. This template contains the detailed information on each area of effort and our planned actions as required by the Clean Energy Transformation Act (CETA) and the Department's rules. The information contained in this report and the attached template reflects our consideration of the

public input we've received to date and identifies our path for continued and expanded community engagement during our transition to a clean energy economy.

This first CEIP for City Light addresses the following three critical requirements:

- Explains the steps City Light is taking over the next four years (2022 through 2025) to make progress towards serving customers with 100% non-emitting or renewable resources no later than 2045
- Develops the foundation to measure and ensure equitable access to clean energy
- Describes the outreach to our customer-owners that has informed this plan

City Light's CEIP is not only consistent with the Integrated Resource Plan (IRP) as CETA requires, but is also informed by City Light's 2022-2026 Strategic Plan and City Light's internal Clean Energy Equity Plan (CEEP) developed to support this CEIP, which is also attached for reference.

Another important element of the CEIP is the baseline it establishes from which City Light will measure its progress. The attached CEIP template (Excel workbook) will be submitted to Commerce after City Council review and approval. This template provides the technical baseline from which our progress towards a 100% clean portfolio and improvements in the equity of how we deliver services will be understood.

A changing resource mix and new loads from decarbonization across transportation, buildings and industries will require City Light to expand beyond hydropower resources. Exciting, new technology is on the horizon and in 2022, City Light will begin piloting customer demand response and energy storage solutions. One example is the use of large battery storage to support the Washington State Ferry system's ferry electrification plans. Demand response and energy storage are important available solutions for achieving long-term clean energy goals and in the coming years City Light will be testing ways to incorporate these technologies into its resource plans.

CLEAN ENERGY EQUITY PLAN & CUSTOMER ENGAGEMENT

CETA requires City Light to identify those communities and populations that have a disproportionate share of environmental risks and who may be vulnerable to our clean energy actions. City Light must ensure that these Highly Impacted Communities and Vulnerable Populations benefit equitably from our actions. City Light developed an internal Clean Energy Equity Plan (CEEP) to guide the utility's integration of equity into its planning, programs, and projects. The CEEP's core audience is intended to be internal to support City Light in achieving an equitable transition to a 100% greenhouse gas-free, electric future in fulfillment of the objectives and intentions of CETA.

Box 1 - Equitable Clean Energy Just Transition Principles

1. City Light is committed to racial diversity, social justice, and the equitable provision of services to all.
2. City Light recognizes past and current energy injustices and understands that taking a restorative approach should guide us to advance energy justice by conferring benefits first to communities most burdened by these injustices.
3. City Light's approach is rooted in community-centered collaboration and engagement to design equitable, inclusive solutions.
4. City Light is dedicated to reducing pollutants that impact public health where communities live, work, learn, play, and worship.
5. City Light will make decisions that are transparent to all communities and customers.

City Light developed *Equitable Clean Energy Just Transition Principles* that inform and ground City Light's decisions and processes (Box 1). These principles are intended to support the objective for all utility customers to equitably benefit from the transition to clean energy. They are explicitly designed to focus attention and efforts on Highly Impacted Communities and Vulnerable Populations as defined by CETA (Box 2). In the Seattle area, like in the rest of the country, Highly Impacted Communities and Vulnerable Populations experience a disproportionate share of environmental risk from environmental burdens and are often Black, Indigenous, and People of Color, low-income residents, people with limited English proficiency, and immigrants and refugees.

Box 2 – CETA Definitions

Highly Impacted Communities

Communities designated by the Department of Health based on cumulative impact analyses or a community located in census tract fully or partially identified as being on "Indian country."

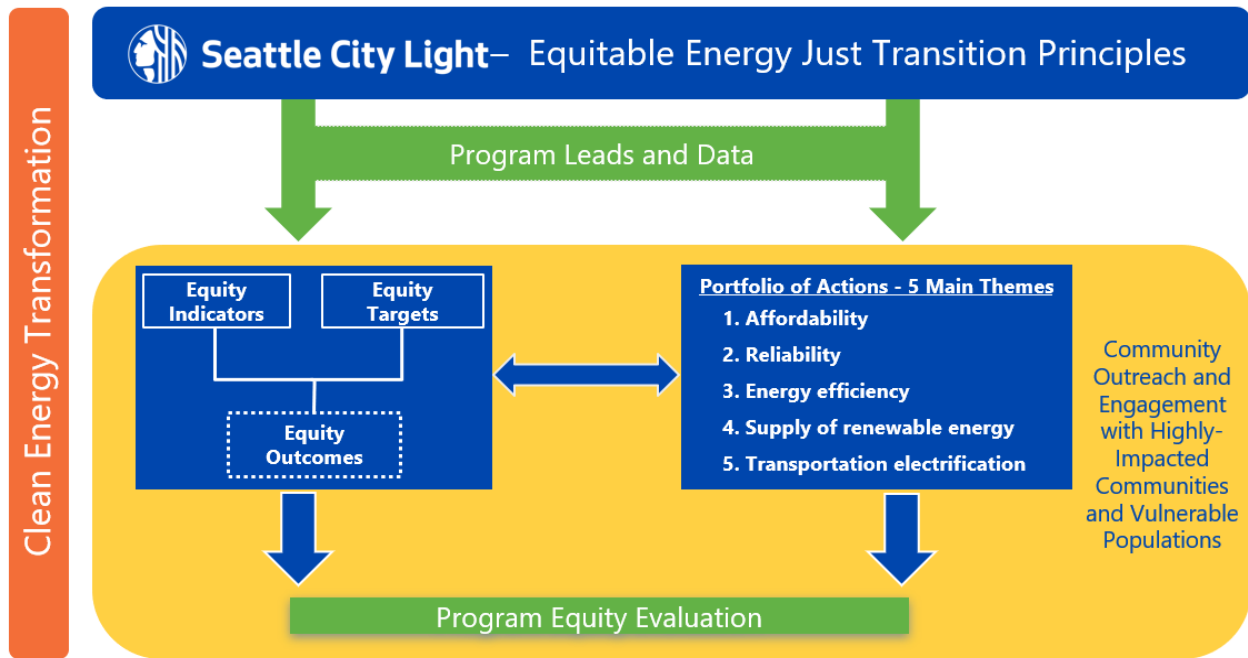
Vulnerable Populations

Communities that experience disproportionate cumulative risk from environmental burdens due to adverse socioeconomic factors and sensitivity factors.

City Light developed equity indicators to measure and track progress towards elevating equity – particularly racial equity – aligning with the vision of Seattle's Race and Social Justice Initiative. Ten preliminary indicators target the equitable distribution of energy and non-energy benefits across a range of Energy Equity Areas classified by CETA and are designed to measure progress in achieving six equity outcomes described by City Light. These outcomes relate to community assets and collaboration, economic opportunities and youth pathways, equitable access, healthy planet and healthy lives, and affordable and reliable electricity.

The CEEP describes an initial portfolio of actions representing a collection of existing programs and projects that have the greatest opportunity to influence an equitable transition. This portfolio also includes emerging programs and projects that may provide additional opportunities for equitably distributed energy and nonenergy benefits, reduced burdens, improved public health and environmental risk, and advanced energy security and resiliency. The portfolio of actions is grouped into five themes: affordability, reliability, energy efficiency, supply of renewable energy, and transportation

electrification (see figure below). These actions and the indicators they address are designed to be dynamic and adaptable over time.



City Light has engaged and will continue to engage with its customers, others within the service territory, and with those located in remote locations where electricity is generated and transmitted to implement this plan. Market research conducted by a third-party consultant to identify customer priorities when developing the 2019-2024 Strategic Plan identified three top priorities for the utility: to be a leader in the environment and renewable energy, invest in technology for operational improvements, and keep costs down. Building on these engagement efforts, a community outreach plan is designed to share the overall approach to engagement for CETA, engagement objectives, collaboration with targeted audiences, and tactics and metrics to promote and advance an equitable transition.

Accountability to customers and transparency into the distribution of both energy and non-energy benefits is established through a series of protocols that follow a City Light *Equity Impacts Assessment Framework*. This framework prioritizes Highly Impacted Communities and Vulnerable Populations and provides strategies for elevating equity to increase and improve equity outcomes through the portfolio of actions. City Light program managers can execute these and similar strategies in their program implementation with the aid of an Equity Coordinator. The CEEP contains an implementation plan to identify responsible parties and outline schedule, budget, and reporting requirements.

In addition to presenting our initial work to the Integrated Resource Plan Technical Advisory Committee and the City Light Environmental Advisory Committee, we will be presenting the CEIP to our City Light Review Panel in November for their consideration and feedback.

During the month of August we emailed a short survey to 180,000 customers and heard back from 4,522. The results include the following:

- 94% are concerned about climate change
- 80% of our customers were not aware that City Light is carbon neutral or has a 90%+ clean energy portfolio.
- The three most important benefits our customers expect from the transition to a 100% clean energy economy include reducing climate change impacts, decreased reliance on fossil fuels and a reduction in environmental impacts.
- The three greatest concerns were bill increases, the negative impacts of clean energy technology and the risk to reliability.

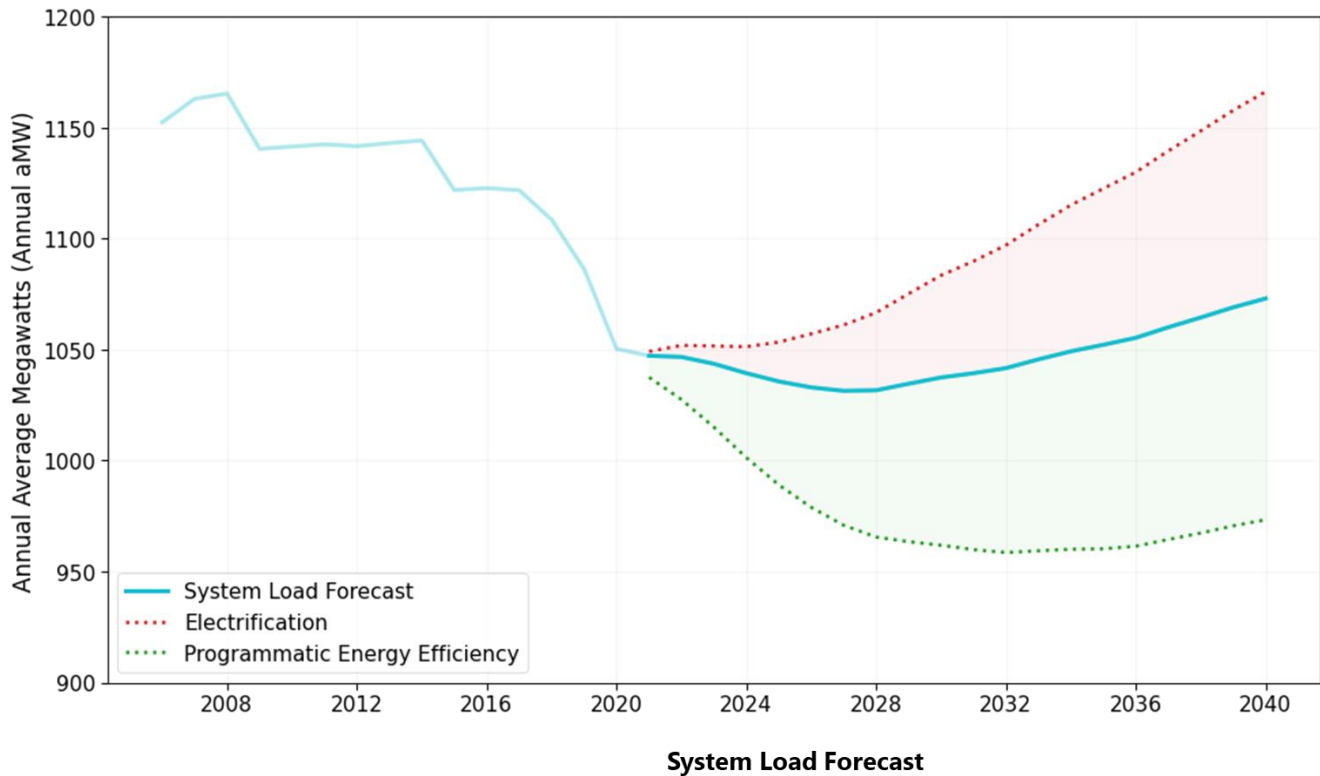
Notably, our survey did not receive a statistically proportionate response from customers who self-identify as Black/African American or as Native American. Our communications team is working on strategies to improve our outreach to these populations as well as devising strategies for improved outreach to BIPOC communities, traditionally underserved communities, and renters.

ENERGY

City Light recently completed its Conservation Potential Assessment (CPA) and a Demand Response Potential Assessment (DRPA) in support of both our I-937/Energy Independence Act and CETA compliance. These studies also support our IRP, the development of our load forecasts, and are the foundation for programmatic planning based upon the results of the biennial study. Applying a more holistic portfolio analysis that takes into account related factors like seasonal resource adequacy needs (sufficient resource across a wide range of events) and the current Bonneville Power Administration (BPA) contract, we were able to identify additional value for energy efficiency efforts. While cost-effectiveness remains a challenge for other demand side resources, the portfolio analysis also shows that these resources hold promise through demonstration of other substantial system benefits, program design innovations, and if costs continue to decline through market transformation. Our total potential for energy efficiency over the next two years declined by 12%, while remaining heavily reliant upon our commercial customers to achieve that potential. The major drivers of these changes are, on the “down” side, less technical potential, with notably less lighting potential, fewer low-cost measures still available; and on the “up” side, the revamped IRP framework better reflecting the value of other higher cost energy efficiency by considering timing, resource adequacy and greenhouse gas requirements, as well as introducing appliance programs into the mix.

Foundationally, we will be proactively seeking customer and community voices to inform our program design and to affirm that the opportunities we will pursue are those that best meet the needs of the communities we serve. We continue to develop innovative programs in the commercial space, such as pay-for-performance, and are developing tools for customers to better manage their energy use. We will be targeting programs that maximize the value of conservation, whether through programs focused on low-income, multi-family dwellings, geographically targeting programs to Highly Impacted

Communities and addressing the seasonality of conservation value (e.g. greater value for delivered energy savings in Dec-Jan and Jul-Aug). We are also deploying programs that support our trade allies who work with our customers to deliver energy savings and support family-wage jobs in the communities we serve. Lastly, as we expand our electrification offerings in alignment with our Transportation Electrification Strategic Investment Plan (TESIP), as well as emerging strategies in Building Electrification, there is and will be a natural synergy to the product offerings as illustrated below. Continued success in energy efficiency will enable our existing resources to support expanded transportation and building electrification.



RESOURCE ACQUISITIONS

Consistent with the 2020 IRP Progress Report, City Light’s power supply is built on a robust hydropower portfolio and investment in energy conservation that will meet our power supply needs for several years to come. However, with faster reductions in fossil fuel use changing the regional power supply mix and taking into account the pandemic recovery, the IRP resource adequacy framework concludes that City Light will need new supply resources in 2026-2027. Simply put, the historical supply resource surplus that City Light has come to expect in recent memory appears likely to change. Summer emerges as the primary season for new resource adequacy investments driven mainly by hydroelectric supply variability from evolving water conditions. The IRP portfolio analysis used in setting targets for the CPA and the CEIP shows that conservation investments alone will not be sufficient beyond 2025 for meeting City Light’s resource needs.

In 2026 and 2027, City Light plans to increase its renewable energy purchases with new solar, wind or other CETA compliant resources. The magnitude of the investments in 2026 and 2027 are approximately 140 aMW of renewable and non-emitting resources, which is about 14% of anticipated 2026 retail load. City Light may seek up to 525 MW in total nameplate capacity of solar and wind resources, between 2026 and the early 2030s. These resources along with future investments in renewable energy, demand response and energy storage in the 2030s will ensure that City Light can achieve its CETA compliance requirements. The 2022 IRP work will continue to refine with customers and stakeholders a resource strategy that takes into consideration customer programs (like the approved Renewable Plus program) and other emerging opportunities that enable additional equitable climate change action.

GREENHOUSE GASES

Due to our 17-year history of being greenhouse gas neutral, our planning work centers on looking at our resources and related matters in a more holistic manner than in the past and identifying those areas of effort that would be most beneficial and cost effective for our customers. For example, the nature of the next BPA power supply contract will have a tremendous impact on our CETA compliance efforts when it is executed in the mid-2020s and implemented in 2028.

Another significant variable is the development of a more coordinated approach to resource adequacy across the Western United States and as climate change leads to more extreme weather events and new stresses on energy infrastructure. As Washington, Oregon and California decarbonize and utilities across the Western U.S. recognize greater benefits of renewable energy, more innovative tools are necessary for a more dependable, affordable, and clean generating mix. Under the administration of the Northwest Power Pool, a Western Resource Adequacy program is being built that brings utilities that are not part of the California ISO together to coordinate and assure a high likelihood of adequate supply to meet customer demand under a wide array of scenarios.

This new program and innovations like the Western Energy Imbalance Market (WEIM) which City Light recently joined, create more robust wholesale energy markets and improve affordability for our customers. Every credible study of what will be required to decarbonize Washington state recognizes that Washington state cannot go it alone. To achieve CETA's goal of effective, economy-wide decarbonization in Washington state will require some form of regionalization of planning and operations to optimize the dispatch of all generation and transmission across the West. Regulatory support for innovations in reliability and wholesale energy markets and the future BPA contract offering will have a substantial impact on City Light's compliance with this state law, as well as the wider success sought in decarbonization of our state's economy.

ACTION PLANS

City Light is building its plan toward a greenhouse gas-free future, which will include valuable public input – including the use of technology to make public engagement more convenient and simpler and more accessible information on how we can all access cleaner energy options and prepare for the future. City Light's CEIP calls for the public to help define and shape a cleaner environment, not just in helping City Light make resource choices but making energy benefits more equitable for all.

In working with the Mayor and City Council, City Light wants to invite innovative new partnerships to help inspire our customers to become more active in creating a clean energy future. We want to support them in our mutual goals for a more sustainable and socially equitable future. By supplying the public with information about City Light's existing supply and the types of resource choices ahead, everyone can participate in a shared understanding and be an active participant in designing a better quality of life.

City Light's ongoing and/or proposed action plans designed to support the advancement of safe, reliable, affordable, and environmentally responsible energy services include:

- Launch a new public engagement campaign prioritizing impacted communities to improve the equitable distribution of energy and non-energy benefits.
- An improved portfolio model that uses information from the CPA (setting the biennial energy efficiency targets for I-937) and incorporating demand response, recognizing seasonal resource adequacy needs and sectoral level resource adequacy contributions of energy efficiency programs or measures (a more granular measure of reliability) to develop a more holistic IRP resource strategy than in the past.
- Develop an integrated planning approach that weaves together traditional bulk supply portfolio planning with transmission and distribution system planning – effectively incorporating Distributed Energy Resources (DERs) into the resource portfolio.
- Implement one or more demand response program pilots and update City Light's large commercial solar tariff in 2022.
- Completing implementation of the Renewable Plus Program to support our largest customers sustainability goals in a manner that complements existing renewable energy programs for all customers.
- Collaborate with the public power community and BPA on a post-2028 BPA contract that provides a 100% clean power supply (CETA compliant), with a proposed final contract drafted in late 2025 for a new contract period starting on Oct. 1, 2028.
- Work toward development of well-functioning organized wholesale market(s) that can enforce the provisions and rules of CETA while establishing the tools required for a regional dispatch that optimizes the use of transmission and generation assets cost-effectively.
- Sponsor, support and complete implementation of the Western Resource Adequacy Program with Northwest Power Pool members, increasing electric system reliability and affordability by pooling supply and demand to assist during stressed system conditions.
- Submit our relicensing request for 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.
- 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.

- Develop resource strategies recognizing climate change as a scenario in the 2022 IRP with a plan to incorporate climate change in the base case for the 2024 IRP.

CONCLUSION

While City Light’s history of over a century of low carbon electrical service has positioned City Light and its customers for success in a decarbonized future, much work remains to ensure our ability to deliver on that promise. Whether it is in the acquisition of carbon-free resources to serve our customers’ needs, in harmonizing disparate state rulemakings in Olympia or working across the West to better partner and collaborate to solve long-standing and vexing challenges, City Light’s CEIP starts the utility and our customers on a path for complete decarbonization, while aspiring to create an energy system that is demonstrably more equitable than the one that preceded it.

EXHIBITS:

CLEAN ENERGY IMPLEMENTATION PLAN (CEIP) EXCEL WORKBOOK

CLEAN ENERGY EQUITY PLAN (CEEP)