



California Public Utilities Commission

California Customer Choice Project:

Draft Gap Analysis/ Choice Action Plan

October 2018



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More information on the California Customer choice Project and a digital copy of this paper can be found at: <http://www.cpuc.ca.gov/customerchoice/>

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This document and further advancement of the Choice Project would not have been possible without the active engagement from President Picker's Office:
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Gap Analysis and Draft Choice Action Plan

INTRODUCTION

More than one year ago, the California Public Utilities Commission (CPUC) embarked on the Customer Choice Project to examine the rapid changes in California's electric sector due to an evolving and increasingly disaggregated electric market. The goal of the Project has been to provide a public forum to discuss the complex issues presented by the significant market shifts occurring and the risks that require attention and planning. The Choice Team, led by the CPUC's Policy and Planning Division, has held numerous en bancs hearings, workshops, stakeholder meetings and solicited oral and written public comment to ensure adequate public participation and transparency. These efforts recognize that to develop a meaningful comprehensive plan, we need input from all of the stakeholders and collaboration with other decision-makers including the Legislature, the California Energy Commission (CEC), California Independent System Operator (CAISO) and other agencies.

In August 2018, the CPUC published the *California Customer Choice: An Evaluation of Regulatory Framework Options for an Evolving Electricity Market* ("Choice Paper"). The report identifies shifts occurring in the electricity sector created by greater choices for customers, assessed other markets to cull lessons learned and raised fundamental questions on how to meet statewide goals while ensuring California energy policy core principles of affordability, reliability and decarbonization. The Choice Paper calls for the development of a comprehensive plan to address the market shifts that are resulting in *de facto* deregulation and decentralized decision-making.

In his opening letter in the Choice Paper, President Michael Picker stated that the CPUC "will dig deeper into solving the questions that....demand we answer." The Choice Project team looked at the critical policy issues associated with increased disaggregation of load and supply and conducted an internal analysis to identify the regulatory gaps that exist and the necessary actions to ensure the core principals — decarbonization, reliability, and consumer protection — outlined by the Choice Project are met. This Draft Gap Analysis and Draft Choice Action Plan are the fruits of those efforts to provide a pathway to the answers.

GAP ANALYSIS OVERVIEW

New challenges have emerged with the evolution of the California electric grid that prompt a reexamination of the role of the investor-owned utilities (IOUs), customer choices, consumer protections and the evolution of the grid to ensure California's affordability, decarbonization and reliability goals. Diverse technologies and business models that allow consumers of many types to have greater control over how they obtain their electricity will continue to expand and reshape our previously centralized and controlled electricity markets. The CPUC finds that it is important to identify and take action to address potential problems before they become troublesome or even catastrophic.

The Gap Analysis focuses on key issues by first identifying the gap, followed by determining what, if any, processes are already underway to address the gap and finally, recommending monitoring, additional analyses or immediate action. The analysis also recommends a framework for an action plan that will result in concrete solutions.

In its assessment, the Project Team organized the issues around three main categories: consumer protection, duty to serve and reliability and energy procurement. Some of the issues identified are

interrelated and could be classified in more than one category. For the purposes of this analysis, the Project Team placed the analysis in only one category to avoid repetition and duplication of information. Below is an overview of the categories.

1. **CONSUMER PROTECTION**

As we see more load serving entities (LSEs) and third-parties providing electric service, energy management services, and behind-the-meter (BTM) generation services, ensuring that consumers are protected from unfair and fraudulent business practices become of growing and urgent concern. As in any market, there needs to be balance between the business interests and the interests of consumers. Providing basic consumer protections and engagement increases consumer confidence which is vital to building a stronger economy. High levels of consumer confidence encourage consumers to experiment and shop around which supports new businesses, boosts competition and creates growth.

In the energy market, there are nuances. Electricity is deemed a fundamental service and everyone in California should have access. Also, having – or not having it – can be a life or death situation for people with health issues who use medical equipment that require uninterrupted service. Therefore, consumer protection issues identified also include ensuring service during emergencies caused by natural disasters or other factors. Another important component is making sure our communications system - wireline and wireless telephone networks, internet, broadcast and cable television and radio – is working properly and doesn't become an issue that hinders local government ability to effectively respond to emergencies.

As new technologies, financial vehicles and business models emerge, customary and expected protections grow weaker. For example, rooftop solar leases are contracts between two private parties, and although the regulated utilities are required to pay a tariff for excess generation through net energy metering (NEM), the transaction between the rooftop owner and the leasing company is not subject to CPUC rules to protect customers against fraudulent marketing. We have documented this problem and the Legislature has delegated authority to the Contractors State Licensing Board. Similarly, we are aware of abuses in marketing Property Assessed Clean Energy (PACE) loans for energy efficiency improvements or purchase of rooftop solar panels. Again, these loans are also transactions between two private parties and the CPUC lacks the explicit authority to provide customer protections.

Further, access to customer data is becoming increasingly important for LSEs and energy management service providers. Customer data is necessary to manage energy programs and services and to improve the customer experience, but is limited because of rules regarding customer privacy. At the same time, the collection and usage of customer data can violate customer privacy and result in potential for abuses of how the information is used.

2. **DUTY TO SERVE**

Electricity markets are subject to many factors, including weather, fuel prices, business failures of independent contracted electricity generators or providers and can be extremely volatile. We must anticipate potential failures by providers meeting customer needs, and plan for potential failure of entities who serve multiple customers. A significant challenge for California as customer choice expands is addressing the evolving role of the IOUs. Even with demands for more competition, the IOUs are presumed to retain responsibility for grid services and to be the

default providers of last resort (POLR). Under Public Utilities (PU) Code [Section 451](#)¹ obligation to serve, IOUs act as POLR for customers of both Community Choice Aggregators (CCAs) and Electric Supply Providers (ESPs). What this means is that when an LSE fails, the customers of the failed LSE return to the IOU. These sudden shocks can result in increased costs to meet needs, and even cascading business failures.

Also, the obligation to provide electric service requires adequate procurement of energy resources. Recognizing that electricity is a fundamental service that every Californian should receive, it is imperative that the energy providers procure enough load to service their customers.

3. RELIABILITY AND ENERGY PROCUREMENT

The CPUC, CEC and CAISO coordinate and implement resource adequacy and procurement protocols to provide long-term incentives for market participants to invest in generation to meet system and local requirements. California policy has shifted to prioritize carbon-free resources, such as utility scale renewables, in all-source procurements and transmission solutions as the best way to meet demand growth.

All LSEs have an obligation to show that they have adequate generating capacity available to meet peak needs under likely forecasted circumstances. This is outlined in Public Utilities Code Section 380, adopted to prevent outages due to under-procurement as was widespread during the California energy crisis of 2000/2001.

The IOUs are also responsible for grid safety and resilience, during normal operations and catastrophic events. As owners and operators of the transmission and distribution grid, the IOUs will retain this obligation and liability. With greater choices (CCAs, NEM, Direct Access, and rooftop solar) and disaggregation of supply, current safety controls and protocols become more difficult to fund and to coordinate in times of crisis.

The challenges for reliability are both system-wide and, in places where the grid topology creates cul de sacs or weak spots, very local. Smaller energy providers, both CCAs and ESPs, have failed to meet these needs, and have had to rely on support by the incumbent IOUs.

Similarly, some LSEs have relied on short-term contracts to meet energy needs. This raises concerns, not only over reliability and cost, but with the ability to procure to meet California's urgent goals for reducing emissions of GHGs.

FORMAT OF THE GAP ANALYSIS

The Gap Analysis for each issue identified in this report follows a format which includes:

1. Issue or stated goal;
2. Background information on the issue;
3. What is currently being done, at the CPUC or other state/federal entities, to address the issue;
4. What gaps, if any, exist; and

¹ **Public Utilities Code Section 451:** Every public utility shall furnish and maintain such adequate, efficient, just and reasonable service, instrumentalities, equipment, and facilities....as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.

5. Recommendation for further actions to fully address the issue.

DRAFT CHOICE ACTION PLAN

After conducting the gap analyses, the Project Team began to map the issues that are currently being addressed and those requiring further action. The Draft Choice Action Plan is currently under development and will encompass the recommendations noted below. It is intended to provide a roadmap for the CPUC to address the identified issues. Some of the recommended actions can be implemented within the next six months while others may require a longer trajectory.

There are several concerns that were raised in the gap analysis that either the CPUC or another government entity is already exploring under their regulatory process. For these matters, the Choice Project recommends the Commission monitor the progress to ensure that pertinent issues are considered during the decision-making process of an existing proceeding. In other cases, issues require further examination to determine whether an action is needed. In these instances, it is possible the matter may require a new regulatory proceeding or legislative action to either clarify or provide specific authority to reach intended outcomes.

In summary, The Draft Choice Action Plan will provide actionable next steps that the CPUC, and other government entities, may take to address the concerns identified in the gap analyses.

Tables 1 displays the issues with recommendations. The **Recommendations** fall into three categories:

1. **Regulatory action:** This means that that the CPUC or another agency has jurisdiction and is already addressing the issue or may address it in the future.
2. **Legislative action:** Items in this column suggest that legislative action may be required.
3. **Perform additional analysis:** Issues that require deeper analysis are noted in this column. The need for additional analysis signifies that the CPUC will need to further examine the issue to better understand what the next steps should be, whether that be a regulatory or legislative action.

Table 6 in the Appendix provides additional detail on recommendations.

TABLE 1. RECOMMENDATIONS SUMMARY

CATEGORY	ISSUE	ACTION
Consumer Protection	Access to customer data in an effective and efficient way by all LSEs, including BTM providers and CCAs	Continue existing CPUC regulatory action; additional analysis required to narrow data attributes, aggregation and availability
Consumer Protection	Relief for disconnection of service during periods of natural disasters, such as wildfires	Monitor and continue existing CPUC regulatory action: assess what other protections are needed to ensure that consumers obtain vital services during disasters in current proceeding
Consumer Protection	Disclosure of GHG and renewables content in LSE electricity portfolios	Monitor/follow new CEC rulemaking to create content labeling guidelines for all LSEs, including publicly-owned utilities
Consumer Protection	Disconnection of residential customers	Monitor and continue existing CPUC regulatory action; additional analysis required to determine whether the state can or should require all LSEs to conform to the same disconnection protocols
Consumer Protection	Emergency planning and response	Additional analysis required to determine the following whether emergency response is solely the responsibility of the IOUs as grid operators and the obligation of other LSEs
Consumer Protection	Provider of Last Resort (POLR)	Additional analysis is needed to examine the role of the IOUs as the default POLRs; Legislative action needed to define POLR in statute and which LSEs will serve in this capacity
Consumer Protection	Predatory sales tactics: Electric Service Providers (EPSs) and Core transport agents (CTAs)	New CPUC action needed to develop comprehensive protocols/processes for enforcement if authority exists; in cases where authority does not exist, seek legislative action
Consumer Protection	Predatory sales tactics residential customers: rooftop solar & energy efficiency	Monitor and continue existing CPUC regulatory action and take new CPUC regulatory action for enhanced consumer protections, such as additional avenues for mediation, enforcement and penalties; in cases where authority does not exist, seek legislative action
Consumer Protection	Price disclosure: all LSE residential rates and product offerings	Conduct additional analysis to determine if an online platform should be created for consumers to access and compare information about electricity rates; new CPUC or CEC proceeding to implement the proposal if analysis finds it prudent; possible legislative action to implement proposal and provide agencies necessary authority for data aggregation or to serve as the platform provider
Consumer Protection	Public Purpose Programs	Conduct additional analysis to determine if growth of LSEs will affect funding for public purpose programs; if analysis is indicative of adverse impacts to funding for these programs seeking new CPUC proceeding to address, or legislative action if needed
Duty to Serve	Distribution of grid services	Continue existing CPUC regulatory action; additional analysis to determine if any new issues regarding distributed energy resources should be addressed in a new CPUC regulatory proceeding
Consumer Protection	Rate Design	Conduct additional analysis on fixed charges for cost recovery and how behind-the-meter and preferred resources are impacted by rate design; legislative action for CCAs to default customers to time-of-use rates
Duty to Serve	Resource Adequacy	Monitor and continue existing CPUC regulatory action; additional analysis to better understand reliability needs of the grid beyond current resource adequacy protocols
Duty to Serve	Role of IOUs in a disaggregated market	Conduct additional analysis to review current Affiliate Transaction Rules to determine effectiveness; new CPUC regulatory proceeding and/or legislative action depending on the findings.
Reliability/Resource Procurement	Contracting for reliability resource requirements	Monitor and continue existing regulatory CPUC action; additional analysis required to assess new market developments and determine the best ways to deploy capital to support cost-effective investment to advance the state's GHG reduction goal
Reliability/Resource Procurement	Electrification of transportation, buildings and appliances	Electrification of transportation and other fuel uses, e.g. buildings and appliance standards, is underway at the CPUC and CEC. The Commission should monitor progress.

GAP ANALYSIS

CATEGORY: CONSUMER PROTECTION
TOPIC: DATA ACCESS

ISSUE(S):

CCAs, ESPs and Behind-the-Meter (BTM) distributed energy resource (DER) providers require access to customer-specific data from the IOUs. The issue is whether all DER providers, LSEs and other agencies can obtain data, what data requires customer permission and specific protections, and how the data can be presented in a form to allow the highest benefit from that data – whether to customers or to the grid.

Access to customer data is becoming increasingly important. The information is necessary to manage energy programs and services and to improve the customer experience. At the same time, the collection and usage of customer data about their energy use and habits raises concerns for potential abuses of the information and poses questions on how best to protect consumer data. Over the years, the CPUC has issued several decisions and rules for obtaining data while protecting consumer privacy. With an uptake in distributed energy resources (DER), more LSEs such as CCAs and ESPs and third-parties are providing electric service, energy management services, and BTM generation services. Further, more entities such as building managers, research institutions and local governments are requesting data to meet California’s climate goals. Hence, timely access to information concerning energy usage will better enable building managers, research institutions, local governments, LSEs, and energy management providers to promote energy efficiency and DER proliferation, and spur technological innovation. At issue is whether the processes in place to obtain this information is most efficient and upholds the needed confidentiality of customers.

STATUS: Underway at CPUC

The CPUC has been actively addressing customer data access issues and continues to do so. To the extent of its current authority, the CPUC is engaged and will further address accessibility and process issues through the applications to be filed by the IOUs at the end of November 2018 to expand online click-through authorization and data delivery processes to DER and energy management providers. This proceeding may address issues of customer protection and what data the DERs can access after receiving customer authorization.

In August 2017, the CPUC approved [Resolution E-4868](#) which allows the three major IOUs to implement a click-through authorization processes that streamlines, simplifies and automates the process for customers to authorize the utility to share their energy-related data with a third-party demand response (DR) provider of their choosing. Among other provisions, Resolution E-4868 also orders the IOUs to file future advice letters and an application to the CPUC to make further improvements to the click-through authorization process(es).

CPUC has jurisdictional oversight over all DR providers serving CPUC-regulated utilities’ bundled customers. All DR providers serving bundled customers are required to register with the Commission and post a performance bond if they serve residential or small commercial customers.

AUTHORITY

Statutory (PU Code unless noted)	Regulatory
<p>8380</p> <ul style="list-style-type: none"> • SB 782 (2018: Building Data, Customer Data Privacy) • SB 1476 (2010: Customer Data Privacy) <p>Public Resources Code Section 25402.10</p> <ul style="list-style-type: none"> • SB 782 (2018: Building Data, Customer Data Privacy) <p>CPUC Jurisdiction over DR Providers: 851 (protect public interest); 761, 768, 770 (safe and reliable electric service); 454.5 (DR procurement); and 451, 701 (customer protection).</p>	<p>R.07-01-041 (Demand Response)</p> <ul style="list-style-type: none"> • D.10-06-002 (D.10-12-060) (CPUC Jurisdiction over third-party DR Providers) • D.12-11-025 (13-05-012) (DR Direct Participation, DR Provider Registration, CPUC Jurisdiction) • D.13-12-029 (Customer Information Service Request Form) • Electric Rule 24 (PG&E/SCE)/ Rule 32 (SDG&E) (DR Direct participation, data access, and DR provider registration) • FERC Orders 719, 745, and 745-A (Wholesale Markets, DR Direct Participation) <p>“Click-Through”: Resolution E-4868 implemented D.16-06-008 (A.14-06-001 et. al.)</p> <p>R.08-12-009 (Smart Grid Proceeding, Data Privacy)</p> <ul style="list-style-type: none"> • D. 11-07-056 (CPUC Privacy Rules) • D.14-05-016 (Customer Information requests) • Electric Rule 25 (PG&E/SCE)/ Rule 34 (SDG&E) (data access for DER providers and other entities) • Electric Rule 27 (PG&E)/ Rule 25 (SCE)/ Rule 33 (SDG&E) (CPUC Data Privacy Rules) <p>Electric Rule 23 (PG&E/SCE)/ Rule 27 (SDG&E) (CCA service) (D.05-12-041)</p>

NATURE OF GAP

Customers have control over their energy usage data. However, the IOUs have primary control over customer data. Under current rules, there are disparities between the nature of the customer-specific data that IOUS are required to provide DER and DR providers. Currently, DERs are not provided as expansive a list of data points as DR providers. Click-through authorization processes will be expanded to DER and energy management providers, allowing more streamlined access to customer data.

CCAs and BTM providers require access to customer-specific data from the IOUs. The issue is whether all DERs, LSEs, and other entities can acquire data, and obtain the customers’ permission, in an effective form to get the highest impact from that data. Many of these issues could be resolved by clarifying IOU interpretation of CPUC privacy rules such as data minimization principles and primary versus secondary purposes for data use.

Further analysis and stakeholder input are needed to develop a comprehensive list of issues. One area identified is the request from CCAs for more streamlined data access. Modifications have been demanded to ensure that timely, useful, customer-specific data is available to maximize the ability of CCAs to provide their customers with innovative programs and to allow DER/DR providers to design more cost-effective, impactful products. Currently, prior to formation, CCAs are only eligible to receive aggregated data. The goal is to enhance reliability through reducing usage during peak demand, lower

energy costs, and allow the installation of technologies that advance decarbonization goals through maximizing the amount and timing of renewable energy production.

Another area identified is access to aggregated data; CPUC rules in [D.14-05-016](#) require the aggregation of no less than 100 residential customers, or 15 commercial, agricultural or industrial customers. In cases where there are fewer than 100 residential or 15 commercial customers in any given zip code, the aggregation is combined data from another location and becomes less useful. This number may need to be revised to allow greater DER penetration by building managers, third-party DER providers, and CCAs.

Further, one of the key use cases identified in D.14-05-016 is that of local governments seeking customer consumption data for climate action planning. Climate planning models rely on comprehensive GHG inventories and the ability to disaggregate data sufficiently to target programs. In addition to their needs for greater granularity to develop robust inventories, local governments face data quality issues that may potentially render their work meaningless. Therefore, the CPUC should consider a statewide standard for aggregating, processing, and archiving that promotes quality outputs year after year.

Another area for analysis is whether the IOUs have authority and technical ability to provide CCA billing and TOU data to BTM DER providers. This data is important to achieving statewide goals for BTM installations and providing customers effective tools to adapt to default TOU rates in 2019 and 2020.

Finally, research institutions must be affiliated with an accredited university to be able to request data under D.14-05-016. IOUs require non-disclosure agreements that many universities are not able to sign given the strict indemnity clauses required by the IOUs.

Other agencies

CEC has authority over programs that require customer data as well as the CPUC.

CUSTOMER CHOICE ACTION RECOMMENDATIONS

Additional Analysis Needed

1. Further analysis and stakeholder input are needed to develop a comprehensive list of issues (a sampling of which is identified above).

Regulatory

1. [SB 782](#) (Skinner, 2018) addresses the issues of expanding data access and was signed by the Governor on September 22, 2018. The CPUC should determine in which proceeding this bill should now be implemented.
2. The application to expand the click-through authorization process to DER and energy management providers will be filed at the end of November 2018. The proceeding should ensure that there is effective, equal, open and timely access by all DERs to customer-authorized data. The proceeding should also assess whether additional customer protections are needed. While this proceeding may resolve many data access and customer protection issues, it is an application proceeding that may be limited in scope. Once the scope of the November application proceeding is determined, the CPUC should open a new rulemaking to address ongoing data access and customer protection issues. These are described above and include, but

are not limited to: customer-specific data access for CCAs prior to formation; technical and policy barriers to providing CCA TOU and billing data to DER providers; as well as data access for building managers, local governments, and research institutions.

CATEGORY: CONSUMER PROTECTION
TOPIC: RELIEF FOR DISCONNECTION OF SERVICE DURING PERIODS OF NATURAL DISASTERS SUCH AS WILDFIRES

ISSUE:

Customers who fail to pay bills during emergencies may be disconnected without consideration of extenuating circumstances.

STATUS: Underway at CPUC

In November 2017 and January 2018, and consistent with Governor Brown’s declaration of emergency in several counties, the Commission adopted Resolution M-4833 and M-4835, which require utility companies – electric, gas, communications and water – to take reasonable and necessary steps to assist Californians affected by the devastating wildfires in Northern and Southern California. The protections adopted in those resolutions were designed to ensure that Californians who experienced housing or financial crises due to a disaster did not lose access to vital utility services.

The CPUC initiated [R.18-03-011](#) to consider the adoption of comprehensive post-disaster consumer protection measures for all utilities under the Commission’s jurisdiction. The proceeding started by seeking comments on whether to adopt the emergency consumer protections that were ordered in Resolutions M-4833 and [M-4835](#) for use by all the utilities. Resolution M-4833 established a precedential program to address the issues arising in these events. These elements included, among other issues:

- 1) Waiving deposit requirements for customers who want to reestablish bundled service and expediting move-in and move-out requests;
- 2) Ceasing estimated electric billing;
- 3) Implementing payment plan options;
- 4) Waiving, deposit and late fee requirements;
- 5) Freezing baselines for low-income customers; and
- 6) Giving California LifeLine customers additional time for mandatory renewal, and suspending the rules requiring de-enrollment for non-use.

[R.18-03-011](#) seeks to create post-disaster consumer protections that can be implemented expeditiously by utilities following a triggering event rather than needing to prepare and adopt a resolution after each event. The rulemaking will analyze whether the measures adopted previously are appropriate and adequate safeguards for consumers.

AUTHORITY:

Statutory (PU Code unless noted)	Regulatory
	R.18-03-011 (Resolutions M-4833 & M-4835)

CUSTOMER CHOICE ACTION RECOMMENDATIONS:

Regulatory

1. R.18-03-011 is examining the issues of disconnections during natural disasters. Monitor the proceeding and assess what other protections are needed to ensure that consumers obtain vital services during catastrophic times.

CATEGORY: CONSUMER PROTECTION
TOPIC: DISCLOSURE OF GHG AND RENEWABLES CONTENT IN LSE ELECTRICITY PORTFOLIOS

ISSUE:

Californians need to fully understand the content of electricity sold by LSEs. The purpose of the disclosure is to make all content transparent including utilization of unbundled Renewable Energy Credits (RECs) and imports.

STATUS: Underway at CEC

On October 9, 2018, the California Energy Commission (CEC) has jurisdiction and is addressing “Power Content Labeling.”

AB 162 (2009) and SB 1305 (1997) required retail electricity suppliers to disclose information to California consumers about the energy resources used to generate the electricity they sell. The CEC has created the [Power Content Label](#) to provide reliable information about the energy resources the seller uses and allow easy comparison with other users and to the state as a whole. The Power Content Label describes the sources of electricity that are put into the power grid based on the LSE contracts with generators on an aggregated basis.

AB 1110 (2016) mandated the CEC to amend the Power Source Disclosure (PSD) and include GHG emissions intensity factors and guidance for disclosure of unbundled RECs. This will begin in 2020 for the 2019 calendar year. The CEC opened docket 16-OIR-05 to develop these requirements. To date, the CEC has held several workshops and developed a draft [proposal](#). The CEC is on track in its proceeding 16-OIR-05 to meet the statutory deadlines and has just issued its draft proposal, [AB 1110 Implementation Proposal, Third Version](#), for notice and comment.

AUTHORITY:

Statutory	Regulatory (CEC)
AB 162 (2009)	14-OIR-01
SB 1305 (1997)	2010-PSDR-01
AB 1110 (2016)	2000-SB-1305
	16-OIR-05

NATURE OF GAP:

Action Pending at CEC. The CEC has initiated a rulemaking for the power source disclosure amendments based on its October 9, 2018 staff proposal that was developed in consultation with the California Air Resources Board and consideration of feedback received from the CPUC, retail suppliers and other stakeholders. The paper includes:

- proposed operational definitions for key terms;
- proposed guidance for classifying renewable energy resources and for disclosing unbundled renewable energy credits;
- a proposed adjustment mechanism for qualifying publicly owned utilities to generate emissions adjustments for qualifying GHG-free electricity;

- proposed new reporting requirements; and
- an updated power content label and reporting template.

Summary of Revisions²

Tracking of Delivered Renewable Electricity with Renewable Energy Credits. Clarifies that direct deliveries of renewable generation must include the procurement of the associated renewable energy credits for fuel type and greenhouse gas emissions accounting in Power Source Disclosure. The requirement further proposes that retail suppliers must amend prior Power Source Disclosure filings and power content labels if any amount of renewable energy credits associated with directly delivered renewable generation above a threshold limit are subsequently resold.

Null Power. Proposes that null power will be assigned the fuel type and GHG emissions profile of unspecified electricity.

Grandfathering Adjustment. Proposes a temporary provision for historical firmed-and-shaped contracts that will allow a retail supplier to claim the fuel type and emissions profile of the procured renewable energy credits. As proposed, the CEC's draft proposal to refine power source disclosure reporting closes some existing loopholes, but does not fully address the problem of resource shuffling. To address this concern, the State will have to consider how it can work with its regional partners to close this loophole.

CUSTOMER CHOICE ACTION RECOMMENDATIONS:

Regulatory

1. Monitor existing CEC proceeding.

² CEC proposal, p. 1-2

CATEGORY: CONSUMER PROTECTION
TOPIC: DISCONNECTION OF RESIDENTIAL CUSTOMERS

ISSUE:

The same protocols for residential disconnections for nonpayment of bills should apply across all LSEs.

The CPUC authorizes the IOUs to disconnect an electric or gas customer for failure to timely pay for service. California's IOUs each have unique procedures and protocols pertaining to disconnection and reconnection within a framework of rules and policies adopted by the CPUC. Some of these processes are voluntary and are not enforced by Commission rules. For this reason, the impetus for disconnection, repayment options, reconnection times, etc. differ across the IOUs. Regardless of which utility is involved, the ramifications of disconnection for customers can be far-reaching and compounding, including disruption of normal daily activities like employment as well as broad public health and social impacts associated with lack of electric and gas service. Payment plans may be available for customers. Even after a customer has paid their balance, the reconnection process, particularly for gas service, can be time-consuming and costly, and few rules govern it. ([R. 18-07-005](#), p.3)

While, the CPUC has jurisdiction over IOUs, new entrants into the electricity market such as CCAs, are locally-governed and can establish separate relationships with their residential customers. CCAs cannot disconnect a customer and are limited in handling those who fail to pay bills. At present, CCAs have established protocols but can only get to a point where they decide to stop serving a customer who is then transferred back to the utility. Since the CCA generation charges are separate from the distribution services and, in some instances, gas charges, as a practical matter the IOU is the only LSE that has the ability to disconnect the customer for failure to pay.

STATUS: Underway at the CPUC

In July 2018 the Commission opened [R.18-07-005](#) to address disconnection rates across California's electric and gas IOUs. Pursuant to [SB 598](#), the CPUC will adopt policies, rules or regulations with a goal of reducing the statewide level of residential gas and electric service disconnections for nonpayment. The proceeding has two phases:

1. Phase 1 is to provide rapid relief to residential customers experiencing disconnections and reconnections and will therefore focus on improving the rules, policies, utility best practices and programs that are currently in place.
2. Phase 2 will evaluate residential natural gas and electric disconnections with the goal of determining if the disconnection rate can be more effectively reduced through broader reforms and new approaches beyond those currently in place. Given the costs associated with disconnections -- both to the disconnected ratepayer and ratepayers at large -- it is important to determine if there other approaches, programs or policies that could better reduce the disconnection rate and associated negative outcomes without creating a disincentive to pay for electric and gas service.

The CPUC intends to cast a wide net to bring in resources to comprehensively address disconnections. As such, the Commission will engage with a broad audience, including public health officials, state and local governments, low-income advocacy groups and others. The CPUC also seeks to conduct a comprehensive review of the academic literature as well as an evaluation of best practices adopted in

other states. Additionally, as required by SB 598, the Commission will look at the impact of rate increases generally on the number of disconnections in California within the context of the proceeding.

AUTHORITY:

Statutory (PU Code unless noted)	Regulatory
SB 598(2017) Section 718	R.18-07-005 R.10-02-005: D. 10-07-048; D.10-12-051; D.12-03-054

NATURE OF GAP”

[R.18-07-005](#) will analyze and adopt rules for all electric and gas utilities within the CPUC’s jurisdiction. And it is unclear whether CPUC has jurisdiction over LSEs other than the IOUs regarding disconnections for residential customers. Further analysis is needed to determine how other LSEs address residential customer nonpayment issues and whether a CCA refusing service and having the customer default to the IOU for collection is an appropriate course of action. A gap may occur where customers can avoid a utility sending them to a collection agency by entering into a payment plan. However, it is unclear whether this option is available for unpaid CCA generation bills. Being sent to collections is a big hit to customer credit and can cause hardship.

CUSTOMER CHOICE ACTION RECOMMENDATIONS:

Additional Policy Analysis Needed

1. Whether the state can or should require all LSEs to conform to the same disconnection protocols for nonpayment of generation services requires additional analysis. Following the outcome of the disconnection OIR, the Commission should determine that customers have the right to the same protocols for repayment and reinstatement of service regardless of the provider and that there is not an automatic default to the IOUs within Commission jurisdiction. This may require further regulatory or legislative action to establish the same rules and regulations.

CATEGORY: DUTY TO SERVE AND CONSUMER PROTECTION
TOPIC: EMERGENCY PLANNING AND RESPONSE

ISSUE:

Do LSEs other than the IOUs need to establish emergency response requirements?

State law requires the CPUC to adopt standards for operation, reliability and safety during emergencies and disasters. The Commission adopted [Decision 98-07-097](#) which established standards for emergency and disaster response and applies to all electric utilities under CPUC's jurisdiction. Currently, IOUs clearly have this responsibility and must submit to the CPUC an annual report showing compliance with the standards described in [General Order \(GO\) 166](#), no later than October 31st every year.

There are more energy providers in the California energy market. With greater choices -- CCAS, NEM, Direct Access, and rooftop solar -- and disaggregation of supply, current safety controls and protocols become more difficult to fund and coordinate in times of crisis. This will include planning for de-energization of utility circuits in high fire risk situations and coordination with local government, first responders, critical facilities, communications providers and others under [Resolution ESRB-8](#).

STATUS:

The Commission has jurisdiction in this area over the IOUs.

[GO 166](#) applies to all IOUs subject to CPUC jurisdiction for emergency response requirements and seeks to ensure they are prepared for emergencies and disasters in order to minimize damage. After every emergency and major outage, the Commission will investigate the reasonableness of the utility's response. Each utility is required to prepare an emergency response plan that includes:

- a) internal coordination;
- b) ISO/TO coordination;
- c) media coordination;
- d) external and government coordination;
- e) fire prevention plan;
- f) safety considerations;
- g) damage assessment;
- h) service restoration priority guidelines;
- i) mutual assistance; and
- j) plan update.

Utilities are to conduct emergency training and exercises annually and establish a communications strategy. Benchmarks are established to measure performance and determine reasonableness.

AUTHORITY:

Statutory (PU Code unless noted)	Regulatory
Section 364(c) Section 768.6	General Order 166 (latest revision by D. 17-12-024 in R. 15-05-006) R.15-06-009; Phase II (modifications to GO 166) Resolution ESRB-8

NATURE OF GAP:

With greater disaggregation of the primary customer relationship, it is critical 1) to ensure that customers are aware of services available during emergency situations and 2) to impose the highest safety standards and protocols on all LSEs.

CUSTOMER CHOICE ACTION RECOMMENDATIONS:

Additional Policy Analysis Needed

1. An assessment is required to determine the following:
 - a. Is emergency response solely the responsibility of the IOUs as grid operators?
 - b. If not, what is the obligation for emergency response for other LSEs (CCAs & ESPs)?
 - i. How is emergency response currently being addressed?
 - ii. Can this be a condition for Commission certification?
 - c. What authority is required to ensure that customers have the highest level of protection during emergencies?

CATEGORY: CONSUMER PROTECTION/DUTY TO SERVE
TOPIC: PROVIDER OF LAST RESORT

ISSUE:

When an LSE fails or chooses to exit the market without notice or a transition plan, who provides service to the LSE’s customers to avoid service disruption?

Currently, incumbent regulated utilities act as a provider of last resort (POLR) for customers of both CCAs and ESPs through the obligation to serve under Public Utilities (PU) Code [Section 451 coupled with the nondiscrimination provisions of Section 453](#).³ When the electric industry restructuring occurred in the late 1990s, the obligation to serve remained unchanged. During the California Energy Crisis, the IOUs were the default providers of last resort. The sudden failures of direct access providers during the crisis forced the return of their customers to IOUs without notice. This created risks, as well as raised costs, for IOUs which in turn was shifted to ratepayers.

As customer load becomes increasingly disaggregated, designated entities must be ready to provide electricity if the market does not meet customer demand due to a sudden exit or failure of an LSE. These entities must have the administrative capacity and financial standing to absorb an uncertain number of customers and uncertain electric load. As Melanie Kenderdine, Ad Hoc Committee Member for the Choice Project, expressed in her statement:

As California moves forward in its development of policies on customer choice, appropriately appreciating and valuing the services of the providers of last resort is essential. Progress on clean energy, utilizing new technologies, and supporting consumers is also essential, especially in view of the imperatives of climate change. Fully valuing existing infrastructure, and ensuring that the costs of its maintenance are not shifted to those who can least afford it, is a critical outcome for fair, robust and flexible policies on customer choice.

STATUS: CPUC D.18-05-022 adopted May 2018; no further actions planned

Pursuant to Public Utilities Code Section 394.25(e), the Commission recently established re-entry fees and financial security requirements to address the costs of a potential mass involuntary return of CCA customers to utility service in Decision (D.)[18-05-022](#). The re-entry fees cover utility administrative and procurement costs. The CPUC adopted re-entry requirements for ESPs [in D.11-12-018](#) and [D. 13-01-021](#).

AUTHORITY:

Statutory (PU Code unless noted)	Regulatory
Section 451 Section 394.25(e)	ESP: R.07-05-025 : D.11-12-018; D. 13-01-021 CCA: R.03-10-003 : D. 18-05-022

³ **Public Utilities Code Section 451:** Every public utility shall furnish and maintain such adequate, efficient, just and reasonable service, instrumentalities, equipment, and facilities....as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.

NATURE OF GAP:

The elements of customers returning to the IOU in the event that a CCA or ESP fails is defined with specificity in the Public Utilities Code Section 394.25(e)⁴ addresses the parameters for re-entry fees in the event that an ESP or CCA customer is involuntarily returned to utility service and the avoidance of cost-shifting to other customers by keeping the utility whole for any additional financial burden. However, there is no statutory or regulatory definition, or parameters, for a provider of last resort of electric service.

As competition increases, who will be the default provider of these services? If there are policy or economic issues arising from the utilities continuing to have the obligation to serve, what are the safety nets needed so that customers, especially residential, do not experience interruptions in service?

CUSTOMER CHOICE ACTION RECOMMENDATIONS:

Additional Policy Analysis Needed

1. As competition increases, additional research is needed to examine the role of the IOUs as the default POLRs. With new entrants into the market such as CCAs, and new legislation authorizing an increase in Direct Access, the Commission should monitor migration of customers away from and back to the utilities and consider what the “obligation to serve” means as more customers are served by LSEs other than the IOUs. The research should also include:
 - a. Whether the current reentry protocols and costs are sufficient when a non-utility customer is involuntarily returned to utility service?
 - b. As choice expands, should the utilities be the default providers? Are changes required in defining the IOUs obligations to serve?
 - c. If the utility is no longer under that obligation, who becomes the POLR?
 - d. What procedures are necessary to establish a POLR?
 - i. Threshold capitalization requirements for providers of last resort;
 - ii. Continuity of service;
 - iii. Costs incurred for providing default service; and
 - iv. Selection process.

Legislative

1. Statutory authority could clarify the role of the POLR to:
 - 1) Define “Provider of Last Resort” and determine how a POLR would be selected.
 - a. What are the threshold financial requirements to ensure continuity of service?
 - b. Will the IOUs become the default?
 - c. Is there an interest in creating a competitive bidding process (e.g. Texas)?
 - 2) Address the IOUs’ obligation to serve requirements under increased customer choice options and ensure that a) electric service is available for all customers at all times, b)

⁴ Section 394.25(e): If a customer of an electric service provider or a community choice aggregator is involuntarily returned to service provided by an electrical corporation, any reentry fee imposed on that customer that the commission deems is necessary to avoid imposing costs on other customers of the electrical corporation shall be the obligation of the electric service provider or a community choice aggregator, except in the case of a customer returned due to default in payment or other contractual obligations or because the customer’s contract has expired. As a condition of its registration, an electric service provider or a community choice aggregator shall post a bond or demonstrate insurance sufficient to cover those reentry fees. In the event that an electric service provider becomes insolvent and is unable to discharge its obligation to pay reentry fees, the fees shall be allocated to the returning customers.

adequate compensation to the utilities for those services and c) there is no cost-shifting to other customers.

Regulatory

1. The CPUC can continue its efforts in protecting all customers and create protocols that are necessary for any entity to serve as a Provider of Last Resort, which includes:
 - operational requirements,
 - compensation;
 - designation process;
 - financial qualifications; and
 - protections for customers that get returned to a POLR that may include transitional rates to avoid rate shocks.

Note: See Appendix: Case Studies for Provider of Last Resort

CATEGORY: CONSUMER PROTECTION
TOPIC: PREDATORY SALES TACTICS: ELECTRIC SERVICE PROVIDERS (ELECTRIC) AND CORE TRANSPORT AGENTS (GAS)

ISSUE:

Slamming & Cramming with potential third-party billing where consumers are charged for services that they did not authorize.

Cramming is the illegal practice of placing unauthorized, misleading or deceptive charges on your telephone bill. Slamming is the illegal practice of switching your telephone provider to another provider without your permission. One of the concerns is that this unauthorized service switching could also happen as California is undergoing the energy transition. As customers are provided with more choices, it is important to ensure that there are adequate protections in place to prevent predatory sales tactics.

STATUS: Underway at CPUC

Electric Service Providers (ESPs). The Commission has jurisdiction over ESPs who primarily serve large commercial and industrial customers. Slamming and cramming has not been an issue to date. Currently, complaints are directed to the CPUC's Consumer Affairs Branch (CAB). For transparency to the customer, a [list of registered ESPs](#) is published on the CPUC website, with their ESP number and what service territories they are authorized in along with contact information. The contact information increases customer care and provides greater consumer protection.

Pursuant to D. 10-03-022, nonresidential Direct Access (DA) customers can take service up to a capped amount, the historical maximum level of DA in each utility service area mandated by SB 695 (2010). SB 237 (Hertzberg, 2018) was signed by Governor Brown on September 20, 2018 and will raise this cap by 4,000 GWh and requires the Commission to allocate this addition among the three IOU service territories by June 1, 2019.

Core Transport Agents (CTAs). CTAs are non-utility gas suppliers who purchase gas on behalf of core customers who are primarily aggregated residential and small commercial end-users of natural gas. The customer buys natural gas from the CTA but pays the IOU for gas delivery service on its distribution pipelines. Billing may be done by the gas utility, the CTA or both. [SB 656](#) (2013), implemented by [R.14-03-002](#) (D.14-08-043), required CTAs to register with the CPUC which allowed the Commission to process customer complaints. The Commission has sought to reduce CTA customer liability for interstate capacity, lowering prices and enabling core aggregators to better compete with utilities and weaken monopolies. In 2018 the Commission established standards for proof of financial viability and of technical and operational ability in [D. 18-02-002](#). It addressed issues such as: 1) Disclosure of pricing and other service information; and 2) Minimum standards for confidentiality, physical disconnects and reconnects, change in providers, written notices, billing, meter integrity and customer deposits. The written notice of service include: price, terms and conditions of service, price of gas, recurring and nonrecurring charges, other services, the right to rescind, customer financial obligations, right to change providers and availability of low-income programs. Additionally, protocols were established for filing consumer complaints against the CTAs on a formal and informal basis. [D.18-02-002](#) also requests the utilities to file a joint application by January 30, 2019 to propose changes to the rules pertaining to core transport, core aggregation and CTAs.

AUTHORITY:

Statutory (PU Code unless noted)	Regulatory
Electric Service Providers	
Section 394 et. seq Senate Bill 695 (2009)	D. 99-05-034 D.98-03-072 D.03-12-015 D.10-03-022
Core Transport Agents	
Senate Bill 656 (2013) Sections 980-989.5	D.90-11-061 D.91-02-040 D.95-07-048 R. 14-03-002 D. 14-08-043 D.18-02-002

CUSTOMER CHOICE ACTION RECOMMENDATIONS:

Regulatory

1. Monitor conduct of ESPs and CTAs and other retail providers.

For both ESPs and CTAs, the Commission has taken a proactive role in developing protocols to address consumer protection. For example, D.18-02-002 granted Utility Enforcement Branch (UEB) the ability to develop and implement citations to CTA for violations. One such citation, for “slamming” violations, was drafted by UEB as [Resolution UEB-003](#). This resolution is expected to be eligible for a Commission vote on October 25, 2018 Commission Meeting.

The utilities are required to submit a joint application in 2019 to propose revisions to the CTA program and this application may alter or add to the consumer protection rules. Continuing to monitor their activities will be important to determine if other regulatory action is needed as customer choice expands. At the same time, the CPUC will also need to assess and develop comprehensive enforcement tools and protocols to ensure compliance. This may include statutory changes to provide CPUC additional enforcement authority over the current regulated entities.

CATEGORY: CONSUMER PROTECTION

TOPIC: PREDATORY SALES TACTICS: RESIDENTIAL CUSTOMERS: ROOFTOP SOLAR

ISSUE:

Residential rooftop solar allows consumers to transition in the clean energy economy and save money on their electricity bill. However, consumers need to be fully informed about advantages and risks involved with installing solar on single-family homes and taking service under a net energy metering successor tariff, with particular attention to aggressive or unscrupulous sales tactics.

According to the Contractors State License Board (CLSB), the number of complaints about deceptive solar practices continues to rise. CLSB’s Solar Task Force recently conducted an in-depth analysis of the 933 solar-related complaints received between January 1, 2016 and September 1, 2017. Of these complaints, 197 were successfully settled resulting in over \$1 million in restitution, and 97 were recommended for further disciplinary action, including 15 criminal cases.

Though these complaints make up a small fraction of the overall residential solar market, the trends are a cause for concern. There was a 112% increase in the number of solar complaints received in 2017 over the same time period in 2016; about 40% of the complaints filed between January 1, 2016 and September 1, 2017, were focused on just 22 contractors. The majority of consumer-filed complaints allege misrepresentation of contract terms and solar panel system production.⁵

STATUS: Underway at CPUC: R. 14-07-002

In 2016, the CPUC adopted D. 16-01-044 which included the following protection measures for solar consumers: 1) all equipment must have a 10-year minimum warranty; and 2) all major solar system components must be on a verified equipment list maintained by the CEC, similar to requirements in the California Solar Initiative (CSI). And in 2017, [AB 1070](#) (Gonzalez Fletcher) was passed and required the CSLB, in conjunction with the CPUC, to develop several consumer protection measures including a Solar Energy System Disclosures Document.

AUTHORITY:

Statutory	Regulatory
AB 1070 (2017)	R. 14-01-044 R. 14-07-002 (NEM) CSLB Solar Sheet Resolution M-4836 D. 16-01-044 D. 18-09-044

⁵ http://www.cslb.ca.gov/Resources/BoardPackets/11-3-17_CommitteeMeetingPacket.pdf

NATURE OF THE GAP:

[AB 1070](#) was passed to create additional consumer protection measures for solar consumers. A number of stakeholders agreed that aggressive and misleading sales tactics and marketing practices are prevalent and required further attention. The issues cited include:

- persistent robocalls;
- pressure to sign a contract or agreement on the same day by solar salespersons;
- misrepresentation of the utilities' role;
- confusing, incomplete or incorrect information about the costs and benefits of rooftop solar, including estimated bill savings and value and treatment of solar Renewable Energy Credits (RECs) under different products (purchase/lease/power purchase agreement);
- language barriers for non-English speaking customers;
- predatory financing; vendor failure to follow through after installation;
- incorrect system sizing;
- contract complexity;
- unlicensed contractors; and
- lack of customer understanding of the factors impacting their actual bill savings, including changes in their energy usage and rate structures underlying the current net energy metering (NEM) framework.

Pursuant to [AB 1070](#), the CSLB opened a proceeding to develop the Solar Energy System Disclosures Document and made it available online on June 29, 2018. The CPUC adopted [Resolution M-4836](#) that endorsed the CPUC Staff's collaboration with the CSLB. A key element of the Solar Disclosures Document is to inform solar customers of the standard commercial transactions "cooling-off" period of three days to decide whether to enter into the obligation. Per [AB 1070](#), CSLB is also required to receive and review consumer complaints and questions regarding solar energy system companies and solar contractors, including complaints received by other state agencies. CSLB will publish an annual report starting July 1, 2019 of consumer complaints. Further, AB 1070 requires the CPUC to develop standardized inputs and assumptions to be used in the calculation and presentation of the electric utility bill savings to consumers by the same date.

R.14-07-002: Although some consumer protection mechanisms were put in place pursuant to AB 1070, the CPUC wanted to enhance these safeguards. On September 27, 2018, the CPUC adopted D. 18-09-044 which is a step in the right direction to enhance consumer protections for NEM. The decision requires the CPUC to design and develop a consumer information packet primarily for residential consumers to be completed by the second quarter of 2019. Once prepared, the IOUs will require that solar providers upload signed documentation that confirms the solar customer has received and read both the packet and the CSLB Solar Energy Systems Disclosures Document prior to interconnection of their systems. Additionally, the CPUC is proposing that the IOUs collect the installation contracts on their portal and forward them to the Energy Division for review on an as needed basis. Finally, the CPUC has established a verifiable process to ensure that only solar providers with valid CSLB licenses are authorized to install solar energy systems.

Other Agencies

The following government entities have jurisdiction over consumer protection and/or solar installations:

- [Attorney General's Office](#)
- [Contractors State Licensing Board](#)

- [Department of Business Oversight](#) (PACE and other financing mechanisms)

CUSTOMER CHOICE ACTION RECOMMENDATIONS:

Additional Policy Analysis Needed

1. Additional policy analysis is needed to determine whether the NEM proceeding should consider additional consumer protection measures within the CPUC's authority for solar customers.

Regulatory

1. The Commission will continue to consider additional ways to address existing and future NEM consumer protection issues via complaint mediation, enhanced enforcement, citation, or administrative penalty mechanism under its authority in the remaining phase of the NEM proceeding or its successor.
2. The CPUC will also need to assess and develop comprehensive enforcement tools and protocols to ensure compliance. This may include statutory changes to provide CPUC additional enforcement authority over the current regulated entities or jurisdiction to address currently unregulated entities.

CATEGORY: CONSUMER PROTECTION

TOPIC: PRICE DISCLOSURE: ALL LSE RESIDENTIAL RATES AND PRODUCT OFFERINGS

ISSUE:

There is no single centralized location for residential consumers to compare rates and product offerings, including terms of service, of all the LSEs.

Current rates are available on individual LSE websites. Customers have to search for the information on each LSE’s site and compare the rates, and in many cases this information is not easily found. Transparency of rate information in a non-biased and easily understood manner would allow customers to make informed choices about what LSE to choose as competition increases.

STATU: Underway at CPUC with limited authority for IOUs and CCAs

The Commission has jurisdiction and is addressing this issue in certain cases. There are requirements for the CCAs to publish prices in comparison with the IOUs. And IOUs have to publish their own rate schedules.

R. 12-02-009: The CPUC reopened this proceeding to address the IOUs [Petition for Modification](#) to have the Commission confirm that the Code of Conduct does not restrict the utilities’ right to communicate with the news media – newspapers, television stations, and radio stations – regarding CCAs. The Petition does not seek any changes to the Code’s marketing provisions which restrict the ability of utilities to communicate with customers regarding IOU and CCA energy supply services and rates.

AUTHORITY

Statutory (PU Code unless noted)	Regulatory
AB 117 (2002) SB 790 (2011)	R. 12-02-009 (Code of Conduct) D. 12-12-036 SDG&E: Resolution E-4874

NATURE OF GAP:

Currently, LSE websites display rate plans and options (see [PG&E](#) or [MCE](#) on rates or [explanation of the bill](#)). Full disclosures should occur during the CCA formation stage to ensure customers have a complete understanding of what CCAs offer as an alternative to the IOUs.

To facilitate/foster a robust competitive market, customers need pricing information that is readily available and in easy-to-understand format. This would require building an online platform with information that will cover rates and programs for residential customers. Texas and Illinois have created websites which provide this information in a single place (see Appendix for more information).

While creating such a platform will be a step in the right direction, there are still some unanswered questions:

1. Can the Commission require all LSEs to provide the pricing information to create a statewide platform?

2. Is there adequate statutory or regulatory authority to create a state-sponsored pricing and program comparison platform for all LSEs?
3. Would such a platform be feasible in the context of non-residential customers in light of concerns by ESPs of the disclosure of sensitive market data?
4. What entity would manage the platform, which includes such things as making regular updates and assuring accuracy of the information?

CUSTOMER CHOICE ACTION RECOMMENDATIONS:

Additional Policy Analysis Needed

1. The CPUC can provide an analysis that will examine the necessary steps to establish an online platform where customers may access information about electricity rates/prices for all LSEs.

Regulatory

1. State law grants the CPUC broad authority over IOUs and the Commission currently has authority to require creation for an online platform by the IOUs.
2. Among other elements, the CPUC has authority to regulate the registration of CCAs. To date, the requirements have been established pursuant to statute for the Commission's jurisdiction.
3. Enforcement authority regarding compliance with these requirements varies depending on the existing statutory authority (see other Gap Analysis discussions). There may be the need to establish further regulatory requirements under existing authority.

Legislative

Legislation may be required to:

1. require the data to be collected;
2. authorize the CPUC, or another state agency such as the CEC, to serve as the state clearinghouse for pricing and program disclosure;
3. provide stronger enforcement authority regarding compliance with current requirements.

CATEGORY: CONSUMER PROTECTION
TOPIC: PUBLIC PURPOSE PROGRAMS

ISSUE:

With greater disaggregation of providers and increasing departure of customers from the IOUs, will public purpose programs, such as energy efficiency and RD&D receive historic levels of funding that have been included in IOU rate as a flat fee on a volumetric basis?

Beginning with the deregulation of the electricity industry in 1996, the concept of a Public Goods Charge (PGC) was introduced and incorporated into [AB 1890](#) to guarantee funding for activities that may not otherwise be supported in a fully competitive wholesale and retail electricity market. The CPUC and CEC created a collection mechanism for sufficient funding to protect certain activities that were deemed to be in the public interest in the event that individual electricity providers might not continue such activities on their own. The programs covered energy efficiency, and research development and demonstration (RD&D) activities.

Today, funds are collected on a volumetric basis from all customers, regardless of LSE, with a flat fee per kilowatt-hour of electricity usage paid by each customer through its distribution charges, with the surcharge level determined by customer class.

STATUS: Underway at CPUC

AUTHORITY:

Statutory (PU Code unless noted)	Regulatory
AB 1890 (1996) Section 399.8 AB 1002 (1999) AB 970 (2000) SBx1-5 (April 2001)	Various decisions and resolutions A0807021 Resolution E-4160 (2008) A0506015 D0612013

NATURE OF GAP:

The impetus for initially creating the PGC came during industry restructuring. As distribution services will continue to be supplied by IOUs, it appears that the funding mechanism can continue to be attached to the delivery services. There may be a misperception that if the money is collected through a volumetric rate rather than a fixed fee, that the collecting banking account could get short changed. This is not the case for either departing load due to customers moving to CCAs and/or ESPs, or with customers that self-generate. The CPUC has created balancing accounts for collection of these funds so if volumetric rate results in undercollections one year, the rates change to collect sufficient funds the following year.

The public purpose funds collected -- whether through fixed fee, as with the distribution charge, or through portion of volumetric rates -- are non-bypassable, i.e. the charge remains as part of service when a customer departs bundled service with an IOU. This prevents cost-shifting and protects the remaining bundled customers from incurring higher charges.

The issue with volumetric rate when a customer reduces his or her electric purchase through either self-generation or energy efficiency is that the customer may not pay the full amount of what is non-bypassable for other departing load customers. Some rules, such as NEM protocols, may not be sufficient to address this gap. In order for the balancing accounts to be made full, the volumetric rates are increased to cover the shortfall.

Another option is consideration of a minimum bill for customers taking very low volumes due to self-generation or intermittent occupancy.

CUSTOMER CHOICE ACTION RECOMMENDATIONS:

Additional Policy Analysis Needed

1. Additional analysis is required to evaluate whether the current LSE growth of CCAs, ESPs (with the lifting of the direct access cap) and BTM technologies will impact the current collection through reduction of usage or other means that lower collections through the non-bypassable charge. This analysis will inform if regulatory or legislative actions are necessary to continue adequate funding for these programs.

CATEGORY: DUTY TO SERVE
TOPIC: DISTRIBUTION GRID SERVICES

ISSUE:

AB 327(Perea, 2013) introduced a new framework for the grid integration of distributed energy resources (DERs) to accelerate growth of DERs to meet California’s climate goals with greater emphasis on identifying optimal locations of DERs, deferral of grid infrastructure, and enabling enhanced grid services from DERs.

With the disaggregation of retail electric providers, we should analyze how CCA customers can participate in DER-based distribution system infrastructure deferrals, in particular assess whether there are any barriers that prevent these customers from realizing the full benefits of DERs.

STATUS: Underway at CPUC

Distribution Resource Planning (DRP). Over the past five years, the CPUC has been addressing the issue of expanding BTM resources through the Distribution Resource Plans (DRP) in proceeding R. 14-08-013. The activities in this proceeding are coordinated with other rulemakings to implement Public Utilities Code Section 769 and accelerate the deployment of DERs to support California climate goals.

In the DRP Rulemaking, R.14-08-013, the CPUC created an annual distribution planning process to identify optimal locations where DERs can defer distribution investments and established a grid modernization framework to review new distribution infrastructure spending necessary to integrate DERs while maintaining safety and reliability. In the DRP proceeding, two analyses were identified as necessary to accomplish these objectives. In the Integrated Distributed Energy Resource Rulemaking (IDER), R14-10-003, proposals for the design of DER procurement mechanisms and incentives are under consideration that seek to capture and monetize the value that DERs provide for the deferral of distribution upgrades.

AUTHORITY:

Statutory (PU Code unless noted)	Regulatory
AB 327(2013) Section 769	R. 14-08-013 (DRP) R.14-07-002 (IDER)

NATURE OF THE GAP:

Distribution system policy development is now underway in a comprehensive review process. However, certain issues surrounding CCA customers may arise which could require further assessment. Potential examples of these issues are:

- IOUs’ lack of visibility into CCAs’ planned programs, resulting in IOUs’ lack of detailed projections of growth of load/demand when designing RFOs.
- Challenges to effective deferral of distribution system needs with non-uniform access to customer marketing and customer load profile and local system data.
- Resource aggregation challenges due to CCA automatic opt-ins at inception.

- Potential for customer confusion or dissatisfaction due to varying compensation structures for DER market participation.

CUSTOMER CHOICE ACTION RECOMMENDATIONS:

Additional Policy Analysis Needed

1. Given the comprehensive attention to distributed resources, the CPUC should study whether new developments require additional issues in existing proceedings, a new proceeding under the Commission's existing authority or statutory changes.

CATEGORY: DUTY TO SERVE/RELIABILITY AND RESOURCE PROCUREMENT
TOPIC: RATE DESIGN

ISSUE:

Are the current IOU rates structured to send the proper price signals to consumers?

Attributes of a proper rate design:

- 1) encourage efficient and cost-effective use of electricity
- 2) properly value the carbon content of electricity
- 3) help integrate renewable resources into the electric grid
- 4) do not inhibit the development of behind-the-meter technologies
- 5) prevent undue cost shifting to bundled customers
- 6) allow IOUs to remain indifferent to loss of customer demand
- 7) allow competitive services and providers to participate in an open market platform
- 8) maintain reliable service
- 9) properly compensate the utilities for grid compensation and other services that are not otherwise compensated

State law requires that all charges for service provided by a public utility be just and reasonable. Pursuant to this authority, the CPUC determines reasonable operational costs, customer cost allocations and operational price signals. General rate design cases and other ratesetting proceedings or tariff matters cover a wide range of matters. By setting priorities in the proceedings, each of the elements listed above can be addressed. Many of these initiatives are already being addressed by the Commission in existing proceedings.

Greater choices of providers and supply have increased the number of customers departing from utility bundled service. CCAs are growing at a rapid pace. With these sources – rooftop solar, direct access, community choice aggregators, and direct ownership of offsite generation by large companies – up to 25% of total load will depart from IOUs by the end of the year. Some estimates argue that the number of unbundled customers (who pay the costs of transmission and distribution to monopoly utilities but obtain electricity separately) could be as high as 80% by 2021 or 2022. When a CCA launches, IOU electricity customers in the designated service areas are automatically enrolled in CCA service and must opt out to continue to be served by the IOU. Once established, a CCA purchases power for its customers.

Large industrial and commercial customers are developing BTM resources or purchasing their own power plants and paying to wheel their power over the grid to their facilities through the Direct Access program. However, these customers face transmission and distribution rates comprising nearly half of their electric bills that are heavily weighted toward non-time-dependent demand charges, that cannot easily be avoided by BTM resources. Such charges can inhibit investments in BTM resources. While departures from bundled service decrease the load that the utility is required to serve, the CPUC has generally found that BTM resources can benefit the grid.

The IOUs are experiencing a widening disparity between the level of resources in their portfolios and what is required to serve the reduced load. At issue is whether the current model and approach to utility ratesetting still works as the state grapples with disaggregated energy planning and procurement, increased time-dependence of loads, generation utilization, GHG emissions, significant growth in the number of LSEs, and IOUs still maintaining responsibility for the wires and poles.

STATUS: Underway at CPUC with actions pending in existing proceedings

Treatment of legacy supply is front and center for resolution before establishing a truly open, competitive market. A key rate area requiring resolution is the cost of generation paid by customers who leave bundled IOU service for another provider known as the Power Cost Indifference Adjustment charge (PCIA). The CPUC's obligation is to ensure a fair outcome for all customers, regardless of their energy supplier. Utilities have made commitments for generation based on forecasts of how much electricity their customers require. When IOU customers leave, the utility continues to be responsible for the costs of that generation based on the original load forecasts and contracts signed to support these forecasts. The lower number of customers who remain with the utility then have to pay a proportionately higher amount of those commitments unless an adjustment is made where the departing load assumes the proportion of those cost that would have otherwise been paid as IOU customers. The goal is to meet the California statutory requirements that some customers are not paying more than others for generation, even if they remain a bundled IOU customer.

PCIA is the essential element of competitiveness among the IOUs, CCAs and ESPs. The CPUC recently adopted Decision 18-09-044 regarding equitable treatment for all market participants that ensures customers who remain with an IOU are not required to pay costs the utility incurred on behalf of customers who left the utility to become customers of a CCA or ESP and that departing customers do not take on costs that were not incurred on their behalf.

Actions pending in existing proceedings

Other issues related to ratesetting being addressed by the Commission in open matters, including:

1. Southern California Edison General Rate Case – Phase II ([A.17-06-030](#))
2. Residential Rate Reform ([R.12-06-013](#))
3. Residential Default Time-of-Use (TOU) ([A.17-12-011](#), et al)
4. PCIA ([R.17-06-026](#))
5. Affordability OIR ([R.18-07-006](#))
6. Disconnections OIR ([R.18-07-005](#))

AUTHORITY:

Statutory (PU Code unless noted)	Regulatory
Section 451 Section 745 AB 327 (2012) Section 739.1 Section 739.9 SB 695 Section 913.1 SB 711 (Hill, 2017) SB 1135 (Bradford, 2018)	General Rate Cases – Phase II (various) Rate Design Windows (various) Residential Rate Reform (R.12-06-013) Residential Default TOU (A.17-12-011, et al) PCIA (R.17-06-026) D.18-09-044

NATURE OF GAP:

Statutory limitations restrict the CPUC’s ability to delve into solutions to ameliorate the impacts of the rapidly evolving electricity market. Customers of non-IOU LSEs are not incentivized to shift load according to TOU price signals. Developing rates for a competitive market requires creating an open platform for all market participants and preserving the benefits of the current rate design such as TOU rates for nonresidential customers. With the growth of CCAs and BTM technologies, there is declining load that increases rates for the bundled customers. Continually increasing electric utility revenue requirements, decreasing kWh sales, and expanding legislative mandates all make cost and rate control a challenging task.⁶ While the CPUC does not have rate authority for either the CCAs or ESPs, it has utilized its existing authority to address these issues as in the recent PCIA decision described above.

CUSTOMER CHOICE ACTION RECOMMENDATIONS:

Additional Policy Analysis Needed

1. **Fixed charges for cost recovery:** Rates should be designed to charge customers based on the cost to serve them, while any compensation provided to customers that causes rates to differ from cost-of-service should be independent from the cost-based rate to ensure it is both transparent and measurable. For larger nonresidential customers that are now subject to non-time-differentiated demand charges, replacing those charges with a combination of fixed charges and TOU rates (or coincident peak demand charges) could assist the IOUs to recover those T&D costs that are truly fixed while better reflecting costs caused by coincident peak demands.
2. **BTM Resources:** Rapid BTM growth may not be supported by existing rate structures, which are not fully aligned with costs that are increasingly varied depending on time-of-use. Even with

⁶ Actions to Limit Utility Costs and Rates: Public Utilities Code Section 913.1 Annual Report to the Governor and Legislature (May 2018), p. 5

pending changes to rectify this, further analysis is required to determine how BTM and preferred resources deployed by CCAs, or other LSEs, and those owned by third-parties are affected by rate design in addition to bundled customers. The complete review should evaluate the impact of retail rates developed by CCAs and other LSEs to encourage the growth of distributed energy resources (DER).

3. **Explore feasibility of employing TOU in the transmission and distribution elements of retail rates, in addition to the current TOU of the generation element for all customers regardless of LSE:** TOU rates and dynamic pricing are factored in to the CEC load forecast that determines each IOUs resource adequacy obligations. TOU rates encourage customers to shift their energy usage to times when electricity is more abundant and market prices are low which supports grid optimization and renewables integration. When customers are opted-in to CCA service, they lose the ability to choose TOU and dynamic rates. When customers are unenrolled from these programs, the IOUs lose the MW load impacts and may need to find replacement resources to meet resource adequacy obligations. The IOU Critical Peak Pricing program is an example of a dynamic rate that customers are automatically unenrolled from when CCA service begins.

The CPUC is moving toward greater use of TOU and peak-related demand charges for distribution, but the progress in this direction is uneven. The CPUC has recently encouraged one utility (SCE) to file a time-dependent transmission rate at FERC, and PG&E and SDG&E are required to file transmission cost causation studies at both the CPUC and FERC. While successful implementation of residential default TOU is of paramount importance, the CPUC should articulate a long-term vision to implement stronger, more cost-based optional TOU rates over time for all LSEs. Until CCAs develop their own TOU rates, their customers should be allowed to enroll in IOU distribution TOU or dynamic rates.

Legislative

1. The issue of whether to create a fixed charge that applies on a residential customer's default rate is currently before the Commission in A. 17-12-011. If review of the evidentiary record indicates that the fixed charge should be greater than \$10/month for non-CARE customers (or \$5/month for CARE customers), then it may be necessary to study whether the Public Utilities Code Section 739.9(f) limitation on fixed charges should be adjusted to allow an increase based on the criteria set forth in Section 739.9(e) to create the most economically efficient fixed charge.^[1] A proceeding subsequent to A. 17-12-011 would likely need to address such a review.
2. The Legislature should encourage, if not mandate, CCAs to default their customers to TOU rates in order to fulfill the goals statutory requirements to bring residential rates closer to cost and assist in grid optimization through appropriate time-variant price signals. The Legislature should require CCA's to allow their customers to enroll in IOU distribution TOU or dynamic rates until CCAs have developed their own TOU rates.

^[1] Section 379.9(e) The commission may adopt new, or expand existing, fixed charges for the purpose of collecting a reasonable portion of the fixed costs of providing electric service to residential customers. The commission shall ensure that any approved charges do all of the following:

- (1) Reasonably reflect an appropriate portion of the different costs of serving small and large customers.
- (2) Not unreasonably impair incentives for conservation and energy efficiency.
- (3) Not overburden low-income customers

CATEGORY: DUTY TO SERVE/ENERGY AND RESOURCE PROCUREMENT
TOPIC: RESOURCE ADEQUACY

ISSUE:

Is reliability sufficiently addressed through resource adequacy requirements?

With direction from the Legislature following the 2000/2001 Energy Crisis, the CPUC developed resource adequacy (RA) requirements for load serving entities (LSEs) to provide compliance filing to the Commission demonstrating on an annual and monthly basis that they have an adequate supply of electricity generation under contract to meet their customers' peak load requirements. The CPUC adopted the current RA framework in a series of decisions over the past 14 years (e.g., D. 04-10-035, D. 05-10-042, D. 06-06-064, and D.14-06-050). The RA program currently requires all LSEs to procure capacity to help support the state's system, local and flexible ramping needs. LSEs are required to then provide the Commission with annual and monthly filings reflecting this procurement.

The CPUC evaluates, measures, and verifies standards for IOU procured resources, like demand response. The CPUC has not imposed the same requirements for demand response resources procured by non-IOU LSEs.

Today, significant structural changes are creating potential challenges to the program's ability to meet adequate reserve margins under the current market and program design. These changes include increasing intermittent renewable resources, the upcoming retirement of natural gas power plants due to once through cooling requirements, retirement requests from generators, and the rapid expansion of CCAs resulting in customer load migration. These changes may cause uncertainty for market participants who must procure capacity for an unknown amount of load and generators who must now sell generation to new market entrants.

To meet RA obligations, LSEs have to file with the Commission and demonstrate that they have procured most of their capacity well before the compliance year. The Commission has enforcement authority over the LSEs.

As of September 2018, thirty-seven LSEs under CPUC jurisdiction – including three investor-owned utilities, fourteen ESPs and nineteen CCAs – will be actively service load in California. Prior to the 2018 year-ahead resource adequacy compliance process, LSEs had only ever requested two waivers of penalties for local capacity deficiencies totaling roughly 270 MW in four local reliability areas. Over the summer of 2018, two additional LSEs requested waivers of deficiencies totaling roughly 100 MW in two local reliability areas.

STATUS: Underway at CPUC

In light of recent trends, the Commission has perceived a need to modify the construct so that it can continue to ensure ratepayer value and secure a generation fleet that meets California's needs.

In January 2018, the CPUC initiated a proceeding to consider refinements to the RA program and establish procurement obligations for 2019 and 2020. The proceeding is broken up in three tracks:

- Track 1 examined the potential approaches to reduce future out-of-market RA procurement, such as a multi-year local RA program and/or one or more central buyers (e.g., the large investor-owned utilities). Decision (D)[18-06-030](#), adopted local and flexible capacity requirements for 2019 applicable to Commission-jurisdictional electric LSEs.

As stated in the decision, relevant to increased customer choice, the top priority modifications to the RA program under evaluation include:

- a) resource adequacy and potential cost allocation issues that arise as a result of load migration;
 - b) RA program reforms necessary to maintain reliability while reducing potentially costly backstop procurement; and
 - c) alignment of RA measurement hours with grid availability assessment hours and other time-sensitive issues identified in the proceeding.
- Track 2 encompasses more complex and slightly less time-sensitive modifications and refinements to the Commission’s RA program. Track 2 is expected to be conclude by the end of 2018.
 - Track 3 will consider the 2020 program year requirements for system, local, and flexible RA. Additionally, the Commission may revisit RA counting rules for weather-sensitive and local demand response resources. The schedule for Track 3 is expected to be concluded by June 2019.

To comply with Public Utilities Code Section 380(f), the CPUC has created the RA program through a series of decisions that ultimately established

- 1) an annual process that required all LSEs to submit "best estimate load forecasts for the upcoming year." These LSE based forecast are then adjusted by the CEC for plausibility, coincidence, demand side impacts (i.e. load modifying demand response) and to be in within 1% of the IEPR benchmark forecast and
- 2) a year-ahead process whereby LSEs are required to demonstrate they meet their RA requirements, which are based on their CEC adjusted load forecasts, CAISO Local Capacity Requirement (LCR) Technical studies and Flexible Capacity Technical Studies.⁷

The adopted “best estimate” forecast methodology encompasses an LSE’s future customers and associated load, so LSEs losing or gaining load are not unnecessarily “saddled with excess capacity, or in need of additional capacity, under market conditions where they would not be able to conduct reasonable and appropriate transactions to acquire or dispose of capacity as needed for load migration.”

As documented in implementation plans and RA compliance filing, CCAs launch or expand at times of year that do not necessarily correspond with the year-ahead RA process. As such, it is assumed that the subsequent departing load would continue to be served by the IOUs and the associated RA requirements were assigned to the utilities, who then had to procure for that load. In the most recent

⁷ Local and Flex study results are currently adopted annual via a Commission RA decision.

track 1 RA decision the Commission adopted a requirement (D.18-06-030)⁸ that all LSEs that plan to serve load or expand service in the coming compliance year, must participate in the year-ahead process in order to serve that load in coming compliance year.

Local requirements are currently developed annually through the CAISO's annual Local Capacity Requirement stakeholder process. The CAISOs study currently encompasses 45 local sub-areas and areas. These are aggregated to form ten local capacity areas across California. In developing the local RA framework, the Commission chose to aggregate six of the local capacity areas in PG&E's TAC area, to mitigate local market power concerns.⁹ However, the CAISO backstop authority is based on the sub-area needs, not the aggregated area needs. Traditionally, the IOUs have procured to the sub-local level to avoid expensive CPM procurement costs. Smaller LSEs have not procured to each sub-local requirement, and there has thus been historical natural leaning. However, as IOUs lose load share to CCAs, it makes less sense for them to procure sub-local area resources. Therefore, to address potential leaning and out-of-market backstop procurement, changes to the local RA program will be needed.

The recent track 1 RA decision concluded that in order to address this issue, implementation of a 3-5-year local multi-year RA requirement should be initiated for 2020 and should include a central buyer structure. A strong preference was given for a single central buyer or a central buyer for each transmission access charge (TAC) area, though other structures may be considered. Implementation details were to be addressed in Track 2 of the proceeding.

Track 2 of the proceeding is currently considering the specific elements of local multi-year framework and a decision is scheduled to be issued in late 2018.

⁸ All LSEs are required to participate in all aspects of the year-ahead RA process for load they will serve in the following year will mitigate the cost-shifting issues that can result from misaligned timing of LSEs' formation or expansion and the year-ahead RA filing schedule.

⁹ D.06-06-064 FOF 23- *Market power issues can arise when procurement obligations are established for small local areas, and aggregation of such areas for the purpose of establishing local procurement obligations can mitigate market power; however, aggregation of local areas could possibly lead to over-procurement in some areas and under-procurement (with CAISO backstop procurement required) in others.*

AUTHORITY:

Statutory (PU Code unless noted)	Regulatory
<p>Section 380</p> <p>Section 366 et.seq. (CCA requirements)</p>	<p><u>R.17-09-020</u> (active) (Resource Adequacy)</p> <ul style="list-style-type: none"> • D. 18-06-030 • D. 18-06-031 • Resolution E-4907 • D.18-07-046 <p><u>R.14-10-010</u> (Resource Adequacy)</p> <ul style="list-style-type: none"> • D.04-10-035 • D.05-10-042 • D.06-06-064 • D.14-06-050 <p>(R.07-01-041) (Closed, Demand Response)</p> <p>D.08-04-050 (Load Impact Protocols)</p>

NATURE OF GAP:

Demand response programs administered by IOUs must go through load impact analysis and reporting in order to receive Resource Adequacy credit. The load impact reports evaluate and measure the megawatt (MW) impacts for IOU demand response programs. However, no similar requirement exists for demand response provided by third-party aggregators, procured by non-IOU LSEs, like CCAs.

The CPUC closely monitors IOU procurement of third-party demand response, and can obtain information on the performance of these programs through data requests and established performance standards. For CCA procured third-party demand response, the CPUC has not developed similar performance standards.

CUSTOMER CHOICE ACTION RECOMMENDATIONS:

Additional Policy Analysis Needed

1. An area that also can be explored is understanding reliability needs of the grid beyond the current RA protocols that are sufficiently specific regarding daily load profiles.

Regulatory

1. The Commission has carefully and thoroughly analyzed how to approach reliability requirements in a disaggregated market and appropriately adjusted the protocols to accommodate increasing load shifts due to the development of the CCAs.

Further actions may need to be considered to address disaggregation of load as occurred in the process leading to the adoption of Resolution E-4907 in early 2018.

2. The Commission should monitor its current Resource Adequacy efforts and assess where additional action may be needed within the existing proceedings (e.g. evaluation, measurement and valuation of non-IOU administered demand response receiving Resource Adequacy credit as part of the next demand response rulemaking).

CATEGORY: DUTY TO SERVE

TOPIC: ROLE OF THE INVESTOR-OWNED UTILITIES IN A DISAGGREGATED MARKET

ISSUE:

The Choice Paper investigated operating retail choice models in four jurisdictions: New York, Illinois, Texas and Great Britain. Regulators in these jurisdictions clearly defined the role, either in law or regulation, of the incumbent utilities and their affiliates to transition to a fully competitive retail market. As California expands the number of options for service including the possibility of full retail competition, what will be the role of the incumbent IOUs during the transition period and beyond?

STATUS: CPUC has authority to partially address the issues raised. New legislative authority may be required.

The CPUC established the [Affiliate Transaction Rules \(ATR\)](#) to govern the relationship between utilities and their energy affiliates in response to the deregulation in the late 1990s. The ATRs established rules to protect consumer interests and foster competition in unregulated markets. On January 1, 1998, all California public utilities became subject to the ATR. It was last modified was in 2006.

AUTHORITY:

Statutory (PU Code unless noted)	Regulatory
AB 327 (2015?) Section 769 et.seq.	R. 14-08-013 (DRP) R.14-07-002 (IDER) R. 97-04-011 D. 97-12-088 D. 98-08-035 D. 98-12-075 R. 05-10-030 D. 06-12-029 Affiliate Rules (overview)

NATURE OF GAP:

The Choice Paper market assessments section presented a variety of retail choice models and the role of the incumbent utility in each market. While the concept of fully competitive retail choice has not been prominent in recent policy discussions in California, legislative actions and market forces have increased competition for customers. This has led to customers switching service to CCAs or BTM installations which, in turn, has led to declining IOU customer base. Without opining on the outcome of an existing proceeding, the CPUC needs to analyze the shifts occurring that impact rate design, grid operations, default service and competitive supply and to formulate proactive policies that are flexible enough to absorb the potential shocks to the grid when the utilities migrate from their traditional roles. Additionally, there is a need to determine how bundled customers, who either cannot or chose not to depart from the IOU, will continue to enjoy the benefits of IOU service including affordable rates through programs like CARE. The role of the IOU in this expanded – and perhaps in a fully – competitive

retail market needs to be considered carefully to ensure adequate regulatory frameworks are aligned with market structures. Affiliate Transaction Rules, not updated since 2006, similarly may need to be evaluated and revised to reflect new market dynamics.

These are the critical questions to consider:

1. What is necessary to support IOUs as the primary source of distribution grid services regardless of the type of supplier?

As retail electric providers expand and become more disaggregated, the role of the IOUs is changing from bundled service to supplying distribution grid services for CCAs, ESPs and BTM products. This requires adequate planning for growth as well as sufficient compensation to the IOUs for critical enhancements to maintain system reliability. It may be necessary to reexamine the existing rate structures, with attention to the relationship of volumetric rates and fixed charges in assuring cost recovery, to identify changes necessary if IOUs primary role is to provide transmission and distribution services and maintain its infrastructure.

2. What if the utility is relieved of the obligation to serve?

- a. What are the threshold criteria to provide service without disruption if an LSE fails or denies service to a customer, e.g. capitalization, adequacy of supplies, equitable treatment of all customers?**
- b. Should there be a designated entity (or entities)?**

The provider of last resort discussion presents a comprehensive overview of these elements. This Gap Analysis speculates that the utilities could be relieved of the obligation to serve, thereby creating the need for a new default provider of last resort. Given the growth of energy suppliers with specific legislative support, it is critical for the CPUC to assess this issue. The results of the CPUC's effort would recommend actions that would apply to the electricity market.

3. How will current IOU rate design elements carry forward in a disaggregated market?

As discussed the analysis on rate design, TOU rates are critical to grid optimization and renewables integration by sending price signals to customers that encourage them to shift energy usage to preferred time periods. Customers in CCAs and ESPs do not have the ability to choose TOU and other dynamic rates. There are other elements of IOU rate design such as departing load charges that may not carry forward when customers select other LSEs or BTM technologies. The CPUC should further assess this issue to understand the implications of this shift compared to the forecasted basis of the IOU rate design.

4. What are the options for utilities that continue to provide retail electric service with other LSEs in an open market or would they be barred from the retail market like in Texas?

CUSTOMER CHOICE ACTION RECOMMENDATIONS:

Additional Policy Analysis Needed

Before further action, CPUC staff should:

1. Study the impact of departing customers on the utilities' ability to collect transmission and distribution charges under the current rate structures including the relationship of volumetric rates to fixed charges as a recovery mechanism;
2. Identify the threshold criteria essential to provide electric service to any customer who seeks it when the primary LSE fails or rejects the customer;
3. The CPUC should examine the role of fixed charges, demand charge reform, and time-varying rate enhancement, and determine what is needed to ensure that rate offerings to customers are aligned with state energy policy; and
4. Review current Affiliate Transaction Rules and determine whether the rules are effective or a barrier for an expanded retail choice market. The Commission should study the impact of IOU affiliate participation in the retail market. Following the study, the Commission should consider revising the Affiliate Transaction Rules.

Legislative

1. Legislative action may be necessary to assert the public interest in the future role of the utility and provider of last resort. The CPUC's analysis may also identify additional statutory changes. Being proactive on this matter today, outside of existing CPUC proceedings and without prejudice to the outcome of those proceedings, yields insurance against adverse customer consequences following significant disruption of the current utility bundled service model.

CATEGORY: RELIABILITY AND RESOURCE PROCUREMENT
TOPIC: CONTRACTING FOR RELIABILITY AND RESOURCE REQUIREMENTS

ISSUE:

Will there be continued support of the resource procurement necessary for long-term supply, renewable resources and BTM technology penetration to meet statewide goals for reliability, decarbonization and affordability?

To support the transformation of the electric sector, the state's policies to date have allowed developers to leverage the balance sheets of the IOUs backed by CPUC-guaranteed cost recovery in rates from a large number of customers for long-term power purchase agreements (PPAs).

Over the past 20 years, the investment community has become comfortable with this approach and the IOUs have spurred the development of low and zero carbon technologies, in many cases first-of-a-kind technologies, by providing a stable revenue stream, limiting risk in these investments for investors. The IOUs produced a replicable business model that financial institutions found comfort with and used for funding future projects, eliminating obstacles in obtaining financing for technologies that had not been proven to scale. The resulting effect was that new technology markets were launched in the U.S., including for utility-scale photovoltaic projects which substantially brought down the costs for these projects.

The ability of a competitive retail market where participants are able to secure sufficient financing for the types of resources necessary to complete the current transformation is far from certain. Further, the IOU procurement model for these resources is no longer applicable in many instances. Who or what replaces this model to accomplish the gains achieved to date is now a key question. With increasing fragmentation in the market, California's challenge is to create the same level of comfort to procure adequate capital to achieve its statewide goals. When weighing the alternatives, key factors are how to contain cost while managing and appropriately distributing risk.

California has been able to transition as rapidly and as effectively as it has thus far through requirements for utility procurement and incentives for renewables and preferred resources. These contracts between developers and utilities leveraged the incumbent utilities' ability to conduct competitive procurements for the lowest cost resources and to provide a creditworthy counterparty to long-term power purchase agreements. In turn, the contracts served as security for non-recourse project financing of both utility scale and distributed preferred resources such as renewables, storage and energy efficiency measures and natural gas generation. As a consequence, third parties had the ability to borrow significant funds rather than rely solely on equity for these investments. Investors were assured repayment over time by the CPUC's granting IOUs cost recovery of the power purchase contract payments through transparent ratesetting which relied on the costs being allocated to a large universe of customers. Beyond renewable procurement, the Legislature and the CPUC have relied on the incumbent IOUs as a financing vehicle to stimulate energy efficiency investments and market transformation programs for technologies such as rooftop solar and battery storage, demand response programs, and low-income programs.

STATUS: Underway at CPUC

The [Integrated Resource Plan](#) (IRP) proceeding is evaluating long-term contracting requirements to meet both reliability and renewable procurement. [R.16-02-007](#) is an umbrella proceeding that applies to every

LSE to consider all the Commission’s electric procurement policies and programs and ensure California has a safe, reliable and cost-effective electric supply that also meets its decarbonization goals.

To evaluate need, the IRP takes a 20-year-ahead look at:

- 1) Reliability needs of the overall electric system;
- 2) Local reliability specific to areas with transmission limitations; and
- 3) Flexibility needs (such as resources needed to integrate renewables).

Each IRP is also required to meet existing statutory requirements such as requirements for GHG targets, energy efficiency, demand response, the RPS, energy storage, and resource adequacy.¹⁰

Additionally, SB 350 established a requirement that 65% of all RPS procurement must be from contracts that are 10 years or longer beginning in 2021.

Authority to Review and Certify Integrated Resource Plans. Pursuant to the authorization in SB 350, the CPUC has jurisdiction to review and certify all LSEs’ long-term procurement plans. IRP has planning authority over the LSEs, including CCAs and ESP. However, IRP doesn’t have procurement authority -- unlike RPS -- over CCAs and ESPs. Enforcement authority exists for the CPUC to use if a CCA or ESP IRP is deficient and they do not cure the deficiency. The functionality of this compliance mechanism may be examined in the in the ongoing proceeding.¹¹

Financing of Long-Term Resources. California’s successful buildout of renewables and preferred resources has had as its foundation the creditworthiness of the IOUs’ balance sheet. Developers have utilized this credit based on long-term power purchase agreements (PPAs) to secure the debt through non-recourse financing to build projects. Thus, billions of dollars of capital investment flowed to the state through third-party developers who were willing to assume the risk.

AUTHORITY

Statutory (PU Code unless noted)	Regulatory
SB 350 (2015) SB 454.51 and 454.52 454.5(b)(9)(C) (State Loading Order)	R.16-02-007 (IRP) D.18-02-018

NATURE OF GAP

Going forward, the procurement process may no longer be a binary function between developers and IOUs. With an increase in the number of retail electricity providers, the cost of new projects may increase if the investment community has concerns about ESPs or CCAs being the counter-party to

¹⁰ D.18-02-018 at 26, citing PU Code Section 454.52(b)(3) which references Section 454.52(a)(1)(A)-(H), and Ordering Paragraph 10.

¹¹ D.18-02-018 at 28 states: “[T]he Commission, if it finds a CCA plan to be non-conforming or not meeting statutory or Commission requirements, has the authority to order long-term procurement commitments, and to assign costs of non-performance with the approved plans...” Further, “The Commission may decide not to certify a CCA plan and/or to require modification of it, while acknowledging that a CCA governing board must approve the plan before it comes back to the Commission for additional consideration. We leave for a later date the question of what, if any, differential means the Commission may use to ensure CCA compliance with the IRP requirements in the event of deficiencies.”

contracts to build new renewables. The financing community may be willing to rate and accommodate various risk profiles; for example Marin Clean Energy received a credit rating in 2018. However, some renewable projects may not be financeable if the counter-party is a non-credit worthy CCA. The CCAs have yet to utilize the credit ratings associated with their local government host institutions since all CCAs, except for SF Clean Power, are non-profit entities with governing boards associated with but not part of local governments.

As shown in the CPUC's annual reports to the Legislature, renewable procurement has slowed significantly in California as the IOUs have drastically reduced RPS procurement and the CCAs have ramped up their purchases. Over time, the market will adjust. However, will this adjustment be expedient enough to successfully meet the state's aggressive climate goals, achieve reliability and maintain affordable bills for all Californians?

The IRP will approve procurement planning for all LSEs. Procurement planning is distinguished from the approval of specific procurement decisions. IOU procurement is evaluated in the Energy Resource Recovery Account (ERRA) proceeding. There, the CPUC monitors whether the IOUs have complied with requirements for contract administration, least cost dispatch, fuel procurement, and the ERRA balancing account. When the CPUC reviews least-cost dispatch, it ensures that each IOU has complied with the loading order, which requires the IOUs to first meet their "unmet resource needs through all available energy efficiency and demand reduction resources that are cost-effective, reliable and feasible."¹² It is unclear whether a similar review process exists for other LSE procurement.

CUSTOMER CHOICE ACTION RECOMMENDATIONS:

Additional Policy Analysis Needed

Through a stakeholder process, the CPUC can work with key parties, including financial institutions, to:

1. categorize the new market developments;
2. discern what requirements are necessary to deploy capital to support investment that will advance statewide goals; and
3. to identify the credit risk mitigation measures that the state can deploy to support the necessary investment.

Some of the issues to examine include:

- Identifying the salient methods to assure that capital deployment continues at the levels necessary to attain California's climate and reliability targets such as obtaining investment grade credit rating for LSEs other than IOUs and bonding authority for CCAs or the JPAs that administers the CCA;
- Options for the state to undertake if development fails to materialize at the levels required, such as the state creating a financing vehicle;

¹² PU Code Section 454.5(b)(9)(C).

- New options for credit proposals such as a long-term central procurement entity or coordinated multi-party procurement

At some point, the effort to develop alternative financial vehicles may raise costs for ratepayers and could result in an inefficient market. What level of state support is appropriate and most cost effective? What analysis is required to quantify the true cost to the state of promoting customer choice?

Key areas for analysis:

“Stress Testing” As the market shifts to greater competition, the conventional financing approach no longer applies.

- Are there adequate credit vehicles for non-IOU LSEs to sustain development at the levels needed to achieve market transformation?
- If development fails to materialize at the levels required, should the state create a financing vehicle?
- Can existing IOU RPS contracts be auctioned off or allocated to different LSEs when load is shifting?

Existing Credit Vehicles. Analysis needs to occur to identify the salient method to assure capital deployment continues at the levels necessary to attain California’s climate and reliability targets.

- **Credit Rating.** LSEs can obtain a credit rating as MCE recently has acquired. This is a pathway to use conventional financing.
- **Bonding authority and other municipal financing of CCA participating municipal entities.** CCA allows local governments to pool, or aggregate, their electricity load in order to purchase and/or develop power projects on behalf of their residents, businesses, and municipal accounts.¹³ Some CCAs are joint power authorities (JPA) and others are single jurisdiction entities.
- **Balance Sheets.** Equity rather than debt can be used to finance projects. This requires large, financially solvent private companies or investors able to assume high-risk. While not frequently used in the past, balance sheet investment may offer a foundation for selective developers.

New Credit Proposals:

- **Central procurement entity.** A central buyer is now under consideration in the CPUC’s RA proceeding for short-term procurement, and the concept could also apply to long-term procurement. California recently enacted a bill that signals an interest in a restructured electricity market with retail competition (as evidenced by SB 237, Hertzberg, 2018). Retail competition is intended to use market competition forces to lower costs for consumers. However, the Legislature has competing goals to foster decarbonization of the economy through directed regulations, such as the RPS and IRP. The tension between utilizing markets to achieve lower costs and state-based policy initiatives designed to foster decarbonization has to be harmonized.; at the present time, the multiple state policy objectives of efficiency of markets vs. decarbonization appear to conflict with each other on a practical, implementation level.

- **Coordinated multi-party procurement.** With need for multi-year PPAs, heightened coordination among all LSEs becomes essential. The challenge is building a large-scale renewable or preferred resource project without a long-term PPA that has a single, creditworthy IOU. Allowing multiple offtakers is the key to successfully transitioning from the IOU-centric investment platform. The approaches can include:
 - Multi-party PPAs for one project
 - Multiple PPAs.

Either approach means that financial institutions or public financing authority will have to become comfortable with a higher risk profile. California was successful over the past 10 years building and connecting RPS projects. Future success requires public and private engagement.

Review of CCA Integrated Resource Plans:

The IRP proceeding staff should coordinate with the staff working on Demand Response, Energy Efficiency, and Storage to ensure that the plans comply with the loading order and other resource-specific requirements as directed by Public Utilities Code Sections 454.52(a)(1)(A)-(H) and 454.52(b)(3).

CATEGORY: RELIABILITY AND RESOURCE PROCUREMENT

TOPIC: ELECTRIFICATION OF TRANSPORTATION, BUILDINGS & APPLIANCES

ISSUE:

As California moves to 100% carbon neutrality by 2045, the Renewable Portfolio Standard (RPS) will no longer be effective enough to meet statutory requirements for carbon reduction. While renewables, energy efficiency, distributed energy resources, and demand response are tools that help us get to our 2030 and 2050 goals, they are not our only tools and they will not meet all of our needs. We cannot lower our greenhouse gas emissions to meet our 2030 or 2050 goals only by cleaning up the grid. **We must make more advancements to electrify buildings and electrify transportation since these sectors are responsible for the bulk of emissions.**

Transportation electrification helps California meet its decarbonization and air quality requirements by replacing carbon-emitting vehicles with electric vehicles (EVs) powered from a grid that is already generated from 30% renewable resources. Transportation electrification is crucial, since transportation emissions make up 41% of statewide GHG emissions and 44% of statewide CO2 emissions.¹⁴

STATUS: Underway at CPUC & CEC & CARB

Electrification is a major component of policies designed to meet California's core principles of affordability, decarbonization and reliability. There are multiple initiatives to address the issue of electrification of transportation and buildings underway at the CPUC, CEC and CARB. These agencies are addressing these issues in existing proceedings or policy initiatives that will in many cases result in recommendations and directions for further actions. The inclusion of electrification in the Gap Analysis identifies it as a key policy objective, and the assessment of the current status in multiple sectors, like buildings and transportation, indicates that California is already working toward electrification.

California's major initiatives for reducing climate change or GHG emissions are outlined in [Assembly Bill 32 \(signed into law 2006\)](#) and the [2005 Executive Order](#). These efforts, administered by the California Air Resources Board (CARB), aim at reducing GHG emissions to 1990 levels by 2020 - a reduction of approximately 30 percent, and then an 80 percent reduction below 1990 levels by 2050. SB 32 (Pavley, 2016) extended AB 32 provisions and requires GHG reductions to 40% below the 1990 level by 2030.

¹⁴ "California Greenhouse Gas Emission Inventory - 2017 Edition," California Air Resources Board, June 2017, <https://www.arb.ca.gov/cc/inventory/data/data.htm>

Electric Vehicles (EVs)

The CPUC supports the state's transition to electrified transportation through the regulation of the state's electric IOUs. The CPUC's transportation electrification activities fall into four main categories: electricity rates and costs of fueling, infrastructure deployment and incentives, vehicle-grid integration policy and pilots, and evaluation and coordination. SB 350 directed the CPUC to work with the CEC and CARB to direct the electric IOUs to develop proposals to accelerate widespread transportation electrification.

Since 2016, the CPUC has authorized the IOUs to spend more than \$1 billion to support the deployment of electric vehicle charging infrastructure throughout the state, through a wide variety of programs, and across several industry sectors. The CPUC is still reviewing applications from the IOUs requesting to spend an additional \$1 billion on proposed infrastructure investment programs.

The CPUC has approved time-of-use rates for residential customers of PG&E, SCE, SDG&E, and Liberty Utilities that drive EVs and charge at home. These rates are designed to provide price signals to customer about when it is better to use electricity to charge their vehicles in order to optimize the use of grid resources, maintain reasonable rates and reliability. The CPUC is also working with the IOUs to develop and deploy EV rates for commercial customers.

The CPUC, in collaboration with other state agencies, is also developing policies that support vehicle-grid integration (VGI) to align EV charging with the needs of the electric system. To do this, EVs and/or EV charging stations must have capabilities to manage charging or support two-way interaction between vehicles and the grid. The CPUC is finalizing a report summarizing a 2017 working group focused on VGI, and is working with other state agencies to update the 2015 VGI Roadmap.

CEC: Building and Appliance Standards

Since 1975, the California Energy Commission (CEC) has been responsible for adopting building and appliance efficiency standards to reduce consumption of electricity and keep per capita use of electricity low in California. These standards have been successful in reducing greenhouse gas emissions, saving energy costs for consumers and allowing economic growth in California. [SB 350](#) imposed a requirement that existing buildings double energy efficiency savings for consumers by 2030.

Electric appliances use more than half of the electricity in buildings. Through extensive stakeholder processes, the CEC has adopted standards for a wide range [of appliances](#) ranging from LED bulbs to washing machines to pool pumps. This effort remains critical to ensure that the electrification efforts to reduce GHG are as efficient as possible.

The CEC has adopted Building Energy Efficiency Standards that help reduce a building's energy consumption. In addition to the standards, the CEC implements programs to reduce energy consumption in existing buildings. Every three years, the CEC establishes minimum standards of efficiency for new building design, construction, and operation that are technically and economically feasible. Earlier this year, the CEC mandated that all newly constructed low-rise residential buildings are to be ZNE by 2020 and all new commercial buildings by 2030.

CARB: Buildings

According to the California Air Resources Board, about 10 percent of California's greenhouse emissions come directly from its buildings. Approximately 70% of direct building emissions come from residential buildings, and most of those emissions are from natural gas furnaces and water heaters. There are

electric alternatives to all of these appliances, and ones that use heat pumps to maximize efficiency in room and water heating are becoming the norm in other states. As the GHG emissions from California's electric portfolio continues to decline, moving buildings away from natural gas appliances to all electric becomes a new method to reduce statewide emissions.

California has a long history of promoting "fuel switching" and "fuel substitution" as a means of reducing overall energy consumption in buildings. However, the current fuel switching programs were developed at a time when switching from electric to natural gas was considered the cleaner option and were focused on overall energy reduction and not necessarily reductions in GHG emissions. Some of these old rules are now barriers to current building electrification goals.

2018 Legislation

While California has had programs to decarbonize transportation, to incentivize energy efficiency, and to promote customer-owned solar systems, until 2018 there has not been a state-sponsored program to electrify the building sector. However, that changed in Fall of 2018 with the approval of two bills that will promote building electrification:

AB 3232 (Friedman) – Requires the CEC, working in collaboration with other agencies, to produce an assessment of the potential to reduce greenhouse gas emissions from the building sector by 40% over a 1990 baseline by 2030.

SB 1477 (Stern) – Requires the CPUC to develop and administer two programs to promote building electrification:

- **Technology and Equipment for Clean Heating (TECH) Initiative**, which requires the CPUC to identify and target key low-emission space and water heating equipment technologies that are in an early stage of market development and that would assist the state in achieving its greenhouse gas emissions reduction goals. The bill requires the commission to develop guidelines and evaluation metrics, implement outreach strategies for hard-to-reach customers, and provide for job training and employment opportunities.
- **Building Initiative for Low-Emissions Development (BUILD) Program**, which requires the CPUC to require the natural gas utilities to provide incentives to eligible applicants for the deployment of near-zero-emission building technologies to significantly reduce the emissions of greenhouse gases from buildings.

SB 1477 authorizes \$50 million per year in funding over 5 years, funded by revenues from the cap and trade program funds from natural gas utilities. This funding will become available in July, 2019, and the CPUC will likely open a proceeding on the topic sometime in 2019. 1/3rd of the funding will be dedicated to low income customers and those living in disadvantaged communities.

AUTHORITY:

Statutory (PU Code unless noted)	Regulatory
<p><u>SB 100 (2018)</u> <u>Executive Order B-55-18</u> (to achieve carbon neutrality)</p> <p><u>SB 350</u> CEC: Public Resources Code</p> <p>CARB (AB 32, 2006) <u>(SB 32)2016</u></p>	<p><u>R. 13-11-007</u> <u>D.16-11-005</u></p> <p><u>A.17-01-020</u> <u>D.18-05-040</u></p> <p><u>CEC Energy Efficiency Standards</u> <u>(Building and Appliances)</u></p> <p>CARB <u>climate change programs</u></p>

CUSTOMER CHOICE ACTION RECOMMENDATIONS:

Regulatory

1. Electrification of transportation and other fuel uses, e.g. buildings and appliance standards, is underway at the CPUC and CEC. The Commission should monitor progress.

APPENDIX

California Market Profile

Approximately 20% of California's electricity demand is served by vertically-integrated publicly owned utilities (POUs). The remaining 80% is served by a hybrid electric market made up of retail electricity providers, distribution utilities and transmission owners. While investor-owned utilities (IOUs), and other load-serving entities (LSEs) own some generation, most of the state's electricity is bought from independent generators through a mix of long and short-term contracts (for both commodity and capacity to meet the state's resource adequacy program requirements), as well as a day ahead and real time market where energy commodity transactions take place among LSEs, suppliers, and other third parties.

Since the California Energy Crisis in 2000, retail customers have primarily received electricity procured by the IOUs under the jurisdiction of the California Public Utilities Commission (CPUC). Rapid growth of behind-the-meter (BTM) technologies and Community Choice Aggregation entities (CCAs) has created greater choices for customers and opened a limited amount of competition in the retail sector. This profile presents a summary of the background of competition in California and an overview of today's market structure in the retail electricity sector.

Brief History

California opened competition in 1996. The CPUC launched two proceedings that explored competitive options and planned for the restructuring of the state's wholesale and retail electricity markets in 1994.¹⁵ In 1996, AB 1890 accelerated the timeline for deregulation. The IOUs were incentivized to divest their generation assets¹⁶, but they retained ownership of their transmission facilities. The IOUs could also continue to provide bundled retail service to customers, or they could provide delivery service only along with new electric service providers (ESPs) providing retail energy. The California Independent System Operator (CAISO) was created to operate the transmission grid, and the Power Exchange was established to run electricity energy auctions. Furthermore, the bill required all sellers, marketers and aggregators of electricity to residential and small commercial customers to register and be subject to CPUC regulatory and enforcement authority.

The new market design and competition yielded low prices and a variety of customer choices in the beginning. However, in the summer of 2000, prices skyrocketed and electricity supply shortages led to unexpected blackouts, mandated rolling brownouts, and financial instability of the IOUs known as the California Energy Crisis. To address the crisis, the California Department of Water Resources was empowered to act as the central electricity procurement entity and entered into long-term power purchase contracts that were backed by the state's credit for the IOUs.¹⁷ In addition, in the 2001-2002 session, the Legislature adopted measures to reverse deregulation through CPUC implementation. Direct transactions were capped at 10% of the nonresidential market, cities and counties could aggregate their load and serve that load directly (CCAs), and other measures were enacted to ensure resource adequacy and avoid market manipulation.

¹⁵ R. 94-04-031 and I. 94-04-032

¹⁶ They would recover stranded costs through a charge on all customers based on their electricity consumption known as the Competition Transition Charge (CTC).

¹⁷ Unfortunately, these contracts were executed at the height of energy prices translating into higher costs for consumers. Years of subsequent Federal Energy Regulatory Commission investigations and litigation resulted in findings of market manipulation.

The end result was the creation of a hybrid market that combined an open and competitive wholesale market with the IOUs' ability to enter into short and long-term bilateral contracts and to own generation again. The 2003 Energy Action Plan delineated California's energy policy goals and priorities to ensure that adequate, reliable, and reasonably-priced electrical power and natural gas supplies, including prudent reserves, were cost-effective and environmentally sound for California's consumers and taxpayers. In addition, the Energy Action Plan set forth a loading order that prioritizes the sequence of new resource additions that has guided policies put in place to date:

- Cost-effective energy efficiency and demand response as the preferred means of meeting energy growth; followed by
- Renewable sources of power and distributed generation; and finally,
- Clean and efficient fossil generation.

JURISDICTION TODAY

Today, the CPUC, California Energy Commission (CEC), and CAISO oversee various aspects of the state's electricity markets. The CPUC is an independent agency that regulates IOUs through its ratemaking and reliability authority and oversees the LSE's, including IOUs, CCAs and ESPs, compliance with state mandated programs. The CPUC also directs LSE resource procurement through a formal integrated resource planning process and resource adequacy requirements, and it manages a number of programs ranging from renewables procurement and energy efficiency measures. The CEC, on the other hand, oversees generation siting, manages the publicly-owned utilities (POUs), sets energy efficiency standards for the energy sector, directs R&D programs, and conducts demand forecasts used for system planning. The CAISO is a nonprofit entity responsible for the reliability of California's bulk electric system. It manages the state's wholesale energy markets and transmission lines of member utilities. The Federal Energy Regulatory Commission regulates CAISO because of its jurisdiction over interstate transmission, and the CAISO is governed by a board appointed by the Governor. For a complete history and background of California's energy market, please refer to the California Customer Choice Paper.

Current State of Affairs: Decentralized Energy Procurement and Customer Choice

Affordability, decarbonization and reliability are the core principles of California's energy policy. Legislative and regulatory actions have established a broad array of programs to advance state goals in these areas and align with market and grid system conditions. However, the growth of CCAs and the uptake of distributed energy resources are driving significant changes in the market as they are providing customers more options to choose how and from whom they obtain electric services. This shift toward decentralized energy procurement is challenging the current regulatory framework, which rests on market assumptions with the IOUs as the prevalent load serving entities. Without a coherent and comprehensive plan, the current policies in place may drift California to an unintended outcome and breakdown in services like the Energy Crisis.

Alternatives for Generation Capacity and Retail Service

IOUs. Until recently, IOUs have historically served most customers in California, followed by fewer customers serviced by POUs, and fewer still from CCAs and ESPs. The CPUC has the authority to regulate IOU rates, direct energy procurement, and enforce penalties for nonperformance in regulations and state mandated programs. This regulatory structure plus IOU service to most state customers has been a vehicle to implement state goals and public purpose programs.

POUs are governed by locally elected and public officials and they set their own rates, programs, and procurement strategies. They own and operate their own transmission and distribution systems and may own generation assets or procure power through contracts. For some compliance requirements, like the Renewables Portfolio Standard, POU's report to the CEC.

CCAs are also subject to local control, governed by a local board or a joint powers authority.¹⁸ CCAs can design their own rate structure, low-income programs, procurement protocols (including renewables) and reliability strategies. While they can own their own generation assets or purchase power through contracts, the IOU still provides other services such as transmission, distribution, metering, billing, collection, and customer service. Though not under the CPUC's ratemaking authority, CCAs must still meet certification and some compliance requirements with the CPUC.¹⁹

ESPs are private companies that sell energy directly to customers. Currently, only nonresidential customers may also elect to enroll in the Direct Access program to purchase electricity directly from an electric service provider. ESPs rely on transmission and distribution service from the utility that services their territories. They are also subject to certification of certain functions with the CPUC and the same compliance requirements as discussed above for CCAs. After the Energy Crisis, the amount of load served by ESPs was capped at no more than the maximum amount of MWh served prior to legislation -- ABx1, which has been between 9 and 17% of total IOU load. There is currently a waiting list for customers wishing to contract service with an ESP.

The varying regulatory and ownership characteristics of these LSEs are summarized below. Statute subjects all LSEs to the CPUC's authority under a variety of programs (e.g., resource adequacy, the renewables portfolio standard, integrated resource planning), however only IOUs, fall under the CPUC's ratemaking authority.

Other alternatives to electricity supply are **Behind-the-Meter (BTM)** resources. These alternatives include rooftop solar, energy storage, demand response, energy efficiency and electric vehicles, among other technologies. BTM resources rely on IOU transmission and distribution system for delivery of power and back-up. Many customers have invested in BTM resources to either produce or reduce their electricity consumption. The state has established programs to incent customer adoption of these technologies. California's net energy metering program, for example, allows customers with solar rooftop installations to receive full retail rate credits for electricity delivered to the grid.

Challenges with the Expansion of Alternative Generation and Retail Alternatives

Load distribution served by alternative generation has changed significantly in the last few years. CCAs are growing at a more rapid pace than anticipated, the cap on load served by ESPs has increased with recent legislation, and customers continue to adopt more and more BTM resources. These shifts present regulatory, market structure, and technical challenges associated with load shifting and integration of distributed energy resources.

¹⁸ See California Public Utilities Code Section 321.1(a) and 331.1 (b)

¹⁹ California Public Utilities Code Section 380 (Resource Adequacy), Sections 399.11 - 399.32 (Renewables Portfolio Standard Program), Sections 454.51 and 454.52 (Integrated Resource Planning), and Sections 365.2 and 366.3 (Power Charge Indifference Adjustment).

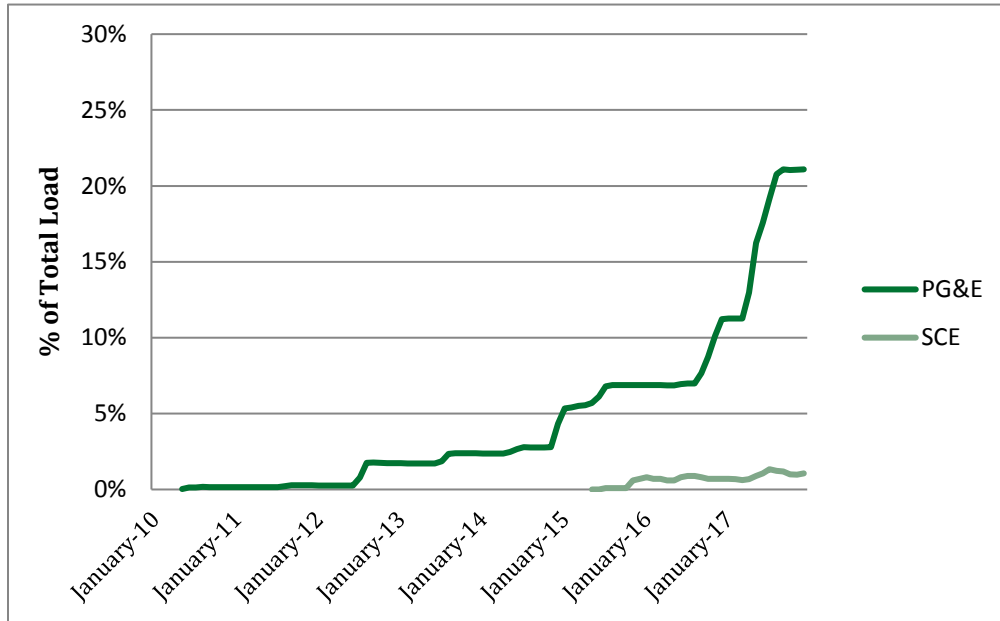
	IOU	POU	CCA	ESP
Structure	Private	Local Government Agency	Local Government Agency	Private
Rate Setting	Rates are set by each utility and regulated by the CPUC	Rates are set by each utility's governing board or city council	Rates are set by each CCA's local board or through a Joint Powers Authority	Rates are set by each ESP in contracts with customers
Generation and Renewables Procurement	Can own generation facilities and purchase power through contracts; RPS procurement plans reviewed and approved by the CPUC	Can own generation facilities and purchase power through contracts; RPS compliance overseen by CEC	Can own generation facilities and purchase power through contracts; RPS procurement plans reviewed and accepted by CPUC	Can own generation facilities and purchase power through contracts; RPS procurement plans reviewed and accepted by CPUC
Distribution	Own and operate distribution lines	Own and operate distribution lines	Use distribution service from corresponding IOU	Use distribution service from corresponding IOU

Cost shifting from load migration. One of the main challenges stemming from load migration is cost shifting. When a customer chooses to depart from bundled service, to join either an ESP in the Direct Access program or a CCA, the IOUs are left with the stranded cost. These stranded costs come from the utility having previously procured energy and service on behalf of those customers as part of their long-term portfolio planning. To ensure that customers who choose to remain on bundled service are not unfairly burdened with these costs, the Power Charge Indifference Adjustment (PCIA) was created. The PCIA is a non-bypassable generation charge that is designed to address cost shifting from departing load. On October 11, 2018, the CPUC updated the PCIA calculation, which will include cost recovery for legacy utility-owned generation.²⁰

The figure below shows load migration from the IOUs to CCAs, from 2010 to 2017. When a CCA launches, IOU electricity customers in the designated service areas are automatically enrolled in CCA service and must opt out to continue to be served by the IOU. In 2018, several more local jurisdictions launched CCA service and others are actively exploring CCA formation.

²⁰ APD (R17-06-026) adopts several measures to update the PCIA calculation. These include: a revised market price benchmark to be used in the calculation, a new true-up mechanism, a floor cap that will limit the change of the PCIA from one year to the next (starting in 2020), a prepayment option, cost recovery for legacy utility-owned generation, and termination of the 10-year limit on PCIA cost recovery. The PCIA reforms will be used in the 2019 PCIA calculations.

Figure 1: California's Community Choice Aggregator Expansion (2010-2017)



Source: Data provided by Investor-Owned Utilities in response to staff data request

In addition, SB 237, signed into law September 20, 2018, increases amount of load that is available for Direct Access by 4,000 GWh by June 2019. Today, Direct Access load is close to 25,000 GWh equal to roughly 13% of load in utility service territories. The cap increase will relieve the program’s waitlist, which is currently over 7,500 GWh. The bill also requires the CPUC to recommend how direct access can be further expanded to remaining nonresidential customers.

Other challenges associated with the growth of BTM and distributed energy resources stem from managing the transition of the grid from a system designed for centralized, non-intermittent generation to a system that is more decentralized and includes intermittent generation and resources with a wide range of characteristics. This transition has implications for electricity rates and interconnection processes, among other market elements.

BTM rate implications. Growing numbers of BTM customers manage their electricity through self-generation, energy efficiency, demand response, battery storage, and other ways. Rather than receiving electricity exclusively from a power plant and delivered through utility infrastructure, these customers can produce energy within their homes or businesses or participate in programs to partially reduce or eliminate their net electricity consumption. Customers that self-generate do not require full service from utilities; however, they are charged non-bypassable charges for certain grid costs that all customers must pay, and in some cases, standby rates that address the costs associated for partial service.²¹ Demand charges, which account for energy consumption and fixed costs needed to meet that demand, also apply to some nonresidential BTM customers.

²¹ Residential and small commercial customers are exempt because net energy metering policy allows certain wind and solar facilities to avoid standby rates.

The table below shows BTM uptake across select technologies from 2013 to 2017.

Table 3: DER in California 2013 Compared to 2017

Technology	2013	2016/17	Percent Change
Energy Efficiency (GWh)	1,693	3,197	89%
Demand Response (MW)	2,187	1,997	-9%
Behind-the-Meter PV (MW)	2,102	5,900	180%
Plug-in Electric Vehicle (PEV) (number of registrations)	69,999	266,866	281%
Distributed Advanced Energy Storage (MW)	54	350	548%
Microgrids (MW)	122	390	220%

Source: 2017 CEC Integrated Energy Policy Report, p. 123

Integrating DER. DER technologies have capabilities that have never been seen before and may offer new grid services. Interconnecting these resources requires a high degree of market, engineering, and technical alignment to determine how much supply can be absorbed by the grid and how to integrate variable energy resources safely and reliably. These capabilities have the potential to enable new business models and disrupt existing ones. There are several proceedings within the CPUC and CAISO that are dedicated to harnessing the potential of DER to provide clean energy and services without adversely impacting grid reliability. The CPUC’s Distributed Energy Resources Action Plan sets forth a vision and framework for coordinating specific actions in these proceedings.²²

Considering Core Principles and Key Questions: California

Table 4: Considering California's Regulatory Structure for Core Principles

Affordability	Decarbonization	Reliability
<ul style="list-style-type: none"> To control costs after the Energy Crisis, the Legislature enacted a rate freeze for customers that fell under a baseline. In 2013, the freeze on rates was lifted and the CPUC began implementing a series of rate reforms that included a transition to time-of-use rates.²³ Since 2013, average system electric rates for IOUs have been rising faster than inflation. This can be attributed to 	<ul style="list-style-type: none"> California has a 2030 GHG reduction target 40% below 1990 levels by 2030, carbon-free electricity procurement goal of 100% by 2045, and a goal of doubling energy efficiency savings from electricity end uses by 2030. The CPUC and CEC administer California’s Renewables Portfolio 	<ul style="list-style-type: none"> California maintains reliability through a hybrid approach that combines an open and competitive wholesale market with the LSE’s ability to enter into short and long-term bilateral contracts. The CPUC reviews LSE procurement plans, administers a formal

²² Available at:

[http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/About_Us/Organization/Commissioners/Michael_J_Picker/DER%20Action%20Plan%20\(5-3-17\)%20CLEAN.pdf](http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/About_Us/Organization/Commissioners/Michael_J_Picker/DER%20Action%20Plan%20(5-3-17)%20CLEAN.pdf)

²³ See Rulemaking (R.) 12-06-013 and Decision (D.)15-07-001 for additional information on rate reform activities.

<p>increased costs for infrastructure upgrades, generation, grid enhancements, energy-related environmental and climate change policies, as well as flattening and declining total sales. Nevertheless, average residential total bills in California are about 84% of average residential total bills across the United States.²⁴</p> <ul style="list-style-type: none"> California offers up to 35% discount on rates to residential customers through the CARE program, and other discounts such as the FERA program. California also offers unique programs for low-income customers such as the Energy Savings Assistance Program. Recently, California has included more efforts specifically toward “disadvantaged communities” to ensure that the benefits of transportation electrification and distributed energy resources also reach those communities. 	<p>Standard, which requires all LSEs to procure increasing amounts of energy from eligible renewable energy and carbon-free resources. SB 100 recently raised the requirement to 60% by 2030.</p> <ul style="list-style-type: none"> To promote customer conservation and energy efficiency, California decoupled utility sales from revenue earned. This regulatory model allows the utility to recover its fixed costs even if less energy is demanded. As a result of California’s numerous energy efficiency policies, individual energy use that remained relatively flat since 1975. 	<p>integrated resource planning process, and manages a resource adequacy program to ensure long-term and short-term generation capacity is available to meet changing demand.</p>
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Question 1: How does California ensure consumer protections?

- The CPUC adjudicates customer complaints when IOUs and customers cannot resolve billing disputes, however, similar authority over other LSEs does not exist on a statewide basis.
- To participate in the market, non-utility load serving entities must file an application to get certified and post bond requirements with the CPUC. Load serving entities found to be defrauding customers or failing to comply with statutory mandates may have their registrations revoked.²⁵
- Public Utilities Code § 8380 and the CPUC Privacy Rules²⁶ put in place multiple requirements for the IOUs and third-parties that access, collect, store, use, or disclose personally identifiable customer usage and energy related data. Third-party providers that are not IOU contractors or other agents of the IOU must obtain consumer consent before the IOU can release personally identifiable customer data. The IOUs are also subject to federal and other state laws and regulations to protect personally identifiable data.
- In September 2018, the CPUC approved a host of consumer protections for solar customers.²⁷ Among them, utilities are required to provide an information packet to residential rooftop-solar customers.

²⁴ CPUC. Actions to Limit Utility Costs and Rates. May 2018. <http://www.cpuc.ca.gov/ElectricRates/>

²⁵ Public Utilities Code Section 394.2 (a)(b)

²⁶ D. 11-07-056

²⁷ R. 14-07-002, D. 19-09-044

Question 2: How does California support development and incorporation of innovations driven by customer demand?

- Over the past two decades, California has established programs to encourage the growth of utility scale renewables, rooftop solar, storage and distributed generation. These programs include a mix of voluntary action and mandates like subsidies for solar PV, procurement mandates for storage, and energy efficiency building standards. It also includes state research and development programs, all-source procurements for varying resource needs, and third-party energy efficiency and demand response programs.
- With more LSEs and third-parties providing electric service, energy management services, and BTM generation services, access to customer data is becoming increasingly important for these providers. Customer data is necessary to manage energy programs and services and to improve the customer experience. In 2011, the CPUC ordered the IOUs to make customer energy usage and program-level data accessible to third-party providers when authorized by the customer.²⁸ They were also directed to propose a common format for the information.²⁹

Question 3: Does California ensure universal electric service?

- Currently, California’s Public Utilities Code does not define a provider or supplier of last resort for the energy sector.
- However, there is an explicit mandate for California’s public utilities to serve all customers in their respective territories. The “Obligation to Serve” is stipulated in state law and affirmed in CPUC decisions.³⁰ California requires that:

“All charges demanded or received by any public utility...for any product or commodity furnished or to be furnished or any service rendered or to be rendered shall be just and reasonable...Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service... as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.”³¹

Question 4: How does California leverage investment necessary to finance the evolution of the electric grid?

- California’s transition to decarbonize the energy sector has mostly relied on the larger utilities to invest in projects by raising low-cost capital in financial markets, and then recovering costs through sales of electricity.

²⁸ This was part of a White House call-to-action to provide customers with easy-to-understand data about their household energy use.

²⁹ D. 11-07-056

³⁰ CPUC, D.01-01-046, Interim Opinion Affirming the Obligation to Serve and Issuing Temporary Restraining Order, at 1-2.

³¹ California Pub. Util. Code § 451

- In the future, it is unclear whether capital investment necessary for new generation to meet the state’s 2030 goals and beyond can be financed and, if so, delivered on time if the market evolves from a few larger buyers (IOUs) to many small buyers (CCAs, ESPs, and IOUs).

Question 5: How does California consider the transition of utility obligations?

- Since the traditional vertically-integrated utility model no longer exists in California, the IOUs have made strides in transforming themselves to accommodate greater customer choice. California has opened certain portions of the utility business to competition to lower prices and to benefit ratepayers.
- As part of the implementation of AB 1890, the CPUC separated out the major aspects of the utility electric bill, including generation, transmission and distribution, and public purpose programs as major categories. These general categories are still in place today. It may be appropriate to re-examine if bill-related elements are in the correct category to ensure bill integrity and to promote the level of transparency achieved in other markets.

Question 6: Does California have competitively neutral rules among market participants?

- California has established standards and processes for third parties to interconnect to the grid at the transmission and distribution level, as appropriate. There may need to be new standards and guidelines created for the new market participants to ensure a competitively neutral market landscape.
- Rules for long-term power procurement have ensured generation build and investment takes place competitively and at the lowest cost for consumers, regardless of whether it comes from utility-owned generation or merchant supply. LSEs perform competitive procurements that have given resources several opportunities to participate in the market. These include solicitations for local capacity requirements and integrated DER pilots.
- Affiliate Transaction Rules define the standards of conduct between California public utilities and their affiliated, unregulated entities. The rules were established to protect consumer interests and foster market competition.³²
- The Code of Conduct governs the treatment of CCAs by IOUs , and prevent IOUs from marketing and lobbying about CCA programs unless they form a shareholder-funded independent marketing division.³³
- Affirmative (i.e., “opt in”) customer choice applies to ESPs, but not to CCAs. Customers in CCA regions are automatically enrolled in their respective program unless they opt-out to stay with the incumbent utility.

³² [R. 97-04-011](#)

³³ CPUC, D.12-12-036. Decision Adopting A Code of Conduct and Enforcement Mechanisms Related To Utility Interactions With Community Choice Aggregators, Pursuant To Senate Bill 790

Question 7: Can customers determine their level of participation and are they informed to participate at their desired level?

- The level of customer choice depends on a customer's class and location. Only nonresidential customers may elect to purchase electricity from an ESP if they fall within the Direct Access load cap. Customers in CCA territory are automatically enrolled in CCA service, but they may choose to opt out and remain a utility customer. All customers may choose to invest in BTM technologies.
- CCAs are required to contact customers before transferring their service from the IOU, however, many customers may not understand the ramifications or the change in their LSE. Since the IOUs typically provide the billing services, CCA customers may not be aware that they are receiving electricity from a CCA.
- California's Power Content Label provides information about the energy resources used to generate electricity and sold to customers. Consumers can compare the power content across different energy products. All retail electricity suppliers are required to disclose this information.³⁴

Question 8: How does the California model impact and benefit local communities?

- There is some uncertainty as to how disadvantaged communities will be serviced in the absence of state mandated programs that have had costs allocated across the broad band of customers with utility service.

³⁴ http://www.energy.ca.gov/pcl/power_content_label.html

CASE STUDIES

PROVIDER OF LAST RESORT: OTHER MARKETS (FROM CHOICE PAPER)

ILLINOIS

JURISDICTION

The [Illinois Commerce Commission](#) has jurisdiction over electricity and certifies [Alternative Retail Electric Suppliers](#) (ARES). Under the [Illinois Public Utilities Act 220 ILCS/8-101](#): A public utility shall furnish, provide and maintain service to the public in an “adequate, efficient, just and reasonable manner” . Upon reasonable notice, a public utility shall furnish service to all persons who apply on a nondiscriminatory basis.

SELECTION OF PROVIDERS OF LAST RESORT

The utility serves as the default provider. In the event a customer returns to the utility, a 12-month service commitment may be a requirement.

NEW YORK

JURISDICTION

[New York Public Service Law Section 31](#) codifies the utilities; obligation to serve, and the New York Public Service Commission (PSC) has confirmed that the utilities’ consumer protection requirements define the utilities’ role as the provider of last resort. If an Energy Service Company (ESCO) exits the market, then the utility serves the energy needs of those customers.

SELECTION OF PROVIDERS OF LAST RESORT

There is no competitive process to select a provider of last resort in New York. The PSC publishes “[Energy Choices – The Facts from the PSC](#)” to fully apprise customers of their options and type of services.

TEXAS

JURISDICTION

Texas is a completely deregulated state and there are no options for bundled service from an investor-owned utility. The Public Utilities Commission of Texas (PUCT) establishes the [platform](#) for all Retail Energy Providers (REP) including providing information on rates and POLR.

DEFINITION

The Provider of Last Resort (POLR) becomes the provider when the Retail Electric Provider (REP) exits the market for any reason. If the REP goes out of business, the POLR becomes the temporary REP so that you do not experience an interruption in service.

SELECTION OF PROVIDERS OF LAST RESORT

Every two years, the PUCT certifies REPs to provide POLR service for each service area. The largest providers are required to serve as POLR and smaller providers may volunteer to participate.

NOTICE OF PROVIDER OF LAST RESORT SERVICE

When a REP is going out of business, three sources provide notification to the customer: 1) the Public Utilities Commission of Texas; 2) the current REP and 3) the POLR designated for the customers' service area who sends a notification letter with information about the new electricity plan.

ATTRIBUTES

- Rates charged by the POLR can be much higher than the standard industry rates because the POLR has to account for a sudden influx of customers when the REP goes out of business. In Texas, a customer may contact the POLR regarding other rate plan options or shop for another REP to avoid price hikes.
- A deposit may be required after 15 days of POLR service if the customer has not selected another rate plan or switched to another REP.
- If the customer chooses to stay on the POLR, they have 60 days to switch to another electricity plan with the POLR or another REP. During this time, the switch can be made free of charge.

See [PUCT Provider of Last Resort website](#) that provides a list of the designated providers of last resort for all customer classes and visibility of the Service Area rates for each.

GREAT BRITAIN

JURISDICTION

The regulatory authority, Ofgem(Office of gas and electricity markets) regulates the competitive market.

SELECTION OF PROVIDERS OF LAST RESORT

Ofgem creates a "[safety net](#)" for customer if the energy supplier goes out of business. Provider of Last Resort responsibilities are not pre-determined, instead, Ofgem conducts a "Supplier of Last Resort" process where suppliers bid to take over stranded customers. Ofgem reviews the bids considering the bidders' financial viability for the transition, customer satisfaction ratings, and product offerings. During the process, customers continue to receive power from the distribution network operators and payments are worked out after the selection of the new supplier.

ATTRIBUTES (SAFETY NET WHEN SUPPLIER GOES OUT OF BUSINESS)

- There is no disruption in service for the customer and Ofgem will move the customer to a new supplier.
- Ofgem then chooses the new supplier based on a competitive auction to get the best price as discussed above.
- The details are announced on the website as soon as possible. Customers are asked to "sit tight" and not switch suppliers during this time.
- When the new supplier contacts the customer, Ofgem recommends asking for the lowest rate or then shopping around for a better deal.
 - Ofgem provides guidance on [how to switch energy suppliers](#) with tools that include

- Price comparison
 - Supplier performance
 - A website: [energyswitch guarantee](#) that handles the switching process
- No exit fees are charged and the old tariff ends.
- The customer is put on a special “deemed” contract, i.e. one not selected by that customer. This contract has not minimum time limit and lasts as long as the customer wants it to.
 - Costs may be more expensive under deemed contracts:
 - The energy prices may be higher.
 - The supplier may charge more for taking more risk for having to buy additional wholesale energy at short notice for new customers.
 - Residential customers are paid for outstanding credit. Ofgem suggests taking a meter reading at the time of the switch. Business customers are not protected.
- Ofgem has established a Citizens Advice consumer helpline to address any questions.

EXAMPLES OF STATE-SPONSORED, UNBIASED WEBSITES

TEXAS: [Power to Choose](#) is a website sponsored by the Public Utilities Commission of Texas that displays all provider pricing for a customer's location and allows comparison of Retail Energy Provider (REP) plans.

ILLINOIS. Under the auspices of the Illinois Commerce Commission, Plug in Illinois offers a one-stop comparison site for prices and services and explains the LSE process. The site provides information on how to choose a supplier, what is real-time electricity pricing the rates being offered by the IOU and competitive supplier.

Source: [Plug in Illinois Home Page](#)



The screenshot shows the homepage of the 'Plug In Illinois' website. At the top left is the logo 'Plug In Illinois Power of Choice'. Below the logo is a navigation bar with three tabs: 'HOME', 'YOUR ELECTRIC CHOICES', and 'COMPARE OFFERS NOW'. The main content area features three images: a close-up of electrical outlets, a wind turbine, and a man in a suit looking at a laptop. Below the images, a large orange number '1.78 million' is displayed, followed by the text 'Approximately 1.78 million residential customers have switched to a Retail Electric Supplier. View Detailed Report'. A welcome message follows, explaining the site's purpose. Below this, there are three columns of links: 'Municipal Aggregation' (with links to 'Municipal Aggregation FAQs' and 'List of Aggregation Communities'), 'Price to Compare' (with links to 'Find out how to compare the utility's supply price to offers from retail electric suppliers' and 'Understanding the Utility's Electric Supply Price'), and 'Electric Choice FAQs' (with a link to 'Find answers to the most frequently asked questions about electric choice and the process of switching electric suppliers.'). At the bottom, there is a footer with 'ICC Home' and a search bar, and a copyright notice: 'Copyright ©2014 Illinois Commerce Commission. All Rights Reserved.'

ILLUSTRATIVE EXAMPLE: CCA CERTIFICATION LETTER

STATE OF CALIFORNIA

Edmund G. Brown Jr., Governor

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



August 26, 2015

Michael Hyams
CleanPower SF
525 Golden Gate Avenue, 7th Floor
San Francisco, CA 94102
mhyams@sfwater.org

Dear Mr. Hyams:

Re: Letter Certifying Clean Power SF's Updated Implementation Plan

The California Public Utilities Commission (Commission) has reviewed Clean Power SF's (CPSF) Updated Implementation Plan and Statement of Intent, filed with the Commission on July 27, 2015.

CPSF's Updated Implementation Plan is in compliance with Commission Decision 12-08-045, issued on August 31, 2012, in which the Commission directed existing Community Choice Aggregators (CCA) to file revised Implementation Plans to conform to the privacy rules in Attachment B of the Decision.

Pursuant to Public Utilities Code Section 366.2 (c)(7), within 90 days after the Community Choice Aggregator establishing load aggregation files an Implementation Plan, the Commission is required to certify that it has received the implementation plan, including any additional information necessary to determine a cost-recovery mechanism.

Pursuant to Public Utilities Code Section 366.2 (c)(3), a CCA Implementation Plan is required to contain all of the following:

- A) An organizational structure of the program, its operations, and its funding.
- B) Rate setting and other costs to participants
- C) Provisions for disclosure and due process in setting rates and allocating costs among participants.
- D) The methods for entering and terminating agreements with other entities.
- E) The rights and responsibilities of program participants, including, but not limited to, consumer protection procedures, credit issues, and shutoff procedures
- F) Termination of the program.
- G) A description of the third parties that will be supplying electricity under the program, including, but not limited to, information about financial, technical and operational capabilities.

Pursuant to Public Utilities Code Section 366.2 (c)(4), a CCA is also to prepare and provide for all of the following:

- A) A statement of intent; and,
- B) Provision(s) that provide for:
 - 1) Universal access;
 - 2) Reliability;
 - 3) Equitable treatment of all classes of customers; and,
 - 4) Compliance with any legal requirements concerning aggregated service.

The Commission hereby certifies the Updated Implementation Plan submitted by CPSF contains the information required by Public Utilities Code as indicated above. CPSF has also included a Statement of Intent as part of its Implementation Plan pursuant to Public Utilities Code Section 366.2 (c)(4).

Also, pursuant to P.U. Code Section 366.2 (c)(7), the Commission is required to provide CPSF with “its findings regarding any cost recovery that must be paid by customers of the community choice aggregator to prevent a shifting of costs as provided for in P.U. Code Section 366.2 subdivisions (d), (e) and (f).” The costs referenced in P.U. Code Section 366.2 subdivisions (d), (e) and (f) are recovered via separate charges for: (1) Power Charge Indifference Adjustment, or PCIA (per kWh); (2) Department of Water Resources Bond Charge, or DWRBC (per kWh); and (3) Competition Transition Charge, or CTC (per kWh). By this letter, the Commission informs LCCA that the costs that must be paid by customers of LCCA are identified on each of SCE’s customer-class-specific tariff sheets, labeled “Community Choice Aggregation Cost Responsibility Surcharge (Schedule CCA-CRS).”

Sincerely,

A handwritten signature in black ink that reads "Edward Randolph". The signature is written in a cursive, slightly slanted style.

Edward Randolph
Director, Energy Division

CC: CPUC ED Tariff Unit (EDTariffUnit@cpuc.ca.gov)

TABLE 6: DETAILED GAP ANALYSES RECOMMENDATION

CATEGORY	ISSUE	REGULATORY ACTION (EXISTING)	REGULATORY ACTION (NEW)	LEGISLATIVE ACTION	ADDT'L ANALYSIS
Consumer Protection	Data Access: CCAs and BTM providers require access to customer data from both the customer and in bundled from the IOUs. The issue is whether all LSEs can acquire data, after obtaining the customers' permission, in an effective form to actualize the highest impact from that data.		1) The data proceedings to be initiated in November 2018 should ensure that there is effective, equal, open and timely access by all LSEs to customer-authorized data. 2) SB 782 (Skinner) addresses the issues of expanding data access and was signed by the Governor on September 22, 2018. CPUC will determine in which proceeding this could be implemented.	None at this time.	Further analysis is needed for a comprehensive list. One area identified is prevention of identification of individual customers, CPUC rules in D.14-05-016 currently require the aggregation of no less than 100 residential customers, or 15 commercial, agricultural or industrial customers. This number should be reduced to allow DR greater penetration. Another area for analysis is whether the IOU has authority to provide CCA billing and TOU data to BTM DER providers. This material is important to achieving statewide goals for BTM installations. 3) Implementation of time-dependent T&D and generation rates to all customers.
Consumer Protection	Relief for disconnection of service during periods of natural disasters such as wildfires	R.18-03-011 is examining the issues of disconnections during natural disasters. Monitor the proceeding and assess what other protections are needed to ensure that consumers obtain vital services during these times.		None at this time.	

TABLE 6: DETAILED GAP ANALYSES RECOMMENDATION

CATEGORY	ISSUE	REGULATORY ACTION (EXISTING)	REGULATORY ACTION (NEW)	LEGISLATIVE ACTION	ADDT'L ANALYSIS
Consumer Protection	Disclosure of GHG and renewables content in LSE electricity portfolios	Monitor/follow CEC rulemaking on this issue. The CEC will initiate a rulemaking for the power source disclosure amendments based on its October 9, 2018 staff proposal that was developed in consultation with the CARB and consideration of feedback received from the CPUC, retails suppliers and other stakeholders. The paper includes proposed operational definitions for key terms; proposed guidance for classifying renewable energy resources and for disclosing unbundled renewable energy credits; a proposed adjustment mechanism for qualifying publicly owned utilities to generate emissions adjustments for qualifying GHG-free electricity; proposed new reporting requirements; and an updated power content label and reporting template.		None at this time.	

TABLE 6: DETAILED GAP ANALYSES RECOMMENDATION

CATEGORY	ISSUE	REGULATORY ACTION (EXISTING)	REGULATORY ACTION (NEW)	LEGISLATIVE ACTION	ADDT'L ANALYSIS
Consumer Protection	Disconnection of residential customers	In July 2018 the CPUC has opened R.18-07-005 to address disconnection rates across California’s electric and gas IOUs. The Commission will look at the impact of rate increases generally on the overall disconnection rate in California within the context of the proceeding.			Whether the state can or should require all LSEs to conform to the same disconnection protocols for nonpayment of generation services requires additional analysis. Following the outcome of the disconnection OIR, the Commission should determine that customers have the right to the same protocols for repayment and reinstatement of service regardless of the provider and that there is not automatically default to the IOUs. This may require further regulatory or legislative action to establish the same rules and regulations.
Consumer Protection	Emergency planning and response				An assessment is required to determine the following: 1). Is emergency response solely the responsibility of the IOUs as grid operators? 2). If not, what is the obligation for emergency response for other LSEs (CCAs & ESPs)? 3). What authority is required to ensure that customers have the highest level of protection during emergencies?

TABLE 6: DETAILED GAP ANALYSES RECOMMENDATION

CATEGORY	ISSUE	REGULATORY ACTION (EXISTING)	REGULATORY ACTION (NEW)	LEGISLATIVE ACTION	ADDT'L ANALYSIS
Consumer Protection	Provider of last resort		The CPUC can continue its efforts for protecting all customers and create the protocols that are necessary for any entity to serve as a Provider of Last Resort	Define "provider of last resort" and/or how state should address IOUs' obligation to serve requirements under increased customer choice options	As competition increases, additional research is needed to examine the role of the IOUs as the default POLRs. With new entrants into the market such as CCAs, and new legislation authorizing an increase in Direct Access, it is imperative that the Commission further investigate what the "obligation to serve" means as more customers are served by LSEs other than the IOUs. There are case studies that the CPUC can glean from (Texas, UK, Illinois and NY).
Consumer Protection	Predatory Sales tactics: Electric Service Providers (Electric) and Core transport agents (Gas)	For both ESPs and CTAs, the Commission has taken a proactive role in developing protocols to address consumer protection. Continuing to monitor their activities will be important to determine if other regulatory action is needed as customer choice expands	Develop comprehensive processes/protocols to enforce compliance	Legislative action may be required to provide CPUC additional enforcement authority over the current regulated entities	CPUC will also need to assess and develop comprehensive enforcement tools and protocols to ensure compliance.

TABLE 6: DETAILED GAP ANALYSES RECOMMENDATION

CATEGORY	ISSUE	REGULATORY ACTION (EXISTING)	REGULATORY ACTION (NEW)	LEGISLATIVE ACTION	ADDT'L ANALYSIS
Consumer Protection	Predatory Sales tactics: Residential Customers: Rooftop solar & Energy Efficiency	CPUC recently adopted D.18-09-04. The Commission will continue to consider additional ways to address existing and future NEM consumer protection issues via complaint mediation, enhanced enforcement, citation, or administrative penalty mechanism under its authority in the remaining phase of the NEM proceeding or its successor.	Develop comprehensive processes/protocols to enforce compliance	Legislative action may be required to provide CPUC additional enforcement authority over the current regulated entities	CPUC will also need to assess and develop comprehensive enforcement tools and protocols to ensure compliance.
Consumer Protection	Price disclosure: All LSE residential rates and product offerings		CPUC has jurisdiction over IOUs and can proceed within their authority to direct the IOUs to create an online platform with pricing information. Among other elements, the CPUC has authority to regulate the registration of CCAs. To date, the requirements have been established pursuant to statute for the Commission's jurisdiction.	Legislation may be required to: 1) require the data to be collected from all LSEs and 2) authorize the CPUC (or another state agency such as the CEC) to serve as the state clearinghouse for pricing and program disclosure for all LSEs 3) provide stronger enforcement authority.	The Public Utilities Code grants broad statutory authority over the investor-owned utilities, and thus has the authority to require the creation for an online platform in the case of IOUs. The CPUC should conduct an analysis that will examine the necessary steps needed to establish an online platform where customers may access information about electricity rates/prices.

TABLE 6: DETAILED GAP ANALYSES RECOMMENDATION

CATEGORY	ISSUE	REGULATORY ACTION (EXISTING)	REGULATORY ACTION (NEW)	LEGISLATIVE ACTION	ADDT'L ANALYSIS
Consumer Protection	Public Purpose Programs				Additional analysis is required to evaluate whether the current LSE growth of CCAs, ESPs (with the lifting of the direct access cap) and Behind-the-Meter technologies will impact the current collection through reduction of usage or other means that lower collections through the nonbypassable charge. This analysis will inform if regulatory or legislative actions are necessary to continue funding (at adequate levels) for these programs.
Duty to Serve	Distribution of grid services	Currently being addressed in R. 14-08-013 (DRP) ; R. 17-07-007 (Rule 21); CPUC should monitor.			Given the comprehensive attention to distributed resources, the CPUC should study whether new developments require 1) additional issues to be considered in existing proceedings, 2) a new proceeding under the Commission's existing authority, or 3) statutory changes.
Consumer Protection	Rate design			The Legislature may consider enacting legislation to encourage (if not mandate) CCAs to default their customers to time-of-use rates.	Conduct further analysis on fixed charges for cost recovery, and determine how BTM and preferred resources deployed by LSEs are affected by rate design in comparison to bundled customers. The complete review should evaluate the impact of retail rates developed by CCAs and other LSEs to encourage the growth of distributed energy resources; how to encourage all LSEs to implement time-dependent T&D and generation rates to all customers.

TABLE 6: DETAILED GAP ANALYSES RECOMMENDATION

CATEGORY	ISSUE	REGULATORY ACTION (EXISTING)	REGULATORY ACTION (NEW)	LEGISLATIVE ACTION	ADDT'L ANALYSIS
Duty to Serve	Resource adequacy	The CPUC should monitor its current RA efforts and assess where additional action may be needed within the existing proceedings. The Commission should monitor its current Resource Adequacy efforts and assess where additional action may be needed within the existing proceedings such as evaluation, measurement and valuation of non-IOU administered demand response receiving Resource Adequacy credit as part of the next demand response rulemaking.			1). An area that can be explored is understanding reliability needs of the grid beyond the current RA protocols that are sufficiently specific regarding daily load profiles (e.g. evaluation, measurement and valuation of non-IOU administered demand response receiving Resource Adequacy credit as part of the next demand response rulemaking).
Duty to Serve	Role of the IOUs in disaggregated market			Legislative action may be necessary to assert the public interest in the future role of the utility and provider of last resort. The CPUC's analysis may also identify additional statutory changes.	1) Study the impact of departing customers on the utilities' ability to collect transmission and distribution charges under the current rate structures; 2) identify the threshold criteria essential to provide electric service to any customer who seeks it when the primary LSE fails or rejects the customer; 3) The CPUC should examine the role of fixed charges, demand charge reform, and time-varying rate enhancement, and determine what is needed to ensure that rate offerings to customers are aligned with state energy policy; and

TABLE 6: DETAILED GAP ANALYSES RECOMMENDATION

CATEGORY	ISSUE	REGULATORY ACTION (EXISTING)	REGULATORY ACTION (NEW)	LEGISLATIVE ACTION	ADDT'L ANALYSIS
					4) review current Affiliate Transaction Rules and determine whether the rules are effective and whether they are a barrier for an expanded retail choice market.
Reliability/Resource Procurement	Contracting for reliability resource requirements			None at this time.	CPUC can work with key parties, including the financial institutions, to: 1) categorize the new market developments; 2) discern what requirements are necessary to deploy capital to support investment that will advance statewide goals; 3) identify the credit risk mitigation measures that the state can deploy to support the necessary investment. 4) determine how IRP proceeding comply with the loading order and other resource-specific requirements as directed by Public Utilities Code Sections 454.52(a)(1)(A)-(H) and 454.52(b)(3).

TABLE 6: DETAILED GAP ANALYSES RECOMMENDATION

CATEGORY	ISSUE	REGULATORY ACTION (EXISTING)	REGULATORY ACTION (NEW)	LEGISLATIVE ACTION	ADDT'L ANALYSIS
Reliability/ Resource Procurement	Resource Adequacy	The Commission should stay the course with its current Resource Adequacy efforts and assess where additional action may be needed within the existing proceedings to address disaggregation of load.		None at this time.	
Reliability/ Resource Procurement	Electrification of Transportation, Building & Appliances	Electrification of transportation and other fuel uses, e.g. buildings and appliance standards, is underway at the CPUC and CEC. The Commission should monitor progress.			