

*draft dated 3.20.19*

# **RATE DESIGN PROJECT FINAL REPORT for Seattle City Council**

Presented by:

Seattle City Light Review Panel *and* City Light General Manager Debra Smith

*Report dated March 27, 2019*

## **EXECUTIVE SUMMARY**

[Karen will draft once text is firmed up]

## INTRODUCTION

The world in which electric utilities find themselves is changing rapidly, but City Light's rates have not changed notably in nearly 40 years. As stated in City Light's 2019-2024 Strategic Plan:

Energy consumption is declining, contributing to under-collection of revenue and persistent rate pressure. One contributing issue is that City Light's rate structure does not match our cost structure: current rates mainly charge per unit of energy consumed, but most of our costs are fixed and do not decline when customers consume less electricity.

In July 2019, the City Council directed the City Light Review Panel (the "Panel" or "Review Panel") and the City Light General Manager to jointly undertake a rate design study effort. The desired scope was set forth in Section 5 of Council [Resolution 31819](#), adopted July 9, 2018. This resolution called for submitting an initial report to Council by January 15, 2019, and a final report by April 1, 2019. The Review Panel responded to Council outlining a narrower scope of work that the Panel felt it could accomplish within the timeframe provided and has now completed that scope of work. Debra Smith began work as City Light's new General Manager, and as anticipated by Resolution 31819, the General Manager and the Review Panel are jointly submitting this Report.

This report sets forth our rate design priorities at a policy level, and our preferred rate design tools to accomplish those priorities.

Consistent with the rate design initiative included in the 2019-2024 City Light Strategic Plan, City Light will undertake additional work in the coming months to develop detailed rate design proposals with respect to the near-term action items described in this Report. That work will be done in concert with the Mayor, Council, Review Panel and other stakeholders.

Additional internal technology systems as well as extensive customer outreach and education must precede implementation of any new rate design. Therefore, the timeline for implementing the near-term rate design action items recommended in this Report—other than pilot projects—is to bring them forward for Council consideration to enable implementation in January 2021.

## PROJECT WORK COMPLETED

The work pursued for this project is consistent with the plan provided to the City Council, reproduced in **Attachment 1**. In summary, with the able assistance of City Light Staff, the Panel:

- Adopted a **draft situation assessment**, and a set of goals and objectives –referred to as "**draft framework principles**" -- to use as baseline data in outreach with stakeholders. (See: Draft Situation Assessment; **Attachment 2**: Draft Framework Principles, **Attachment 3**.)

- Reviewed results of recent local and national surveys of residential customers with respect to rate design.
- Invited over 74 stakeholders and stakeholder organizations to provide comment to the Panel, in person and otherwise, seeking response to a specific **set of stakeholder questions** (See **Figure 1**)
- Adopted a **scope of work for a comparative utilities report** to be completed by an outside consulting team engaged by City Light.
- **Conducted two 3-hour stakeholder meetings** in October 2018, at which the Panel heard from individuals representing 13 organizations. (See **Attachment 5** for a list of participating stakeholders). Debra Smith was able to participate in the second of these meetings. We received a wealth of ideas and rate design proposals from these meetings.

**Figure 1: Review Panel Questions to Stakeholders**

1. What opportunities for improvement do you see in the current City Light rate structures?
2. What outcomes do you want rate design to promote?
3. How would you prioritize the eight key policy goals identified by City Light (see Draft Rate Design Framework and Assessment of Current Rate Structure document) and why?
4. What alternative rate structure options would be of interest to you and why? (for example, time of use rates or premium green power options, decoupling, higher fixed charges, etc.) What data can you share that indicates the option(s) you advocate would support the outcomes that are important to you?

After completing the stakeholder meetings, the Panel, together with Debra Smith and other City Light Staff:

- Discussed the main themes heard in the outreach and contained in the review of residential customer surveys. (See **Attachment 5: Public Feedback Themes on Rate Design**)
- Reviewed the results of the comparative utility study prepared by Cuthbert Consulting based on our scope of work. (See **Attachment 4: Review of Electric Utility Rate Design Options** by Cuthbert Consulting, December 2018, referred to here as the "Cuthbert Report.")

- Developed consensus on a **list of goals for rate design (“ends”)** and a **list of concepts (“means”)** to study further. These items were presented in the Initial Report to Council dated January 9, 2018 and are reproduced again at **Table 1** below.

Following submittal of the Initial Report, the Panel Chair and Vice-Chair, together with General Manager Debra Smith and other City Light staff met with the Council’s Housing Health Energy & Workers’ Rights Committee to discuss the Initial Report.

After meeting with the Council Committee, the Panel and City Light worked together to develop this final Report. Steps in this last phase included:

- Seeking an **additional round of input from stakeholders** regarding the Initial Report. At the Panel’s February 27 meeting, seven stakeholders presented additional comments. All seven stakeholders had also participated in the initial round; the themes from their second round of comments are included in **Attachment 5**.
- Reviewing the results of **three residential ratepayer focus groups** conducted on behalf of City Light in February 2019. The results are discussed below and in **Attachment 5**. A total of 23 people participated in these three focus groups; one of the three groups consisted entirely of Spanish-language speakers.
- Hearing from Councilmember Mosqueda at the beginning of our February 27 meeting, and reviewing a letter from her dated March 5, 2019.
- Deliberating on potential refinements to the Initial Report recommendations

The next steps will be to hear from Council and Mayor on the recommendations in this Report, and we hope, proceed over the next several months towards final proposals with respect to the seven the priority near-term action items we identify below.

## **DATA SETS THAT CONTRIBUTED TO DEVELOPING THIS REPORT**

In addition to information from City Light about its operations and current rate design, we reviewed three main data sets in developing this report: (a) input from stakeholders; (b) input from residential customers; and (c) a report on the rate design of a group of 15 other utilities, most of which are in the western United States. Before proceeding to our recommendations, we offer a few comments on each of these data sets.

### **A. Input from Stakeholders**

A summary of rate design themes we heard in our 2018 stakeholder meetings held in October 2018 and February 2019 is presented in **Attachment 5**. In our Initial Report, we observed that there was insufficient response from small businesses and residents in the stakeholder meetings.

The residential ratepayer focus group proposed residential and small business customer outreach is intended to respond in part to this gap.

We deployed a conversational format for our stakeholder meetings that enabled questions to, and response from, stakeholders that was helpful to getting their in-depth ideas.

The responding stakeholders reflected a range of groups and interests that the Utility is accustomed to hearing from: environmental stakeholders, energy efficiency advocates, large business customers, etc. The stakeholder feedback was diametrically opposed on several issues, a reminder of the challenging policy balancing act that is inherent in rate design. A few examples may illustrate this:

- Some stakeholders supported time of use rates; others noted these would be of no assistance (but potentially no detriment) to them.
- Some stakeholders supported larger demand charges<sup>1</sup>; others opposed them as confusing and beyond customer's control to manage.
- The potential to sell significant new amounts of electricity to transit fleets seeking to electrify their vehicles is potentially at odds with goals that rates send strong signals to conserve electricity.
- Some stakeholders supported eliminating block rates or reducing the difference between the current ascending block rates; others felt the difference in cost between blocks of power should be retained to incentivize lower electricity consumption.
- Some support decoupling<sup>2</sup> rates from the revenue requirement to limit disincentives to energy efficiency; others opposed decoupling as undermining the goal of rate predictability.

The differences in views on these rate design components may help explain the consistent theme in support of customer choice.

The input from stakeholders was greatly helpful in refining our thinking with regard to policy objectives for rate design, and to focus on which potential action items we selected for further study.

A link to the videos of the two October stakeholder meetings can be found at:

<https://www.youtube.com/watch?v=pgXCCbMRXm0> and  
<https://www.youtube.com/watch?v=bkXIHElejQo>

The February stakeholder meeting was not videotaped, but detailed minutes of the meeting can be found at [\(LINK to meeting minutes of 2.27.19\)](#) and are summarized in **Attachment 5**.

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<sup>1</sup> Insert simple definition of demand charges. Charges based on the maximum power demand of a customer in a given rate period.

<sup>2</sup> Insert definition of decoupling. Recovering shortfalls/recouping excess in revenue requirements periodically through customer charges/credits to separate incentives for the Utility to promote conservation and energy efficiency from its goal of selling power to meet its revenue requirement.

Written materials submitted by stakeholders can be found at <http://www.seattle.gov/citylightreviewpanel/meetings/materials>

## **B. Residential Ratepayer Focus Groups**

As noted, we did not hear from residential customers in the October 2018 outreach. The three focus groups conducted on behalf of City Light<sup>3</sup> in February 2019 provide a notably different set of feedback than we heard from other stakeholders. The focus groups also highlight the challenge of getting detailed input on rate design through a *survey*. The concepts involved in rate design are complicated and can take a considerable amount of time to explain—factors not conducive to an online or telephone survey.

The focus groups focused primarily on the level of understanding and priorities of customers with respect to their utility bills; how those bills are presented; and some very general policy priorities in rate design. A summary of findings can be found in **Attachment 5**. More detail on the structure and findings of the focus groups is provided in PRR's full report, which can be found in **Attachment 6**.

Among the findings we thought are particularly interesting:

- Customers are aware of many ways to conserve electricity and are motivated to do so more by habit than by a desire to reduce their bill or environmental impacts.
- Residential customers appreciate information about their bills, but detail is not very important-- and if too confusing is not helpful.
- When asked to prioritize among the eight rate design goals that the Panel identified in its Initial Report, the focus group participant priorities were:
  1. Transparency
  2. Affordability
  3. Decarbonization
  4. Stable and predictable
  5. Customer Choice
- Of the four simplified rate design options discussed-- itemized charges; time of use rates; budget plans; and ascending block rates versus a single flat rate for energy consumption-- participants preferred a single block/flat rate and time of use rates. Participants also supported the idea of *options* --having the ability to choose between different rate designs for their accounts.

Again, this was a small sampling of residential customers. Surveys can get feedback from many more individuals but getting responses to complicated questions is challenging in a survey

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<sup>3</sup> The local public communications firm PRR conducted these focus groups.

format. That said, the consultant team recommended conducting an additional residential ratepayer survey on rate design later this year.

### **C. Report on Comparable Utilities' Rate Designs (Cuthbert Report)**

The Cuthbert Report (presented in full at **Attachment 4**) reviewed and compared rate designs of 15 electric utilities in addition to City Light, including:

- 8 large municipal electric utilities
- 4 large investor owned utilities in the Pacific Northwest, and
- 3 other municipal utilities that have adopted innovative rate designs.

The report looked at the following specific rate design concepts, a list agreed to in September by the Review Panel:

- Inverted Block Rates
- Time of Use Rates
- Unbundled Rates
- Delivery or Access Charges
- Demand Charges
- Critical Peak Pricing
- Coincident Peak Pricing
- Green Power Rates
- Low Income Program Rates
- Decoupling Charges
- Distributed Energy Resource Rates
- Performance-based Rates

Many of these concepts were raised in the October stakeholder meetings. All these concepts are encompassed in the scope of the potential rate design action ideas we are recommending for further work.

Some of our major takeaways from the Cuthbert Report include:

- Seattle City Light's current rate design is very simple and traditional as compared to which many other utilities are using today.
- Our basic customer charges are the lowest of any Utility surveyed.
- There are many, many different rate design components –as yet untried in Seattle-- have been successfully deployed by other utilities.
- There is no single "silver bullet" rate design to address all the challenges we face.

### **THE "ENDS": RATE DESIGN GOALS**

The Review Panel and Utility chose to focus our approach to rate design by identifying the goals we want to achieve through rate design – the “ends” – and then to correlate those with a series of rate design actions – “means” – that can assist in accomplishing those goals.

Our thinking on the goals / “ends” of rate design has evolved since launching this project, but the eight goals presented in **Table 1** are the same as those put forth in the Initial Report, with very slight wording changes.<sup>4</sup>

**Table 1: Rate Design Goals/“Ends”**

<i>Goal/End</i>	<i>Definition</i>
<b>Transparency</b>	Rates should be structured so that customers can easily understand what services they are paying for.
<b>Revenue Sufficiency</b>	Rates should be designed to collect the approved revenue requirement with a reasonable degree of certainty.
<b>Cost-Based</b>	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.
<b>Stable &amp; Predictable</b>	To aid customers in managing the financial impacts of their electricity bills, rate changes should be deliberate and gradual.
<b>Efficiency</b>	To conserve finite natural resources and minimize overall system costs, rates should be structured to encourage efficient use of power. This applies to electricity produced and purchased, as well as the wires and associated equipment needed for energy delivery.
<b>Decarbonization</b>	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.
<b>Affordability</b>	Rates should be designed to make electric service accessible for all customers; therefore, rates may be discounted for qualified low-income residential customers
<b>Customer Choice</b>	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.

Again, it is important to understand that these goals frequently are in conflict. For example, creating incentives for decarbonization has costs that may be inconsistent with the goal of affordability. As another example, some strategies designed to promote energy efficiency may be inconsistent with stable and predictable customer bills.

It may be informative to compare these policy principles with those in the City’s current rate design resolution, [Resolution 31351](#), most recently reaffirmed in 2012, which also highlights the conflict between various stated priorities. How these goals are balanced determines the

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<sup>4</sup> A review of Attachment 2 to this report will help illustrate the evolution in our thinking.



“winners” and “losers” in any rate design proposal, which may suggest why it has been nearly four decades since any major restructuring of rates has taken place. Whatever the case, it is nevertheless true that, nationally, we are seeing many changes in rate design as local leaders and investor owned utilities grapple with the changing realities of the electric market and customer demands.

At our March 12 Panel Meeting, we discussed whether these goals can or should be prioritized, and if prioritized, what is most important?

Our consensus view is that all these goals are important and need to be balanced in any rate design. That said, some goals have particular importance to the Panel and the Utility. At a **conceptual level**, the Panel’s priority goals are:

1. **Affordability**
2. **Transparency**
3. And –with equal ratings – **Revenue Sufficiency, Stable & Predictable Rates**; and rate design that promotes **Efficiency**

The Utility places **Revenue Sufficiency** and **Decarbonization** at the top of its conceptual priorities.

When we shift focus to think about **pragmatic near-term priorities**, considering where City Light is today –its challenges and opportunities—and where we think the Utility needs to focus its immediate efforts, the goal priorities shift. Why? Several current conditions stand out in the context of rate design:

- Electricity rate increases annually at rates higher than inflation, resulting from a combination of rising costs and declining sales and declining supplementary revenue
- Declining retail sales of electricity for the last several years, and projections for this to continue for the foreseeable future if nothing changes
- Declining revenues from sale of surplus electricity on the wholesale market
- A heavy debt burden and capital-intensive operation
- Winter peaks in electricity demand and that are currently relatively modest as compared to the average demand in a year
- A largely carbon-neutral power generation supply
- A wide variety of priorities from stakeholders and customers that are not in alignment
- Our two major transportation utilities—Sound Transit and Metro Transit seeking to electrify their fleets in accordance with our region’s strong environmental ethic

Under this lens, the Panel’s top near-term pragmatic priorities align with those of the Utility: **Revenue Sufficiency** and **Decarbonization**. Again, why? The Panel and General Manager are in agreement: to ensure City Light will remain stable and solvent in the face of the challenges described above, we must look for new markets for our electricity.

This goal might appear at odds with Seattle’s longstanding ethos of endeavoring to reduce consumption of electricity in the name of environmental stewardship. In the future, the equation will be more complex. Responsible use of electricity might mean encouraging reducing use in the case of waste and inefficiency but increasing use if it means weaning off of carbon-based fuels.

Without greater demand for power, City Lights fixed cost burden and need for continued capital investment will translate into unacceptable hikes in electric rates or a decline in service levels – or both. The silver lining is that our green power supply creates a potential opportunity for City Light to support widespread decarbonization of transportation while simultaneously achieving goals of revenue sufficiency—and affordability.

It is important to note that we are at the very beginning of this electrification discussion. The Panel is unaware of any calculations of how much demand for City Light electricity would be involved in the full conversion of the Metro Transit and Sound Transit fleets. We are fortunate today to have more energy resources than we need—but we would want to be cautious of overcommitting the Utility’s ability to provide power.

If Revenue Sufficiency and Decarbonization are our top near-term pragmatic priorities, what rate design strategies make the most sense? Fortunately, there are many tactics we could potentially deploy in support of these goals, which allows the City to work towards a balance of the multiple “ends” we believe are important.

## **THE “MEANS”: RATE DESIGN STRATEGIES ENDORSED FOR THE NEAR TERM**

Based on the input from stakeholders, the information in the Cuthbert Report, and our understanding of City Light’s challenges and opportunities, our Initial Report outlined a set of near-term and longer-term rate design tactics. We refer to these rate design ideas as “means.”

The “means” presented in the Initial Report are set forth in **Table 2** below. After further review and consideration of the additional inputs we have received since submitting the Initial Report, *the Panel, with the support and concurrence of the General Manager, endorses immediate work by City Light to further develop all the near-term ideas described in **Table 2**.* Pilot concepts can be implemented in the next year or so; however, we would recommend against any deployment of other ideas before January 2021, given the information technology and public education requirements necessary for a successful roll-out of these proposals.

**Table 2: Potential Rate Design Ideas/"Means"**

***Near-Term Options that could be implemented in 2021-2022***

1. **Redesign bills** to be clearer and more transparent. Unbundle rates to show itemized charges for energy, delivery, and other services.
2. **Adjust residential block rates** to facilitate transition to time of use rates and choice/pilots, align with cost of service, and promote efficient decision making by customers.
3. **Time of use (TOU) rates** – expand use of rates that vary by season and time of day. Implement pilot TOU rate programs targeted at residences with electric vehicles (EVs) and transportation electrification.
4. **Budget and flat rate residential billing** – enhance programs to offer residential customers more options for 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. **Fixed charge** recovers full fixed customer cost and included in all rate schedules
  - a. Design to collect 100% of basic fixed cost for a customer; revisit cost of service to identify costs that are truly fixed.
  - b. Convert minimum charge to basic service charge for all general service rates
6. **Interruptible/demand response** – explore rate pilot for large customers; rate should be cost-based to be a win-win. An interruptible rate is a lower rate where the customer agrees to curtail its use of energy at the utility's election when the utility's grid or supply is constrained or when economics for the utility so justify.

*Near term ideas not primarily equated to rate design, but also under review, include:*

7. **Decoupling/RSA mechanism for managing revenue swings.** *Decoupling involves an automatic surcharge or credit on bills to compensate for total retail revenue shortfalls/surplus in past periods.*
8. **Utility Discount Program (UDP)** – *Explore options to restructure UDP benefit, such as a larger subsidy for the fixed charge, or a sliding scale. A **City Interdepartmental Team on UDP is on point for this item;** the Panel will continue to track their proposals.*

***Options that would require longer-term study and implementation timelines***

1. **Green option** would offer a premium solar/super-green power supply alternative for customers (Could potentially lower bulk power costs for other customers?)
2. **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.
3. **Bill redesign 2.0** – more unbundling opportunities. Show as separate charge on bills: RSA surcharge, BPA pass-through, UDP discount, franchise differential, cost of conservation, network delivery premium.
4. **Time of use rates 2.0** – further expansion of TOU offerings, such as critical peak rate for winter evenings/mornings.
5. **Cost reassignment** – study opportunities to target collection for cost-added non-standard service attributes, such as undergrounded wires in single family neighborhoods, residential/small business network service, network service in First Hill, UW area.
6. **Demand charges** – develop long-term plan for role of demand charges in rates. A demand charge is a retail rate component that reflects a customer’s peak use of energy and the infrastructure required to meet the customer’s peak energy needs.

At this time, we are not making recommendations with respect to the longer-term study ideas in **Table 2**.

We offer below a more detailed discussion of the eight near-term proposals. This discussion includes summary thoughts of how these rate design concepts reflect actions other comparable utilities have taken in recent years, stakeholder and ratepayer input, and alignment with the rate design goals set forth above.

**#1: Redesign Bills to be Clearer and More Transparent**

This proposal is fundamentally about **transparency** – *the top priority for the residential ratepayer focus groups*. Redesigning the customer bill experience might not change rate designs, but it would impact how customers understand their rates.

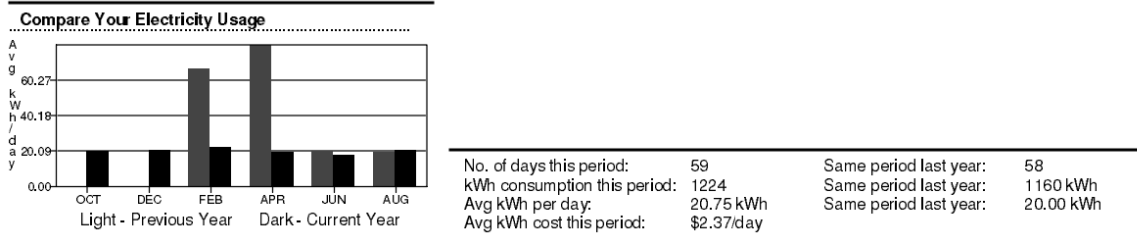
Today’s residential customer bills include information about:

- Bill messages with information about RSA surcharge and payment options
- Meter readings
- A graphic showing electricity usage compared to the previous year
- Individual total consumption data
- Somewhat opaque information about base service charges and energy rates.

Figure 2 below presents an example of the information in a residential bill.

**Figure 2: Example of Information in a Residential City Light Bill**

<p>Rates include a 1.5 percent RSA Surcharge in effect as of August 1st, 2016</p> <p>To pay by phone or to establish a pay plan, call (206) 684-3000 (Budget Billing accounts are not eligible for pay plans).</p> <p>* Rate discounts available for income eligible seniors and other customer. Call 206-684-3000.</p> <p>Summer rates are in effect April 1 through September 30.</p>		<p><b>DETAILED BILLING INFORMATION</b></p> <p><b>Electric Service</b></p> <table border="1"> <thead> <tr> <th>Service From</th> <th>Service Through</th> <th>Previous Reading</th> <th>Current Reading</th> <th>kWh Multiplier</th> <th>kWh Usage</th> </tr> </thead> <tbody> <tr> <td>Jul 03, 2018</td> <td>Aug 31, 2018</td> <td>17046.00</td> <td>18270.00</td> <td>1</td> <td>1224.00</td> </tr> </tbody> </table> <p>Meter Number: 2005267      Service Category: KWH</p> <p>Base Service Charge..... 9.95</p> <p>Summer Residential Energy      590.00 KWH x \$0.078 per KWH      46.02</p> <p>Summer Residential Energy      634.00 KWH x \$0.1326 per KWH      84.07</p> <p style="text-align: right;"><b>Current Electric Service: 140.04</b></p> <p style="text-align: right;"><b>CURRENT BILLING: 140.04</b></p>				Service From	Service Through	Previous Reading	Current Reading	kWh Multiplier	kWh Usage	Jul 03, 2018	Aug 31, 2018	17046.00	18270.00	1	1224.00
Service From	Service Through	Previous Reading	Current Reading	kWh Multiplier	kWh Usage												
Jul 03, 2018	Aug 31, 2018	17046.00	18270.00	1	1224.00												



What is *not* in current residential customer bills is information about things like:

- How much of the cost of electricity is attributable to electricity generation, power purchases, transmission and distribution costs, or to funding the Utility Discount Program and environmental programs.
- How much of the cost is attributable to utility taxes or other surcharges.

In addition, current paper and e-bills are colorless, static, and heavy on text, codes and numbers. A re-designed bill could use color graphics and symbols to better communicate to customers what is driving their energy costs. Reducing use of text in favor of graphics and symbols could also help lower communication barriers. A new electronic customer portal (coming in 2019-2020) would make bills more interactive, allow customers to drill down on information, find details about their electricity consumption habits, and in the future, potentially compare different rate plan options. At the same time, we will want to improve transparency in billing without requiring every customer to go online and drill down.

Transparency in rate design is not, in and of itself, a change in rate design, but it is an educational tool. However, several of the comparable utilities we looked at used this information as a basis for developing new rate designs—new customer classes, and new rates and charges (Austin, Burbank, Los Angeles Dept. of Water and Power (LADWP), Sacramento

Municipal Utility District (SMUD), and Pacific Gas and Electric (PGE).<sup>5</sup> Separately identifying different cost bundles can also be a pathway to more customer choice. We are not endorsing “unbundled rate design” per se, but we do endorse additional transparency in the bills that are sent out. Some of this requires additional software ---implementation of which is underway but not complete-- so that the billing system can pull the data and report it.

## **#2: The Rate Structure of the Future is Time of Use (TOU) Rates**

Seattle is growing, energy costs are on the rise, and the electric grid is becoming more complex as solar, electric vehicles, and batteries proliferate. As these changes happen, rates that vary with season and time of day will become an essential cost containment and grid management tool. Time-varying rates are intuitive and can be used to signal variations in the cost of electricity to help both customers and the utility keep energy costs low.

City Light has limited TOU rates in place for some commercial customers today. The utility proposes to slowly expand the use of rates that vary by season and time of day, beginning with small-scale pilots and then offering the rates as a voluntary option more widely. As customers learn more about TOU rates, they might eventually become the standard. A first phase, implemented in 2020-2021 would be pilot TOU rate programs targeted at (1) residences with electric vehicles (EVs), and (2) transportation (bus system) electrification. The Panel supports this – noting that there are several policy issues as yet unresolved here, for example, deciding how the costs of the new bus charging infrastructure is allocated among customers.

From a utility’s perspective, TOU rates can be important in helping shave power demand at peak times, which can reduce the need to purchase expensive power on the wholesale market. For example, as electric vehicles become more prevalent, it makes sense to incentivize owners to charge their cars during off-peak times to help keep costs low. That said, some stakeholders advised us that a very significant price differential is needed to significantly change customer behavior. The Cuthbert Report similarly noted that TOU rates are most effective at shaping consumer behavior when there is a high price charged for a short period of time.

The Cuthbert Report found “about half the utilities reviewed have some form of TOU rate option available for residential customers, but none have mandatory TOU residential rates.”<sup>6</sup> TOU rates are becoming commonplace in areas with heavy air conditioning demand, like California and the Southwest. In California, the state has mandated that TOU rates will become the default rate for all customers of investor-owned utilities, citing potential environmental benefits. City Light’s peaking demand issues are much less severe than that of summer-peaking utilities, leading at least one stakeholder who spoke with us to question whether the major price signals needed to

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<sup>5</sup> Source. Review of Electric Utility Rate Design Options, December 2018 report commissioned by City Light for this project, prepared by Cuthbert Consulting, Inc., referred to in this report as the “Cuthbert Report.” A link the Cuthbert Report is provided in the list of Attachments to this report.

<sup>6</sup> Cuthbert Report, p. 15.

really shift behavior through this mechanism could be justified given the City's actual costs. This is something that we hope a pilot project could help explore.

Coincident peak rates are a specific type of TOU rate that assigns a very high cost to the period of highest demand. For the Seattle area, the coincident peak is typically coldest part of winter. Coincident peak rates share the potential that TOU rates' have for cost/bill savings and grid management, however they are challenging to administer, and a significant amount of customer education and communication would be needed. If implemented incorrectly, a critical peak rate could have detrimental effects on transparency and winter bill affordability. City Light anticipates that this rate structure would be something to explore in future iterations of rate design, after we have some more experience with TOU offerings.

Block rates and demand charges have historically been useful rate design tools, however City Light believes that well-constructed TOU rates have the potential to provide stronger and more intuitive pricing signals to support conservation of energy, and may appeal to customers for both economic and stewardship reasons. The Panel encourages City Light to explore whether this belief is supported by TOU pilots and data from other utilities. The Panel sees TOU rates as a voluntary option—potentially one that could be made available to all customers to the extent supported by data as to their effectiveness and if carefully structured with accompanying strong customer education.

### **#3: Reduce Emphasis on Rate Blocks to Set Up for TOU Transition**

City Lights' current residential rates are made up of two inclining "blocks" (a rate for up to a certain amount of energy use, and then another higher rate for use in excess of that). The price of this first block is well below City Light's actual cost of generating and delivering power. The second block is larger and priced well above the actual cost of power generation and delivery. The first block is smaller in the summer and larger in the winter to flatten winter heating bills.

About a quarter of City Light's residential households have consumption levels that typically stay below the first block threshold. But the range of consumption among residents varies widely with number of occupants, heating fuel source, and home size. For higher use households, first block energy might comprise less than 50% of their bill. Recent studies of City Light's billings show that there is little relationship between income and consumption.

Residential Power Rates	Size (kWh)		Price (per kWh)	
	Winter	Summer	Winter	Sumer
First block	Up to 480	Up to 300	9.0¢	13.3¢
Second block	480+	300+	9.0¢	13.3¢

The ascending block rate structure used by City Light is very common and has been used by many utilities for decades. It is used by most of the 15 utilities studied in the Cuthbert Report. It is intended to provide incentives to reduce electricity consumption.

The Cuthbert Report found that some utilities are moving to both eliminate seasonal differences in rates and decrease the differential between blocks to move rate blocks closer to the actual cost of power. The Cuthbert Report noted that both SMUD and Tacoma Public Utilities have “moved away from inverted block rate structures to rate designs based more on uniform energy charges.”<sup>7</sup>

A simpler cost structure for energy consumption that aligns with the actual cost of service would support goals of cost-based rate design and transparency and facilitate customer choice options. That said, it is often resisted by energy efficiency advocates as weakening pricing signals that promote conservation.

We found it interesting that the tiered, ascending block rate feature was confusing to the focus groups—they preferred a single flat rate structure for consumption. And, the focus group attendees said their behavior to shut off lights and otherwise conserve energy was something done as a matter of habit, not directly tied to the cost of power.

City Light believes that flattening and otherwise simplifying the current tiered residential rate structure is a progressive rate design choice that will help facilitate transition to time of use rates and choice/pilots, align with cost of service, and promote efficient decision making by customers. The utility anticipates that this transition would happen very gradually to smooth bill impacts and allow time to introduce new, more progressive, alternative rate structures, and does not anticipate eliminating tiers anytime in the near future. The Panel concurs that work in this area should proceed.

Much of our focus has been on residential customer rate design and we’ve not yet spent significant time looking at small and medium general service rate options, including block pricing. We are aware that City Light’s demand charges are quite low relative to many utilities and staff intend to focus effort during the 2020 Cost of Service Analysis to better understand the reasons for the difference. The Cuthbert Survey found a variety of approaches to setting rates for small and medium commercial customers: uniform, seasonal, TOU, seasonal TOU, inclining block, and declining block rates. City Light recommends TOU rates as a preferred strategy for future rate design due to the potential for more refined price signals, and as such, does not recommend introducing blocks for commercial rates at this time. The Panel does not have a position on this, but we look forward to hearing more from City Light in this regard.

#### **#4: All Customers Pay a Small Basic Service Charge**

As stated in the Cuthbert report: “with a residential Basic Charge of \$5.00 per month, SCL’s fixed cost recovery is at the low end of the range of fixed cost recovery charges for the 15 utilities included in the review and is lower than any other municipal utilities.”<sup>8</sup> Similarly, the Cuthbert Report finds that the fixed cost charges for non-residential City Light rate classes are at the low

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<sup>7</sup> Cuthbert Report p.14.

<sup>8</sup> Cuthbert Report, p. 14.



end of any of the utilities reviewed. Many utilities have increased these charges in recent years “to be more in line with cost-of-service estimates and to help promote revenue stability.”<sup>9</sup>

The concept of greatly increasing fixed charges tends to be opposed by energy efficiency advocates concerned about reducing the price signal to consume less electricity. Low income advocates fear that higher fixed charges could have negative impacts on vulnerable populations. The Panel agrees that what goes into a “customer charge” must be carefully and transparently calculated. We support increasing the current residential Basic Charge to cover those actual costs that City Light must incur to serve a customer and converting the minimum charge for non-residential customer classes to a basic service charge, similarly calculated.

City Light proposes to update its approach to computing basic fixed charges, and then applying this methodology to all customers, both residential and commercial.

Currently the residential fixed charge collects 50% of certain customer-related costs as defined by FERC accounting codes. City Light proposes to revise its formula to align with methodology developed by the Regulatory Assistance Project,<sup>10</sup> work which has been endorsed by the Northwest Energy Coalition. The Panel has not reviewed this methodology.

The proposed updated fixed charge would collect for 100% the utility’s cost of making power available to that customer: (1) the customer meter; (2) billing system costs associated with that customer; (3) the line drop to the customer. This methodology would also be used to develop fixed charges for commercial customers as well. Currently commercial customer rate designs include only a minimum charge.

The utility anticipates that this change will likely result in a small increase to fixed charges. Such a change should not have disparate financial impacts for low to moderate income households, nor compromise the commodity price signal or impact energy efficiency. Staff has worked closely with low-income advocates and consideration is being given to a change in methodology which is consistent with their counsel and equitable towards City Light’s limited-income customer-owners.

#### **#5: Budget Billing Options to Improve Affordability**

Stable and predictable bills are a priority for customers, something reinforced both by our business stakeholders and the residential focus groups. The purpose of this proposal is to utilize new technology options to enhance programs to offer residential customers more choices for predictable bills. Examples of concepts the Utility would like to pursue, which the Panel supports, are:

1. A pilot program that couples subsidized energy efficiency measures such as weatherization with a percentage-of-income uniform rate for low-income residential customers. Customers would see lower bills as the result of having a more efficient

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<sup>9</sup> Cuthbert Report. p. 16.

<sup>10</sup> <http://www.raponline.org/wp-content/uploads/2016/05/rap-lazar-gonzalez-smart-rate-design-july2015.pdf>

home, and more stable payments would help with budgeting. This program would be offered on a pilot basis for qualified customers as an alternative to the standard UDP.

2. Analyzing options for using advanced meter data to lower barriers and improve program elements for budget billing. New billing system and advanced meter data could be used to smooth bill true-ups (which seemed to be unpopular with focus group participants) and might make it possible to allow new residents to register sooner than the current one year waiting period.

This idea was not reviewed in the Cuthbert Report. We heard feedback from low income advocates that supported City Light having an ongoing commitment to improving affordability and providing stable, low bills.<sup>11</sup>

#### **#6: Interruptible/Demand Response Pilot Rate**

An interruptible or demand response rate offers a customer a discount if they agree to curtail use of energy at the utility's election. A utility might ask a customer to reduce their consumption when the grid or supply is constrained or when price of power is very high. This is typically something that may be of interest to large manufacturers who can curtail production but would not be helpful to customers needing a constant supply of power, such as a hospital.

Technology used for demand response might include voicemail, text alerts, smart thermostats or even load control switches that allow the utility to control the amount of power a customer can draw. The proposal is to explore a rate pilot for large customers, where the rate is cost-based so there is not a subsidy going in either direction and other customers are not impacted.

In terms of what other studied utilities are doing, the Cuthbert Report noted that the Salt River Project in Arizona offers an interruptible rate.

The Panel supports the Utility' proceeding with this concept as a pilot. It promotes customer choice, can reduce costs for those with this rate feature, and can help the Utility manage its costs during peak events.

#### **#7: Decoupling Mechanism to Manage Revenue Swings**

Decoupling involves an automatic surcharge or credit on bills to compensate for total retail revenue shortfalls/surplus in past periods. The rationale behind this approach is to "decouple" a utility's incentive to promote energy efficiency from its need to collect a certain amount of revenue. City Light's incentive structure is based on Council policy as well as the need to balance its budget, so it is in a somewhat different position than investor owned utilities: City Light will continue to invest in energy efficiency programs at Council's direction.

One way that decoupling might be implemented at City Light would be to allow the monies in the existing Revenue Stabilization Account (RSA) to be used to manage not just swings in wholesale power sales revenue but also swings in retail revenue. The amplitude of these retail

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<sup>11</sup> See Stakeholder Themes, input from Michael Karp, The Energy Project.

revenue swings is much less in percentage terms than swings in wholesale power revenue, but total retail revenues are far greater than wholesale revenues in any year. More analysis is needed to determine what the implications are for the necessary RSA reserve size if the use of the RSA were to be expanded.

Five of the 15 utilities examined in the Cuthbert Report have a decoupling charge for residential and general service customer classes—2 municipal utilities, and three investor owned utilities.<sup>12</sup> Experience from other utilities implementing this suggests the surcharges or credits typically are less than 5% of the total bill for the period. Decoupling would improve revenue certainty and stability for City Light, but periodic surcharges would reduce bill and rate certainty for customers. Therefore, this option and its implications would need to be studied carefully since stable and predictable rates are of great value to both residential and commercial customers.

Panel members agree further study of this possible rate design mechanism is warranted.

#### **#8: Revise and Improve Utility Discount Program (UDP)**

The Panel is making no recommendations with respect to this issue. We await the results of work by the City Interdepartmental Team on UDP on point for this item.

### **A MULTI-PRONGED APPROACH**

We are proposing that City Light proceed on multiple fronts. A multi-pronged approach has greater capacity to provide greater results and balance competing goals. The changes we are anticipating should, in our view, be implemented with an eye toward avoiding rate shocks but at the same time not exhaust customers attention by implementing serial changes one at a time over years: we would prefer to see packages of structural changes launched together, with associated cost changes gradually added in if need be to avoid rate shocks.

With eight policy goals (“ends”) and eight “means” on the table for the near term, how does this all add up? **Table 3** below compares the first seven rate design “means” discussed above (excluding UDP on which the Panel is awaiting further information) as to how they would enhance or detract from the eight policy goals identified. The point of this table is to simply illustrate that:

- No single “means” will support all policy “ends.”
- Some proposed “means” will detract from some “ends” while advancing others.

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<sup>12</sup> Cuthbert Report, p. 13.

**Table 3: Goal Impacts of Rate Design Proposals**

	1.	2.	3.	4.	5.	6.	7.
<b>MEANS:</b>	Bill Redesign	TOU Rates	Reduce Blocks	Basic Charge	Budget Billing	Interruptible	Decoupling
<b>ENDS:</b>							
Cost-based	■	■	■	■		■	■
Revenue			■				■
Decarbonization		■					
Efficiency		■	■	■		■	
Stability			■		■		■
Affordability					■	■	
Transparency	■			■			
Choice		■		■	■	■	

It is important to analyze the trade-offs implied from any rate design proposal. Work by City Light in the coming months will help flesh out the implementation details and costs and should also inform policy makers about the trade-offs of each.

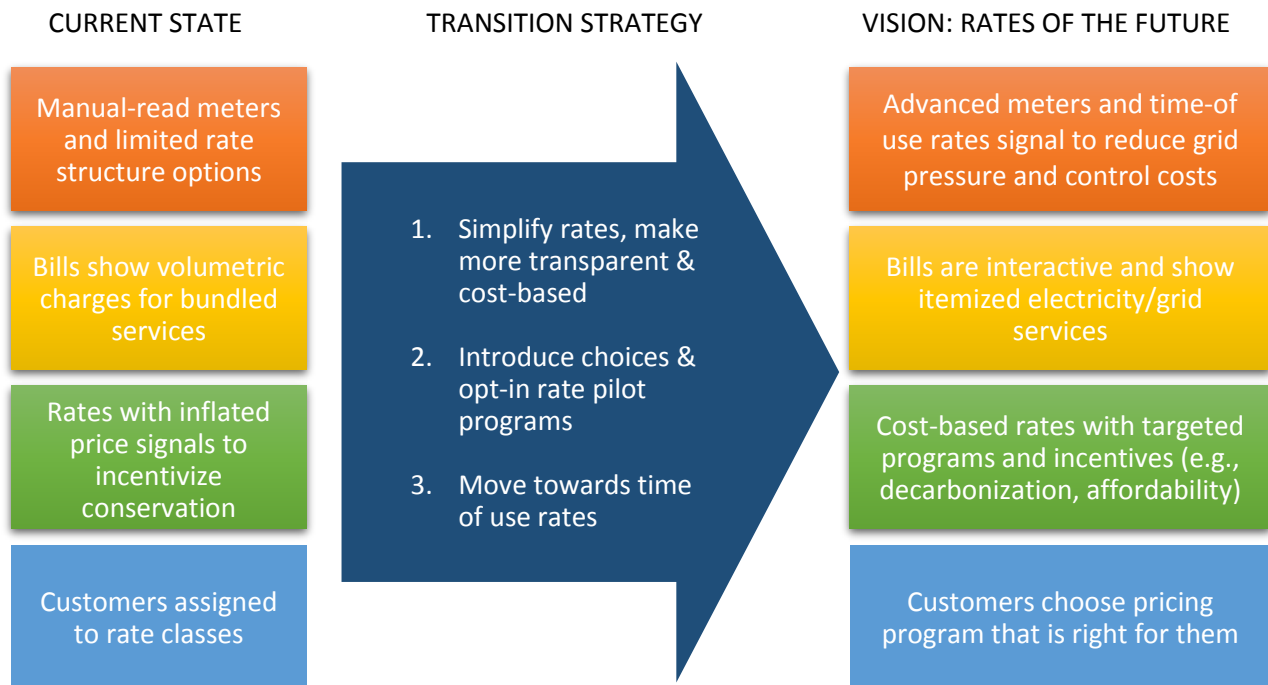
**CURRENT STATE, FUTURE VISION AND TRANSITION STRATEGY**

As noted in the Situation Assessment, this rate re-design project comes at a critical transition in technology. Historically, City Light had manually-read meters which limited options for rate structures, but new advanced meters offer the possibility of implementing many kinds of new rate structures.

Similarly, new billing and web customer interfaces present an opportunity for customers to be more engaged in choosing how they manage their energy costs. City Light envisions a future where customer-owners feel empowered to control how they use and pay for their electricity.

**Figure 3** below illustrates the general transition we envision from where we are today to the future. The vision depicted in the graphic reflects how critical rate design objectives like transparency, decarbonization, affordability, and choice might be addressed in the future.

**Figure 3: Transition Strategy**



The three-part transition strategy set forth above is the core of the strategy behind the rate initiatives described in this report.

First, improving billing communication and presentation will also improve transparency; from there, work to simplify rates to slowly phase out structures incompatible with future rate attributes, and making them as consistent and cost based as possible.

Second, offer customers choice in pricing programs, including innovative rate pilots responsive to customer interests such as vehicle electrification and affordability. Third, move towards rates that are time-differentiated to provide more refined price signals.

As Seattle continues to grow, and as new technology enables customers to generate and even store their own power, having rates that reflect this dynamic relationship will be critical to keeping costs low and maintaining equitable and socially-conscious pricing.

We believe that our recommended rate design action items outline a transition strategy that will advance both the interests of the customer and the Utility.

## CONCLUSION

Rate design is a challenging conversation because it involves a zero-sum game: *who pays what amount to meet the revenue requirement?* That said, rate design is a powerful tool to align community goals and priorities with the needs of the Utility. Many utilities have gone down this road and illustrate both the peril of pushing out change too quickly, as well as the potential benefit of thoughtfully implemented new ideas and tools.

This Report outlines our goals, and priorities amongst those goals, for near-term rate design change at City Light. While we have identified priority near-term goals of meeting the revenue requirement and pursuing decarbonization, all eight goals must in our view be considered and balanced in any rate design proposal.

To promote the goals identified, we advocate a multi-pronged effort, through increased transparency, pilot projects and then changes in rate design. We have identified seven different rate mechanisms we believe should be pursued in the near term. There is considerable work ahead before any of these ideas can be launched, and we look forward to engaging on that effort.

We thank the Council for your interest in these challenging issues and look forward to working with you as the work on rate design proceeds.

**ATTACHMENTS:**

1. SCL Review Panel Rate Design Update Work Plan, August 2018
2. Draft Rate Design Situation Assessment, October 2018
3. Draft Rate Design Framework Principles, October 2018
4. *Review of Electric Utility Rate Design Options*, by Cuthbert Consulting, Inc., December 2018
5. Rate Design Stakeholder Feedback Themes, March 2019
6. *Rate Design Focus Group Report*, by PRR, March 2019



1. Rate Design Workplan Aug2018.pdf



2. Situation Assessment Oct2018.pdf



3. Rate Design Principles Oct2018.pdf



4. Review of Electric Utility Rate Design Options Dec2018.pdf



5. Stakeholder Feedback Themes March19.pdf



6. Rate Design Focus Group Report Mar2019.pdf