SEATTLE CITY COUNCIL
CENTRAL STAFF

SEATTLE CITY LIGHT

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INTRODUCTION

This topic paper provides an overview of the City Light Department, commonly called Seattle City Light (SCL) or simply City Light. City Light is the department of the City that provides electrical power and services to residents of Seattle and to several adjacent municipalities and areas of unincorporated King County.

BRIEF OVERVIEW[1]

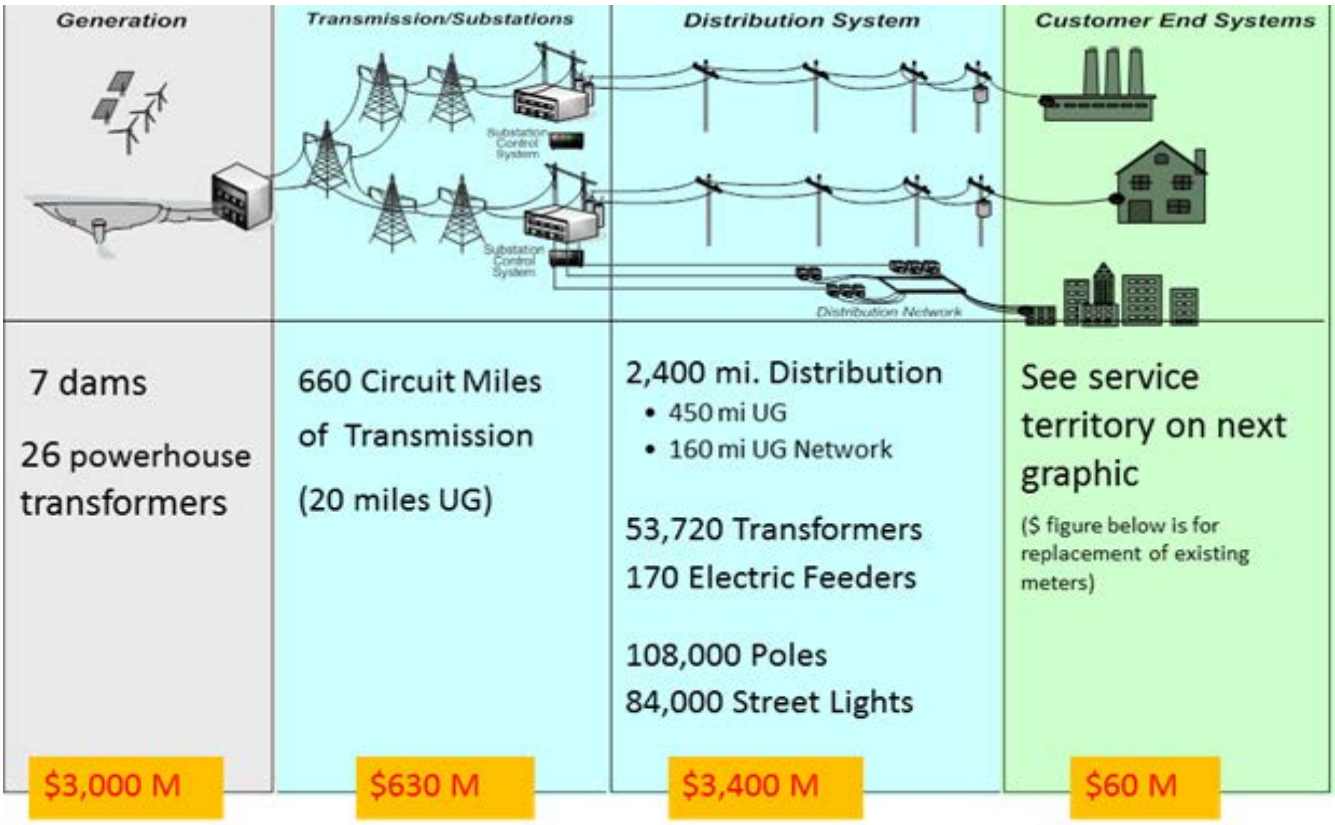
City Light is the largest Seattle City department by budget ($1.3 billion in 2015) and the second largest by fulltime employees (1,835) after the Police Department. In order to meet the electrical needs of its customers, City Light:

- Owns and operates electricity generating plants;
- Owns and operates an electricity delivery system, including transmission lines, substations, and distribution lines;
- Enters into long-term contracts to buy and sell wholesale electricity; and
- Trades electricity in west coast wholesale markets on an hourly basis.

RESOURCES

The following graphic provides a summary of a vertically integrated electricity system. With the exception of the first panel in the graphic, the dollar amount noted at the bottom of each panel estimates the cost to replace the physical assets involved. For the first panel, the amount noted is an estimate of the cost to replace electricity generating infrastructure within the dams. However, we have no reasonable estimate of the cost to replace City Light's seven dams; and in the current regulatory and environmental climate it is unclear that the City could build such structures.

[1] See Appendix A (end of this paper) for a glossary of useful terms.

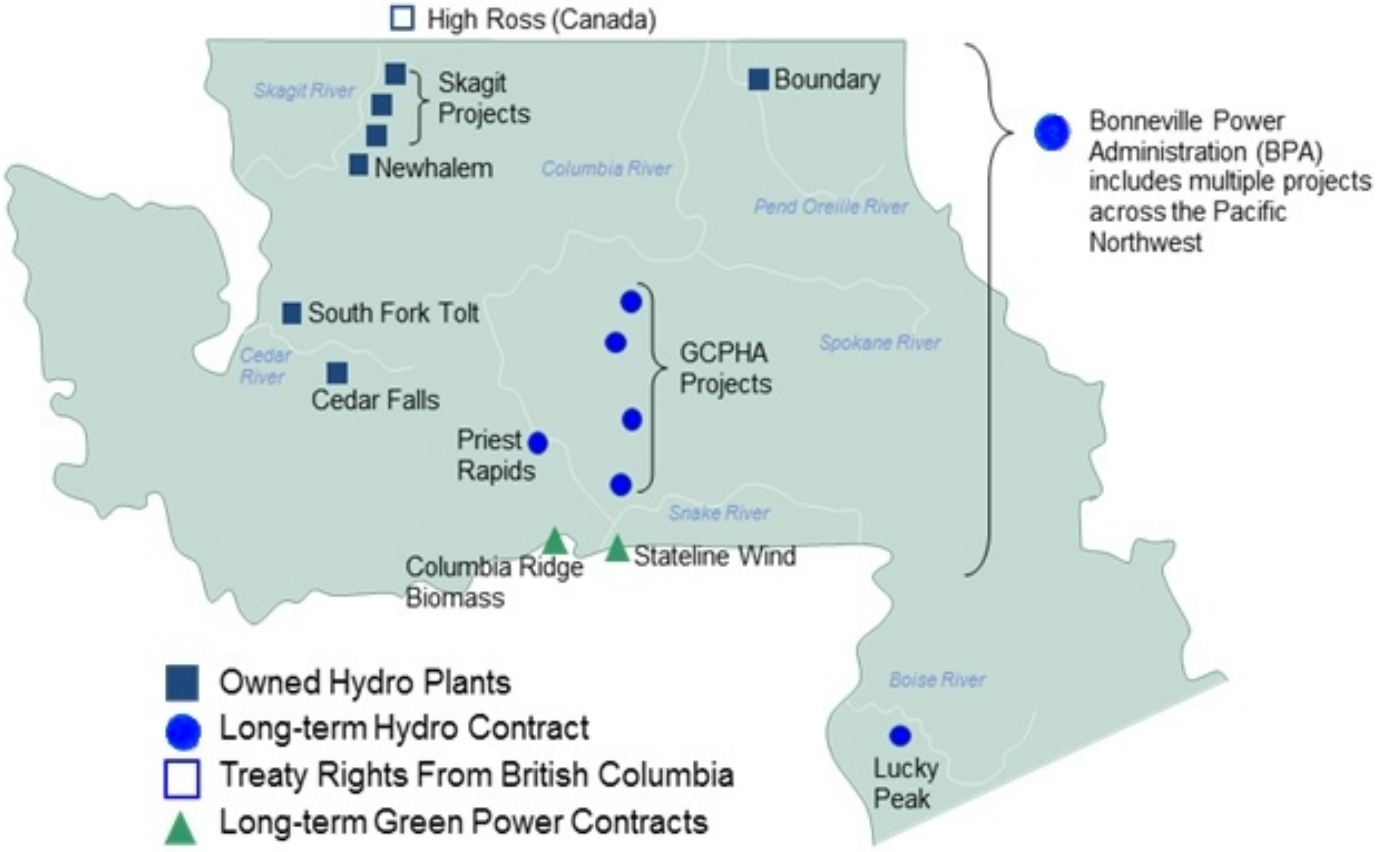


(***UG*** in panels two and three means underground.)

Because City Light manages over $7 billion in physical assets, it typically has large annual capital improvement budgets ($313 million in 2015) which it funds in part through revenues and in part through long-term debt.

LOCATION OF RESOURCES

This graphic shows the location of City Light's generating resources and major purchased power contracts.



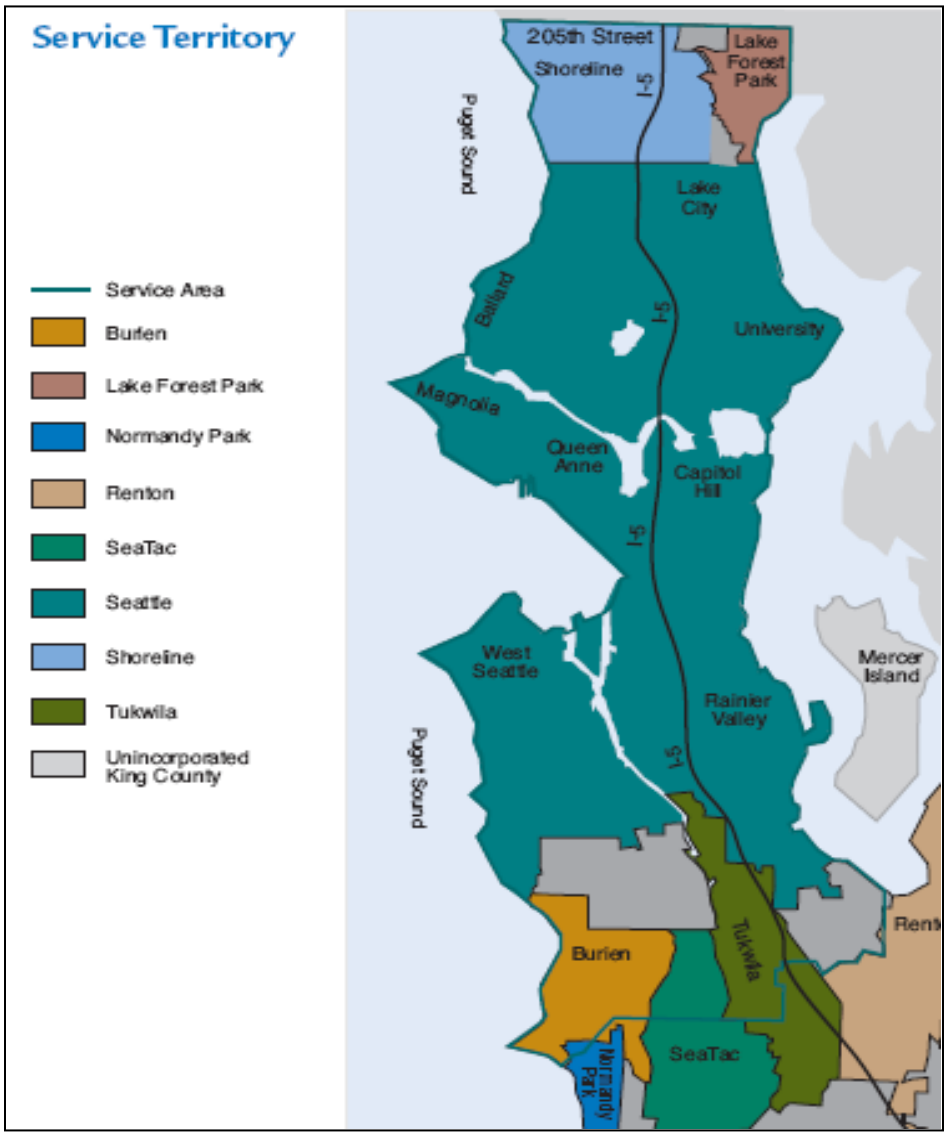
SOME HIGHLIGHTS

- With a maximum generating capacity of 1070 megawatts (MW), the Boundary Dam is City Light's biggest dam. The project acquired a new federal license in 2013 to continue operating until 2053.
- The Bonneville Power Administration (BPA) is a federal agency that markets power from federal dams on the Columbia River and from one nuclear power plant (the Columbia Generating Station). As a NW public utility, City Light is entitled to a share of that power from the BPA at cost. The BPA contract runs through 2028.
- Construction of the Skagit River project began in the early 1920s and continued through the 1950s. The three main dams—Gorge (1924), Diablo (1930), and Ross (1940)—have a combined capacity of 690 MW. The project acquired a new 30-year operating license from the federal government in 1995.
- The High Ross Agreement is a contract between City Light and BC Hydro that is part of a treaty between the United States and Canada.

- The Grand Coulee Project Hydroelectric Association is a collection of irrigation projects based around the mid-Columbia River basin. City Light has contracts for power with several participants in the Association. The contracts have termination dates ranging from 2022 to 2027.
- The Cedar Falls dam built to provide water to the City gave rise to the City Light Department when the City decided to install a hydroelectric generator there. It is City Light's oldest facility and was the first municipally owned hydroelectric project in the U.S. It does not have a license because it predates the Federal Power Act (Chapter 12 of Title 16 of the United States Code, entitled "federal Regulation and Development of Power").
- The Columbia Ridge Biomass facility uses methane gas produced by a landfill owned by Waste Management Inc., to power a small generator. Since some of the waste in the landfill comes from Seattle this contract has a special place in the utility's portfolio.
- City Light owns 175 MW of the Stateline Wind project which (on average) delivers around 460,000 megawatt-hours (MWh) of electricity per year, or about 30 percent of the total facility's capacity.
- Lucky Peak in Idaho is also an irrigation project. The contract for power from the project goes through 2037 and it delivers around 340,000 MWh each year, mostly in the summer.

SERVICE TERRITORY

City Light is the 10th largest publically-owned utility in the U.S. by number of customers served. Below is a graphic showing its service territory. The terms of service to customers in other jurisdictions, including the rates they are charged, are covered by franchises that are mutually agreed to by the individual jurisdictions and the City of Seattle.



Of the approximately 750,000 customers City Light serves, around 500,000 reside in the City of Seattle.

THE ROLE OF THE COUNCIL

The Council is the utility's regulator, determining the rates and fees it charges and the terms and conditions under which it provides service to its customers, whether in Seattle or in franchise areas. The Council also acts as its effective board of directors in the sense that it has a fiduciary responsibility to the rate payers to ensure the continued financial viability of the utility. For example, every year City Light must undergo a financial audit by an independent external auditor. The auditor views the City Council, not the utility, as its client and will report its findings to the Council.

The Council's role as board of directors is more nuanced than its role as regulator. The concept of a board of directors comes from the private sector where the Chief Executive Officer is typically appointed by, and is responsible to, the board. That is not the case in the City. The Mayor, an independently elected official, is the effective Chief Executive Officer. The heads of all City departments report directly to the Mayor, not to the Council.

The rates and fees that City Light charges are set by the Council, typically to coincide with the development of the City's biennial budgets. The process begins with City Light proposing an update to its main planning document, the Six-Year Strategic Plan, in the year before the start of the biennium. This document lays out the spending the utility believes will be necessary over the following six years to meet its customers' needs. It also sets forth changes in rates that will be required to support the Plan.

After review, the Council approves the Plan (possibly with amendments) by resolution. The resolution requests that the Executive develop a new rate ordinance in support of the first two years of the Plan for passage by the Council, and also a biennial budget (spending plan) for the department that is consistent with the Plan and the revenues the rates will provide. The Council generally approves the rate ordinance in the summer prior to the biennial budget, with new rates taking effect January 1 of the following year.

ELECTRICITY RATES

The process for establishing electricity rates is relatively standard across the industry and generally applies to other types of utilities. It begins with a statement of *Revenue Requirements*. That is, the amount of money the utility must collect from its retail customers to cover its costs for the period. In City Light's case, this is its strategic plan document.

Once there is agreement on the Revenue Requirement, the next step is to allocate the Revenue Requirement among customers. This is called *Cost Allocation*. To facilitate the allocation process, all utilities divide their customers into groups or classes with somewhat similar consumption patterns and allocate a portion of the Revenue Requirement to each class. City Light has five basic classes: residential, small, medium, and large general service and high demand general service.

Under Washington state law and public accounting standards, the costs allocated to a class must be generally related to the costs the class imposes on the utility. That is, no class should

be required to subsidize another class. The only exception to this is for low-income customers. State law allows a utility to establish a low-income residential class and to charge that class less than its share of the costs. To the extent that the low-income class does not pay its share of costs, other classes must subsidize it. The City defines low income as 70 percent of median income or less. (In 2015 dollars, this means $49,812 per year for a family of three, and represents about 20 percent of the residential class.) City Light provides a 60 percent discount on rates for qualifying customers.

When the utility has determined the amount that each class should pay, it must then set actual charges that, when applied uniformly across the class, will recover the appropriate amount of the Revenue Requirement from the class. This last step is called *Rate Design*. This is done every time rates are set by the Council.

City Light's rates are among the lowest in the nation for comparably sized utilities. Within the region this is also true although Tacoma is, from time to time, cheaper than City Light, depending on the utilities' rate cycles.

BILLS VS. RATES

Some utilities have lower rates for electricity than City Light but this can be misleading. Customers pay bills not rates. Utilities with lower *rates for electricity* frequently have higher charges for other services than City Light, so that the bills the customers pay for equivalent usage are often higher than City Light's.

THE CITY LIGHT REVIEW PANEL

In 2010, the Council established the City Light Review Panel to provide an independent assessment of the utility's Strategic Plan and supporting rate path, among other topics. The Panel has nine members drawn from among City Light's customers. Five are appointed by the Mayor and four by the Council, although the Council must confirm all appointments. Every year, three positions on the Panel come up for renewal so that at any given time there are at least six members of the Panel with at least three years' experience each.

Other Background Information

THE PLACE OF CITY LIGHT IN THE CITY GOVERNMENT

It is worth making an observation about the place of City Light within the City of Seattle. City Light is a department of the City in every respect. However, its revenues and assets are not generally available to the City to use for purposes other than those *directly benefiting City Light's rate payers*. And rate payers are distinct, in the legal sense, from the residents and tax payers of Seattle. This distinction has been upheld by the courts in several precedent-setting cases involving City Light and Seattle Public Utilities in recent years. The first such case concerned who should pay for street lighting (Okeson v. City of Seattle, 150 Wn.2d 540, 78 P.3d 1279 (2003))[2].

BACKGROUND ON THE OKESON CASE

City Light had traditionally billed the City's general fund for electricity used by the City, including the energy consumed for lighting residential and arterial streets. In 1999, the Council passed an ordinance transferring the cost of street lighting to City Light's rate payers. Rud Okeson, a former City Light employee and a member of the City Light Rates Advisory Committee that year, filed suit against the City to reverse the action. The case went to the Washington State Supreme Court and he won.

BASIS OF THE COURT'S DECISION

There is a distinction in state law between those functions of municipal corporations, like the City of Seattle, that are *governmental* and those that are *proprietary*.

Governmental functions are those we normally associate with government: taxing, permitting or prohibiting certain activities, policing, zoning, and so on. But municipal corporations can also engage in proprietary activities that are more in the nature of a service for a fee or charge. Examples of proprietary functions are those performed by City Light and Seattle Public Utilities.

In the street light case the Court held that street lighting was a governmental, not a proprietary, function of the City of Seattle. Therefore, the cost of it could not be recovered under the City's proprietary authority; that is, it could not be recovered through City Light rates.

Street lighting, the Court said, is a service performed for the common good and not for the *"special comfort and use"* of the utility's rate payers. Notice the Court did not rest its decision on whether rate payers might benefit from street lights—clearly they do.

Undoing the cross-subsidization of tax payers by rate payers that precipitated this court decision proved costly for the City. The court required the General Fund to repay rate payers almost $24 million at a time when General Fund revenues were down sharply because of a recession.

[2] Disclaimer: This discussion is not a legal analysis or opinion.

Members of the public often assume that since City Light is a City department the Council can direct it to, for example, donate a piece of surplus property to the community. But the state constitution (as interpreted by the Court) does not allow the City to direct City Light to gift the community in that way. The rate payers must receive fair market value for the assets they "own" through City Light.

CITY LIGHT AS A COMMODITY TRADER

As noted earlier, City Light buys and sells electricity in the wholesale market on an hourly basis, making it a commodity trader. It does this to balance variable resource production against variable customer demand.

The market it operates in covers the entire western U.S. and parts of western Canada. Participants in this market include utilities and large energy trading companies. The products traded include energy futures, derivatives and financial hedging products.

Commodity trading is unique within the City and brings with it a variety of risks that must be measured, monitored and managed. To do this, City Light maintains a formal trading operation, including a "front office" to engage the market, a "middle office" to measure and monitor risk, and a "back office" to settle payments for transactions. Best practice in this area requires the Council to review and approve City Light's risk management policies every year so that the Council understands and approves of the way the utility manages the risks to which it is exposed.

Appendix – Glossary of Electrical Terms

To aid understanding of phenomena we cannot readily observe, a time-honored tradition is to use more familiar concepts related to water to explain concepts in electricity.

Ampere: A measure of electrical current. Ampere is to electricity what volume is to water. (Commonly abbreviated to Amps.)

Direct Current (DC) vs. Alternating Current (AC): In direct current, the electricity flows only in one direction in the circuit. Batteries generate direct current that flows from on terminal (designated with a + sign) to the other terminal (designated with a – sign). Alternating current changes direction (or polarity) in the circuit on a regular cycle, usually 60 times per second. This is the type of current commonly produced by electrical generators and is simply a consequence of the way the equipment operates.

Kilowatt-hour: If a device capable of consuming or producing a watt of power instantaneously is allowed to run for an hour, it will generate (or consume) a kilowatt-hour of electrical energy. (Also, megawatt-hour, gigawatt-hour.)

Volt: A measure of electromotive force. Voltage is to electricity what pressure is to water. (Also kilovolt, megavolt.)

Watt: A measure of instantaneous electrical energy. Here again the analogy to water is helpful. The energy packed by water flowing through a pipe depends on both capacity of the pipe and the force behind it. The (instantaneous) energy delivered by an electrical device is similarly related to the force or pressure (volts) and the flow rate (amps). Specifically, *watts = volts x amps*.