POLICIES ("ENDS")

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.

Revenue Sufficiency: Rates should be designed to collect the approved revenue requirement with a reasonable degree of certainty.

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.

Efficiency: To conserve finite natural resources and minimize overall system costs, rates should be structured to encourage economically-efficient use of power. This applies to electricity produced and purchased, as well as the wires and associated equipment needed for energy delivery.

Stable & Predictable: To aid customers in managing the financial impacts of their electricity bills, rates should be changed purposefully over time to prevent disproportionate bill changes.

Affordability: Rates should be designed to make electric service accessible for all customers; therefore, rates may be discounted for qualified low-income residential customers.

Transparency: Rates should be structured so that customers can easily understand what services they are paying for.

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.

Conflict Among Rate Design Policies: Seattle City Light's rate design policies are intended to provide a framework that can be consistently applied in future rate reviews. Because the achievement of some may conflict with the achievement of others, they should be considered in their entirety to strike an appropriate balance among them.

RATE REDESIGN OPTIONS ("MEANS")

1. **Redesign bills** and rates to be clearer and more transparent.
    a. Itemize charges for energy, delivery, and other services.
    b. Additional billing system programming to further itemize bills (e.g. Show RSA surcharge, BPA passthrough, UDP discount, franchise differential, cost of conservation, or network delivery premium as separate charges on bills.)
2. **Residential block rates** – Adjust **(**phase out?) to facilitate transition to time of use (TOU) rates and offering choice/pilots. Align with cost of service to promote efficient decision-making by customers.
3. **Time of use (TOU) rates** - offer to all customers the option to have a rate that varies by season and time of day.
    a. Begin with pilot programs targeted at residences with electric vehicles (EVs) and transportation electrification.
    b. Expand TOU rates offerings to all customers, potentially adding other TOU options with attributes such as critical peak pricing for winter evenings/mornings.
4. **Budget and flat rate residential billing** – enhance programs to offer residential customers more predictable bills.
    a. Pilot subscription flat-rate residential program pilot for low-income residential customers.
    b. Use advanced meter data to expand access to budget billing program.
5. **Customer charge (or basic charge)** recovers full fixed customer cost and included in all rate schedules.
    a. Design basic service charge collect for 100% of basic fixed cost for a customer (revisit cost of service to identify all truly fixed costs).
    b. Convert minimum charge to basic service charge for all general service rates.
6. **Interruptible/demand response rate** explore rate pilot for large customers.

---

7. **Realign general service rate classes** to reflect new metering/billing capabilities and set foundation for offering customer choice. Redesign rates to smooth steps between classes (e.g. inclining charges based on service size), reduce number of rate classes.
8. **Green option** – offer premium solar/super-green power option to customers
9. **Demand charges** – develop long-term plan for role of demand charges in rates
10. **Cost alignment** consider targeting collection for service attributes that have added costs (additional charge on bill)
    a. Undergrounding premium for undergrounded single-family neighborhoods
    b. Network premium for residential, small general service downtown
    c. Network premium for First Hill, UW

11. **Decoupling**/RSA mechanism for managing revenue swings.
12. **UDP-** restructure benefit to subsidize fixed charge? Sliding scale, other UDP restructure?

Black: Phase 1, implement for 2021 Blue: Phase 2+, study further Green: Secondary, relates to rate design

CURRENT/FUTURE STATE

	Current	Future
Power Source	Utility supplies standard power mix to all customers (plus nominal customer solar panels)	Customers control their power source-standard, or a premium solar product, and/or generate/store power onsite.
Metering	Manual-read meters	Advanced meters supply real-time data
Rate Variation	Static/fixed rate structures	Rates may vary by time and location to contain grid pressure and costs
Rates on Bills	Bundled services	Itemized electricity/grid services
Rate Classes	Customers are assigned to rate classes	Various rate plans offered, including innovative pilots. Customers choose rate that is best suits their needs.
Environmental Sustainability	Volumetric charges inflated to incentivize conservation	Cost-based rates supplemented by targeted decarbonization programs
Low Income	UDP offers 60% discount on bills, emergency assistance programs	UDP plus targeted services to help customers manage their energy costs through discounts, billing plans, and behind-the-meter technology

TRANSITION STRATEGY

Current State	➡ Transition Strategy ➡	Utility of the Future
Rate structures limited by technology (fixed, block, some demand charges)	1. Simplify rates, make them more transparent & cost-based. Unbundle electric rates to show services on bill. 2. Introduce opt-in rate pilot programs (e.g., rates for transportation electrification, billing options to add stability) 3. Move towards time of use rates	Sophisticated rate structures provide price signals to reduce grid pressure and control costs
Bills show volumetric charges for bundled services		Bills show itemized electricity/grid services
Rates with inflated price signals to incentivize conservation		Cost-based rates with targeted programs and incentives
Customers assigned to rate classes		Customers choose pricing program that is right for them

MATRIX FOR COMPARING PHASE I OPTIONS	Cost-based	Revenue	Decarbonization	Efficiency	Stability	Affordability	Transparency	Choice
1. Bill redesign, unbundle rates on bill	+					?	+	
2. Phase out residential block rates	+	+	+-	+	+	?		
3. TOU rate option offered	+	?		+			+-	+
4. Budget/subscription rate billing					+	+	?	+
5. Realign customer charge	+	+					+	
6. Offer interruptible/demand response rate	+			+		+		+
12. Expand RSA to cover retail (decoupling)		+			-			

1. BILL REDESIGN & UNBUNDLING

Description

Redesign bills to be clearer and more transparent, with unbundled rates that itemize charges for customer service, energy, delivery, other services such as social justice programs.

Current State

Bills show series of codes and charges. Ample customer confusion, residential customers seem to struggle to understand seasons and blocks, many non-residential customers don't know what rate class they are in. New billing system is capable of bill redesign, but bill has not yet been updated. Customer portal implementation beginning, which has potential to offer customer interactive bill view, usage information, drill-downs, etc.

Pros & Cons

+Cost based: Unbundling rates foundational to showing energy delivery as a separate service/charge, builds awareness of this City Light service, important as distributed generation, storage become more widespread. Unbundling services is first step in reducing cost recovery dependency on flat volumetric charges.

? Affordability: Possibly significant IT cost to reprogram billing system and implement re-design, with qualitative impacts/results that might not be value-added for some customers.

+Transparency: Provide more information to help customers understand how their behavior relates to the amount on their bill, what they are paying for.

Feasibility: Could complete for 2021, assuming funds/ability for billing system re-programming.

Survey Notes: The Cuthbert report notes that Austin, Burbank, Los Angeles, Sacramento, and Portland have all increased the degree to which rates are unbundled as part of their rate designs, and that a consideration when unbundling is to strike a good balance between simplicity and transparency.

2. PHASE OUT RESIDENTIAL BLOCK RATES

Description

Redesign residential rates to be comprised only of a basic fixed charge and one volumetric rate, eliminating the block structure. Could be implemented slowly, incrementing first block size/price to bring closer to second block rate over several years. A simpler, more cost-based rate structure sets the stage for introducing TOU and pricing options/pilots.

Current State

Residential rates have been designed as inclining blocks for approximately 40 years. For 2020, the first block rate is 9.9¢/kWh, and the second block rate is 13.1¢/kWh (unchanged from 2018). The first block is 480 kWh in the winter (Oct-Mar) and 300 kWh in the other months.

Pros & Cons

+Cost-Based: The current 13.1¢/kWh is higher than the marginal cost to serve residential customers, even allowing for environmental adders and the full cost of delivery.

+Revenue Sufficiency: Would improve revenue stability since the high second block rate is a source of revenue volatility.

-/+Decarbonization:

- A lower (or less high) volumetric price could reduce rate of customer investment in efficiency and customer generation.

+ A lower volumetric price could increase investment in electric vehicles and all-electric homes (e.g. heat pump in lieu of gas or oil heating).

+Efficiency: Aligning the price signal with cost will improve economic efficiency.

+Stability & Predictability: Would narrow the range of bill costs, making bills more stable.

? Affordability: Would narrow the range of bill cost, such that low users would see higher bills and high users would see lower bills.

Feasibility: No barriers, could begin in 2021. Gradual change to avoid bill shock would be desirable.

Survey Notes: Cuthbert report notes more than half the utilities surveyed use inverted block rates, utilizing 2, 3 or even 5 blocks. (For some utilities, block rates are one among multiple rate plan choices.) The industry appears to be trending away from use of inverted block rates over the past 10-15 years as concerns for revenue stability in the face of flat/declining energy usage overshadowed the prior focus on energy conservation. For example, Eugene (EWEB) will transition away from block rates starting in 2019.

3. TIME OF USE RATES (TOU RATES)

Description

Advanced meters provide detailed consumption data and the potential to expand offer more sophisticated rates to customers that vary by season and time of day. TOU rates could initially be offered as opt-in pilots, for example a rate targeted at EV owners, or a commercial rate aimed at bus charging. Down the road, opt-in TOU

rates could be expanded to all customer classes, with different kinds of TOU rates offered as choices. For example, a critical peak rate for winter could charge higher rates for evenings during coldest days of the year (with day ahead warning), or even real-time market-based pricing.

Current State

Currently, only City Light's largest 200 or so customers (Large/High Demand) have meters capable of tracking real-time electricity consumption. These customers are billed based on mandatory TOU rates that are higher for on-peak and lower for off-peak periods (nights/Sundays/holidays), with no seasonality aspect.

Pros & Cons

+Cost-Based: TOU rates could improve alignment of cost of service and revenue recovery. The cost of generated electricity significantly varies by time of day and by season (hydro). TOU rates can also price signal delivery costs by increasing the price for time periods when the grid is typically constrained.

+Efficiency: Provides time-based price signals to customers, which better reflects the value of the energy services being provided. Customers have incentive to shift consumption to less costly time, which could help contain costs of integrating new loads such as transportation electrification.

+Choice: Can provide choice through pilots and various opt-in TOU programs.

+/- Transparency:
+ Can help communicate the different costs it takes to serve customers at different times of day and seasons. -- TOU rates may be harder to understand for some customers as there will be more charges on their bill. (TOU rates might be more understandable than demand charges.)

Feasibility: Could complete for 2021, assuming funds/ability for billing system re-programming.
Pilot might be implemented sooner. Will need interval meter data (should be available from advanced metering) to develop robust TOU rate structures.

Survey Notes: The Cuthbert report notes that research has shown than TOU rates are most effective at helping utilities lower costs when the on-peak rates are set very high, for short periods of time. TOU rates are already commonplace for large customers, but several utilities (who have advanced metering) are starting to implement TOU more widely, especially those in warm climates. For example, SMUD is in the process of making TOU rates their default (i.e., opt-out). In California, TOU rates are becoming mandatory for all investor-owned utilities in 2019.

4. BUDGET/SUBSCRIPTION BILLING

Description: Expand programs to offer customers an option for more predictable bills. Augment budget billing program by using advanced meter data to lower barrier to enrollment. Pilot a low-income subscription flat rate residential program, potentially bundled with behind-meter efficiency technology.

Current State: Budget billing program averages payments throughout the year for residential and small general service customers who have been at their premises for a year or more.

Pros & Cons

+Stability & Predictability: Customer bills would be more predictable.

+Affordability: Would help customers budget for their energy bills, though would not actually lower bills.

-? Transparency: Subscription program would bundle services together, this could reduce transparency if not communicated clearly.

+Choice: Provides more options for billing to better serve diverse customer needs.

Feasibility: No barriers, could begin in 2021. Pilot might be implemented sooner.

Survey Notes: None.

5. RE-ALIGN CUSTOMER CHARGES

Description: Gradually increase residential basic service charge to recover 100% of customer cost and add a basic service charge to general service rates that serves a similar function. Develop policy that establishes which customer costs (customer service, metering, billing, service drop, etc.) should be recovered in a fixed basic service charge. Research if there is a cost justification for having a tiered basic charge for residential customers (e.g., different charges for single family, multifamily).

Current State: Residential customers have a basic charge that recovers roughly 1/3 of the total customer costs. Business customers (all general service rates) have minimum bill set at 100% of the marginal customer cost.

Pros & Cons

+Cost-Based: Better aligns customer costs with revenue, so long as costs collected with fixed charge are truly fixed.

+Revenue Sufficiency: Improves revenue certainty slightly by reducing revenue reliance on volumetric consumption. (At least for non-residential customers, these classes do not currently pay a customer charge.)

+Transparency: Better communicates the "fixed cost" services being provided, particularly when combined with unbundled charges.

Feasibility: No barriers, could begin in 2021. Gradual change to avoid bill shock would be desirable.

Survey Notes: The Cuthbert report notes that all 15 utilities surveyed have some form of fixed cost charges. For residential customers, these charges average of $13.85 per month, and range from $5.00 (Seattle) to a high of $20.

6. INTERRUPTIBLE/DEMAND RESPONSE RATE

Description: Offer interruptible or demand response rate to large customers as a rate pilot. An interruptible rate is where the customer agrees to reduce their use when the utility's grid or supply is constrained, in exchange for a lower rate. Demand response entails making interpretability technology-based. A device is installed behind a customer meter that would enable the utility to control a customer's electricity use.

Current State: Not currently offered. City Light has offered an interruptible rate in the past but discontinued it.

Pros & Cons

+Cost-Based: Would be aligned with costs, assuming interruptible rate is based on actual savings potential.

+Efficiency: Assuming the price signal were aligned with cost savings, could be an efficient way to avoid unneeded grid investment or high-cost resources.

+Affordability: Could reduce bills for some businesses.

+Choice: Optionality in rates, could be an attractive opt-in program for some large customers.

Feasibility: No barriers, would need to study cost and benefits to develop rate program.

Survey Notes: The Cuthbert report noted that Salt River Project (Arizona) offers an interruptible rate.

12. REVENUE DECOUPLING

Description: Implement a decoupling mechanism, which is an automatic surcharge or credit in rates to compensate for retail revenue shortfalls/surpluses in past periods. Using the RSA to implement this mechanism would be a variation. Another variation would be to have separate rules of operation for residential and non-residential customers, recognizing that much of revenue variability comes from residential heating demand, and that business customers tend to view unexpected rate changes very unfavorably.

Current State: Only wholesale revenues are buffered by the RSA currently. Retail revenue shortfalls/surpluses are managed by adjusting cash funding for capital expenditures. (Shortfalls result in larger bond issues and higher debt, increasing revenue requirements by a small amount, spread over several decades.)

Pros & Cons

+Revenue Sufficiency: Would shorten the true-up period for revenue collection- instead of being collected over 20-30 years (with interest) as they are now, revenue shortfalls would be collected in 1-2 years. Long-term rate/revenue risk (i.e., avoidance of the declining system load rate "death-spiral") would not be affected by a decoupling mechanism.

-Stability: Automatic rate adjustments reduce customer bill stability. The size of the adjustment could be capped to strike the right balance between revenue stability and bill predictability.

Feasibility: Major policy change, would need ordinance to change RSA or rate mechanisms.

Survey Notes: The Cuthbert report notes that decoupling charges have been adopted by at least 29 investor owned utilities in 14 states, as well as by publicly-owned utilities in Los Angeles and Glendale.

BUSINESS RATES: CURRENT

Rate Class	Fixed Charge	Energy Charge	Demand Charge
Small	Nominal minimum daily charge	Flat per kWh	None
Medium			Flat per kW
Large & High Demand		Off-Peak per kWh On-Peak per kWh	Off-Peak per kW On-Peak per kW

A future rate structure for commercial customers could take advantage of advanced metering technology and incorporate time of use rates, customer choice and innovative opt-in pilots. Instead of being assigned to a rate class, customers could choose a pricing plan that reflects their business's objectives, and ability or willingness to flex their consumption. Demand response pilot rates might be offered to very large customers (e.g., industrials) or customers in grid-congested areas. Partnerships and special rates that encourage electrification of public transportation and diesel fleets could help contain system expansion costs and support climate action goals.

BUSINESS RATES: FUTURE (ILLUSTRATIVE EXAMPLE)

Pricing Plan Options	Fixed Charge	Energy Charge	Delivery Charge	Capacity Charge
Basic *default for small business*	Basic daily charge Increases with service size	Flat per kWh	Flat per kWh	-
TOU + Capacity 1 *default for large business*			On-Peak per kWh Off-Peak per kWh	On-Peak per kW Off-Peak per kW
TOU 1		Flat per kWh	Off-Peak per kWh On-Peak per kWh	
TOU 2 Peak reduction pilot		Seasonal per kWh	On-Peak per kWh Off-Peak per kWh Super peak per kWh	On-Peak per kW Off-Peak per kW
TOU 3 Electrification pilot for transportation only		Off-Peak per kWh On-Peak per kWh	On-Peak per kWh Discounted Off-Peak per kWh	-
TOU + Capacity 2 Demand response pilot		Real-time per kWh	Variable per kWh	Variable per kW
Super Solar add-on solar option		+ per kWh		

RESIDENTIAL RATES: TRANSITION EXAMPLE (ILLUSTRATIVE)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Basic	$4.98 7.7¢ 13.1¢	$5.26 8.9¢ 13.1¢	$5.39 9.9¢ 13.1¢	$5.50 11¢ 13.1¢	$5.50 11.5¢ 13.1¢	$5.50 12¢ 13.1¢	$6.00 13.5¢	$7.00 14¢	$8.00 14.5¢	$8.00* 15¢	$8.00 16¢
TOU EV Pilot			*pilot*	*pilot*	*pilot*	*pilot*					
TOU Opt-in Rate						*pilot*	*option*	*option*	*option*	*option*	*option*
Subscription Rate				*pilot*	*pilot*	*pilot*					
UDP			*tbd*								

** Move towards correct fixed cost, plateau at whatever that is*