

Comments of Southern California Edison Company

(U 338-E) on the Draft Green Book

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Draft Green Book
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I. INTRODUCTION

Southern California Edison Company (SCE) respectfully submits these comments on the draft report entitled *California Customer Choice: An Evaluation of Regulatory Framework Options for an Evolving Electricity Market*, issued May 3, 2018 (Draft Green Book).

SCE appreciates the efforts of the California Public Utilities Commission (Commission) and the California Customer Choice Project (Project) to prepare the Draft Green Book as a first step in the development of a plan to address California's evolving electric market and manage the transition. The Draft Green Book asks energy policy decision-makers and other stakeholders to answer the fundamental question: How does the increased customer choice occurring in the electric sector impact California's ability to achieve its policy objectives regarding decarbonization, affordability, and reliability? California has ambitious climate change goals to reduce greenhouse gas (GHG) emissions by 40 percent (%) from 1990 levels by 2030 and 80% by 2050. Air quality goals include significant reduction in nitrogen oxides (NO_x) and sulfur dioxide (SO₂) in the state's most polluted areas by 2032. Fundamental changes are required to meet these goals over the next 12 years and beyond.

Now is the time to comprehensively assess California's regulatory framework and rules to rationalize, integrate, align, and potentially update them with the explicit focus of advancing the State's policy objectives. SCE shares the concern raised in the Draft Green Book that "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."¹

The Draft Green Book provides a thoughtful evaluation of: (1) California's history of customer choice, energy crisis, and current market transformations; (2) California's key policy goals and Core Principles; and (3) the risks of an increasingly fragmented regulatory and procurement landscape to California's ability to realize its goals and Core Principles absent a

¹ See *id.*, p. 5.

long-term vision and path forward. It also raises several cross-cutting questions² and seeks stakeholder engagement in solving these questions.

SCE appreciates the opportunity to provide these initial comments. At this time, SCE does not attempt to answer the specific questions raised in the Draft Green Book, as SCE expects they will be the topic of the CPUC's *en banc* and ongoing conversations. Rather, these comments focus on proposed substantive clarifications and modifications to the Draft Green Book in advance of its publication in final form;

- The importance of the State's and the Commission's ability to enforce rules and requirements by leveraging the Commission's broad regulatory authority over the investor-owned utilities (IOUs), and where necessary, all load serving entities (LSEs), to advance the achievement of policy objectives and Core Principles;
- SCE's proposal for a path to achieve decarbonization at the lowest cost while delivering reliable electric service; and
- SCE's vision for the future electric sector and the critical role of SCE as an LSE, distribution system operator (DSO) and trusted partner of this Commission in achieving the state's climate and clean air goals.

SCE's comments seek to underscore the need for comprehensive, streamlined solutions. While customer choice is driving the need to develop a long-term plan, customer choice should not be the lens through which fundamental questions are solved. The Green Book provides an opportunity to take a holistic view of the challenges confronting California's current electricity market and to forge a path that will clearly achieve the State's Core Principles and sustain California's future growth, innovation, and choices.

² See *id.*, p. iii.

II. EXECUTIVE SUMMARY – THE DRAFT GREEN BOOK IS A TIMELY EFFORT TO ASSESS THE TENSIONS THAT CAN ARISE BETWEEN CALIFORNIA’S CORE PRINCIPLES AND CUSTOMER CHOICE AND THEIR CONSEQUENCES ON ACHIEVING THE STATE’S OBJECTIVES

SCE strongly supports the Commission’s timely effort to launch a critical examination of the transformation in California’s energy industry and their potential impact on the state’s Core Principles absent a long-term vision and comprehensive plan. As the Draft Green Book forewarns, if customers continue to depart the IOUs’ procurement services for other choices, such as rooftop solar, other distributed energy resources (DERs), Direct Access (DA), and Community Choice Aggregation (CCA) services, California’s regulatory and procurement landscape will continue to fragment. This outcome risks undermining the authority of the Commission to direct and enforce the rules and requirements to achieve carbon-free, affordable, and reliable power for all customers. SCE agrees with the Draft Green Book that a clear, long-term vision for California’s regulatory framework is vital.

With respect to the content in the Draft Green Book, SCE makes the following observations, which are discussed in more detail in Section III below:

- SCE agrees that California’s Core Principles should be affordability, decarbonization, and reliability. These principles, however, are heavily interdependent (as the Draft Green Book recognizes) and must be appropriately prioritized. SCE recommends that the Draft Green Book clarify that the State’s primary objective is to achieve its decarbonization goals at the lowest reasonable cost while delivering safe and reliable service.
- The Draft Green Book equivocates on whether choice is a goal in and of itself. In SCE’s view, customer choice is not a key policy objective that should be prioritized above the Core Principles, but rather a potentially effective means of helping California achieve its objectives. For this to happen, choices must be presented in a manner that incentivizes customers to take actions that achieve the Core Principles.
- Affordability should assess the impact of the industry transformation on customers’ overall bills, including fair and transparent cost allocation. Cost shifts that create an unfair competitive advantage should not be continued, as is the case today for many customer choices, including DA and CCA (through the Power Charge Indifference Adjustment (PCIA), Net Energy Metering (NEM), legislatively-mandated programs, and IOU-specific public policy-driven procurement requirements). Subsidies and incentives need to be designed to achieve specific objectives, evaluated for

effectiveness, discontinued after the stated objectives have been achieved, and prioritized to limit the number and financial impact of cross-subsidization. Moreover, the concepts of affordability and rate architecture need to evolve as technology options for customers evolve. With the growing choices available to customers, the notion of an “average” customer within a customer class has become less prevalent. Pricing structures need to reflect the dynamic and complex nature of energy transactions for supply, grid and energy services.

- Public and worker safety, along with physical and cyber security, need to be explicitly addressed as evolving technology solutions and market transactions affect grid operations and alter visibility and access to customer, grid, and market data.

California’s energy policy objectives can be achieved only with strong vision and leadership from the Commission and the Legislature, along with holistic decision-making rooted in effective coordination among the Commission, the state legislature, California Independent System Operator (CAISO), California Air Resources Board (CARB), California Energy Commission (CEC), and the Federal Energy Regulatory Commission (FERC). It also requires trusted partnerships with robust IOUs that can continue to be a conduit for implementing state policies, engaging customers across the full electricity value chain, ensuring reliability, and enforcing adequate customer protections. The Commission has limited regulatory oversight over all LSEs and CCAs, and the IOUs are the only LSEs subject to the Commission’s full regulatory authority, thus, the IOUs can be one of the most effective means by which the Commission can achieve state energy policy objectives. As such, the state and this Commission should ensure that the IOUs can continue to play key roles in California’s energy future, while critically examining the opportunity, value, and need to assert broader regulatory oversight to all LSEs.

In Section IV of these comments, SCE discusses the following key issues:

- The Commission must have the authority to direct procurement, regulate public purpose programs, oversee reasonable and prudent funding allocation, and impose consumer protections. To do so requires more than the authority to adopt rules and requirements; it requires the ability *to enforce* the rules and requirements. It also requires flexibility and agility to meet the evolving customer expectations in a timely manner. The Commission can realistically achieve this only through the IOUs. Seeking and maintaining broader jurisdiction for the Commission over other LSEs or market participants is an uncertain path that can be expected to be challenged by those seeking to avoid Commission oversight.
- The Commission must maintain a regulatory environment in which IOUs will remain financially healthy to implement public policy and can make attractive offerings to

customers in areas of choice. The IOUs are able to attract capital in a manner that benefits electric customers. It also requires equitable cost allocation and cost recovery for historical IOU investments in technologies (*e.g.*, renewables) and ongoing IOU procurement for decarbonization, reliability, public purposes, and technology development. Also, to the extent IOUs are allocated costs through FERC-jurisdictional tariffs for loads that they do not serve, the Commission must ensure that the IOUs can collect such costs.

- With the increase in customer choice, the traditional IOU business model is changing; however, this does not mean the IOUs' role is diminishing. Rather, in an increasingly fragmented regulatory and procurement landscape, and a progressively complex and dynamic energy market, the IOUs' role in advancing state policies becomes far more critical. Having the IOUs continue to play uniquely critical roles in executing state policy does not jeopardize customer choice. To the contrary, it ensures that customer choice can persist and evolve as the state pursues its goals of carbon-free, safe, reliable, and affordable service for all customers.

Tackling the challenges and questions raised by the Draft Green Book will need swift, thoughtful, and deliberate actions. These can be informed by actions taken in other markets, as well as SCE's recently-published integrated framework for cost-effectively achieving the state's climate and air quality goals. To that end, in Section V, SCE shares its observations of New York's market transformation effort and how it can inform California's path forward. In Section VI, SCE discusses its *Clean Power and Electrification Pathway*, which lays out a roadmap for achieving deep decarbonization in California in the most cost-effective way. The key roles IOUs can play as modernized DSOs that advance state policy objectives are discussed in Section VI.

SCE looks forward to working with the Commission and other stakeholders on these critical issues.

III. THE DRAFT GREEN BOOK CAN BE ENHANCED WITH MODIFICATIONS THAT ACKNOWLEDGE THE TENSIONS AMONG THE CORE PRINCIPLES, THE ROLE OF CHOICE, AND WHAT AFFORDABILITY REALLY MEANS

A. The Draft Green Book Should Clarify That Decarbonization is the Overarching Goal To Be Achieved at the Lowest Cost While Delivering Safe and Reliable Electric Service

The Draft Green Book identifies three Core Principles of California's energy policies: decarbonization, affordability, and reliability. SCE strongly supports these Core Principles as the key objectives for energy policy in California. However, it is important to acknowledge that the Core Principles are interdependent and that many actions will create tensions among them. For example, the adoption of a new technology to replace a carbon emitting resource may reduce GHG emissions, but could increase costs and risk the ability to serve peak load during a severe heat storm. Without a means of weighting the Core Principles, it would be difficult to evaluate an investment in this new technology because it would fail to achieve or maintain two of the three Core Principles, at least for some period of time. Similarly, how would such an investment compare to one that reduces GHG emissions and improves reliability but increases costs by a greater amount?

California's policy objectives should be articulated in a manner that facilitates clear and consistent evaluation of programs and investments that are intended to meet those objectives. The Core Principles should not be given equal weight, rather they should be prioritized appropriately. SCE submits that decarbonization should be the overarching goal, which should be achieved at the lowest cost possible while delivering – and, ideally, improving - safe and reliable electric service. Transition to decarbonization comes at a cost, at least through the transition period. Renewable power and other preferred resources are being developed at a lower cost over time, but some are still not cost-effective compared to non-preferred resources. In addition, a diversity of resources remains important to maintain, to better ensure system reliability and affordable electric service. To enable the transition to decarbonization, costs may be higher in the short run, and this should be transparent to customers and stakeholders. The

Commission should not assign societal costs and benefits on an inconsistent basis for the purposes of getting different outcomes.³ Energy policy decision-makers should be technology-agnostic and make program and investment decisions based on the impacts of technologies on clearly-stated objectives. Decisions need to account for economic impacts, but (consistent with Integrated Resource Planning (IRP)), the success criteria should be to meet GHG emissions reduction targets at the lowest cost and while ensuring reliability.

Reliability and resilience can improve with technologies that drive decarbonization. For example, a customer may use its own behind-the-meter resources during an outage to mitigate loss of power. The IOU can use distribution-level storage to continue to provide service during localized outages. Yet, until storage is deployed with sufficient capacity in optimal locations, gas-fired plants will remain the needed fast-ramp resource to maintain system and local reliability. Achieving reliability at a certain level will have an impact on decarbonization, just as increasing decarbonization without adequate reliability planning would have adverse effects. Infrequent use of carbon-emitting sources for reliability can affect plant economics, and as such, it could become increasingly expensive to ensure capacity remains ready to provide reliability as California moves toward deeper decarbonization. The market mechanisms in place today must evolve to reflect the transformation already taking place in California's energy supply.

Recognizing these interdependencies and the tensions among the Core Principles, and the need to clearly establish priorities, SCE recommends that the final Green Book clarify that California's policy objective is to ***maximize decarbonization at the lowest reasonable cost while delivering safe and reliable electric service.***

³ For example, the February 2018 IRP Decision adopts different marginal GHG abatement values for use in IRP than it refers to in the Integrated Distributed Energy Resource (IDER) proceeding. As SCE has stated in comments, the value of a unit of GHG abated does not vary with the technology that abates it. Subsidies to preference specific technologies, to the extent they are justified, should be transparent and separate from externality values.

B. Customer Choice, If Appropriately Managed, Is a Means to Achieve Elements of the State’s Policy Objectives but Is Not Itself a Core Principle

The Draft Green Book is ambiguous on whether customer choice is a core objective in California’s energy policy. In SCE’s view, customer choice is not an objective, but can be an effective tool to help California achieve its objectives. The usefulness of choice, in the context of achieving the Core Principles, depends upon its thoughtful design and deployment.

For customer decisions to support the state’s goals, customers need to have access to information. For example, a regulatory framework that constrains the IOUs from providing customers with timely, accurate, and meaningful information or from commenting on public issues relevant to customer choice, will fail to develop an engaged, knowledgeable, and empowered customer base that is key to effective customer choice.⁴

Customers have expressed a desire to contribute to California’s energy future by making their own energy choices. They want the same energy attributes as California legislators and regulators – safe, clean, affordable and reliable power – but the prioritization for customers may be different and choices can be skewed by convenience. Some customers may rank cost above reliability and decarbonization, while others may prioritize reliability or decarbonization and may be willing to pay more for them. Thus, the choices customers make may not necessarily coincide with the actions the State would prefer they make to achieve GHG reductions at the lowest cost without adversely affecting reliability. However, if customers are effectively engaged, informed, and motivated to make choices that support policy objectives, all stakeholders can benefit. For example, customers may choose to charge their electric vehicles at home during the night because it is convenient and time-of-use rates are low, but accessible infrastructure and incentives to charge their vehicles during the day to offset solar over-generation could shift customer behavior in ways that would be beneficial for decarbonization.

⁴ See *e.g.*, the Joint IOU’s Petition for Modification (PFM) of Decision (D.) 12-12-036 (the decision that adopted the CCA Code of Conduct), filed January 30, 2018 in R.12-12-009. The PFM raises First Amendment concerns with the Code’s restrictions on IOUs’ ability to speak on CCA matters, and seeks the removal of the Code’s lobbying restrictions on IOUs.

Lastly, the impact of customer choice on low-income and disadvantaged communities (DACs) needs to be assessed, along with means of making cost-efficient green choices available to these communities. SCE can offer comparable green product offerings to what CCAs seek to offer to benefit their own communities, while ensuring that the programs are aligned with the state's Core Principles, provided SCE has sufficient flexibility to design and implement innovative solutions to meet the needs of low-income and DAC communities. Considering that the IOUs are well on their way to meeting the state's goal of 50% renewable power by 2030 with long-term resources, the IOUs – as compared to any other LSE – is better positioned to help *all* customers, including low-income and DACs, access green power that is reliable, safe and affordable. The IOUs' GHG-free resources are the result of substantial investment in physical resources providing incremental benefit for the system and the environment, whereas much of the CCA and DA renewable energy to date has come from existing resources.

The Draft Green Book defines the landscape of customer choice to include generation services (supply and demand side), rates and tariffs, and energy services.⁵ However, the State should move beyond market segments and products to *particular market conditions* needed for customer choice to be a durable and sustainable vehicle for meeting policy objectives. Conditions such as a level playing field, timely program development and approval, fair cost allocation, cost/price transparency, accurate and meaningful customer information, greater access to cost efficient green options for low-income and DACs, and adequate consumer protections can ensure that the choices customers make are sustainable. Accordingly, SCE recommends the Draft Green Book expand its definition of customer choice to expressly acknowledge the market conditions necessary for meaningful customer choice.

C. The State Must Achieve Equitable Cost Allocation, Rational Subsidies, and Modernize IOU Rates to Advance Affordability

The state should acknowledge that achieving decarbonization and reliability is likely to entail incremental costs, at least during a transition period. As such, in order to maintain

⁵ See Draft Green Book, p. 25.

affordability, it is critical to eliminate cost subsidies that are contrary to law (*e.g.*, PCIA); to broadly allocate subsidies that are designed to advance public policies (*e.g.*, Green Tariffs, NEM, Community Solar, BioMAT, ReMAT, *etc.*) to all benefitting customers; and to reform IOU rate architecture to enable sufficient flexibility for the IOUs and the Commission to effectively respond to market changes in California.

Subsidies and incentives to achieve Core Principles must be rational, limited, and transparent. Affordability should recognize that many customers make choices based on the levers they have available to control their bills. These number of levers will continue to increase and become more complex as customers have additional options for energy supply and behind-the-meter technology solutions for generation, storage, electrification, and controlling consumption. Therefore, rates and incentives have to be designed to address the diversity of choices customers might make, encourage customers to make green choices that support grid reliability if and when needed, and transparently present what they are paying for and why. Subsidies should not send artificial price signals to create winners and losers among customers and market technologies. Rather, subsidies and incentives need to be thoughtfully designed and regularly re-evaluated so that they not only support policy objectives, but are also measured for value provided post-implementation, transparent to all customers, and discontinued or replaced as appropriate.

Cost shifts that subsidize other LSE services do not advance legitimate state interests. Affordability also means that all customers pay their fair share to support a reliable and increasingly clean electric system. Policies must ensure that one set of customers is not required to subsidize another set of customers who are exercising choice. No legitimate state policy objective is advanced through subsidies for CCA or DA services at the expense of bundled service customers. Today, bundled service customers are bearing increasing and accelerating costs as CCA and DA customers depart IOU bundled procurement service and avoid their fair share of the IOUs' historical procurement costs, the vast majority of which are for the long-term renewable resources procured pursuant to the state's Renewable Portfolio Standards

(RPS) mandate. These and other costs borne exclusively by bundled service customers to advance public policies in California (*e.g.*, Green Tariffs, Community Solar, BioMAT, ReMAT, etc.) must be equitably allocated to all customers who benefit from the results of these programs and/or on whose behalf the resources were procured. NEM needs to be reformed to be cost-effective and all LSEs should be required to offer it to the extent the IOUs are required to do so, and at equal compensation levels.⁶ NEM participants should be required to pay equitably for their use of the electric grid, which is the infrastructure that enables their exports of power for bill netting and net surplus compensation. The Draft Green Book should acknowledge the need to correct these growing and accelerating cost shifts to ensure affordability, facilitate the fairness and price transparency that is critical to customer choice, and conform to state law.⁷ California needs solutions that optimize the value of existing resources for *all* customers.

IOU rate architecture should be modernized. A key issue with the existing IOU rate structure is that it was engineered to meet one set of conditions and altered reactively when it encountered others. For example, simple tiered residential rate structures that existed prior to the energy crisis were modified to add more tiers and provide greater tier differentiations. The steeply tiered structures had unintentional consequences, requiring the Commission to reverse the number of tiers and modify the tier differential. Similarly, issues regarding cost allocation are being examined after concerns of unsustainability surfaced in separate proceedings.

Policy goals, customer engagement, and technology trends have also encouraged the emergence of an increasingly decentralized landscape of consumers, retailers, and suppliers who selectively participate in particular segments of the electricity value chain. As a result, end-use electricity customers engage with the electricity system in increasingly divergent ways, expect different levels of service, and make decisions based on perceived value in distinct products and services which may benefit a few, but can result in increased bills for many.

⁶ Today, only the IOUs are obligated to offer NEM; it is optional for ESPs and CCAs.

⁷ See generally AB 117 (2002) and SB 350 (2015), prohibiting cost shifts in the context of CCA, DA and other departing load.

IOU rates and incentives – and the approach to IOU rate architecture – need to be modernized to reflect the market transformations and facilitate state objectives. Antiquated rate design practices still dominate management and design of IOU electric rates. Piecemeal efforts have been expended to improve the existing rate architecture through proceedings that address time-of-use rate adoption and residential rate reform. These efforts are often *ad hoc* and typically drawn-out over a period of time. This disjointed approach has led to alternative providers of energy services having the opportunity to develop business models that allow certain customers to take advantage of energy pricing disparities. IOU rate architecture must also account for FERC-set retail rates, *e.g.*, retail transmission service rates.

One example of this price disparity arises from the difference between the IOUs' bundled products, which are set through the Commission's time-intensive regulatory process, and the prices offered by these new service providers that are not regulated by the state. Currently, alternative providers have the ability to: (1) price their identical products and services excluding the policy-related costs that are mandated in IOUs' rates; or (2) selectively price their products to target certain customers within a class, creating a product that avoids some or all of the fixed costs for infrastructure the customer continues to use. Costs that these customers avoid, such as costs related to state-mandated policies, are passed on to customers who have chosen IOU bundled service or to those who have no choice, further exacerbating the price differential and increasing the incentive to avoid these costs.

Similarly, the fixed and variable values the grid provides have to be differentiated. The value of the grid in providing sufficient electricity, being a vehicle to absorb over-generation and trade electricity, and being available as insurance for reliability and resilience have to be taken into account in developing pricing structures. Affordability entails all customers paying their share, based on how they use the grid and the value it provides to them, to support a reliable and increasingly clean electric system. For example, with California's recent Title 24 requirement associated with zero net energy, stakeholders need to understand that zero net energy does not

result in zero net cost for energy. Without NEM reform, the cost shift NEM entails is exacerbated by the increased proliferation of solar.

SCE submits that a modernized rate architecture should be developed with the following principles:

- **Transparency** – Customers and all stakeholders should be able to view the exact costs and benefits for the services they receive and provide. A transparent rate architecture will allow the Commission to more readily examine and control price signals to incent various technologies and customer behaviors to help California reach its goals. Subsidies should be clearly identified.
- **Equity** – Rates a customer pays should strive to reflect that customer’s actual cost of service and minimize cost imbalances from subsidies to achieve fairness in customer bills. It should also take impacts on low income and disadvantaged communities (DACs) into account.
- **Sustainability** – A modern rate architecture should be flexible enough to timely accommodate customer choices and new technologies as they become available.
- **Access** – Customers should be connected to a marketplace that customers to make technology and behavioral choices based on signals that benefit the system.

D. The Core Principles Outlined In the Draft Green Book Should Explicitly Acknowledge Safety and Security

Physical safety and security and information security are threshold issues that should be acknowledged. Reliability and safety are inextricably linked. In addition, a digital transformation of the energy industry can increase vulnerabilities if not proactively addressed. The regulators and IOUs have undertaken substantial efforts to improve the safety and security of IOU operations. The ongoing changes with new entrants in the market, the types of technology being deployed, and choices available to customers pose safety and security challenges that must be considered as solutions are developed.

As an example, increasing DERs on the demand side of the system often “mask” load making it difficult for grid operators to estimate the impacts of switching. In addition, the diversity and unpredictability of the load profiles along a circuit can significantly add to the time required for the operators to identify the appropriate switching action. Incorrect switching can

cause outages, inadvertently leave sections energized and create safety concerns. These can be overcome by adding grid equipment to provide better situational awareness of load flow, have the appropriate telecommunication backbone to access the grid information, and to install suitable software tools to quickly analyze the information and take manual and automated action. As customer choices increase, proactive and timely development, regulatory approval, and deployment of the appropriate grid technologies will be critical.

Similarly, the collection, availability, and sharing of data is an important and contested topic in several proceedings. Decarbonization and customer choice depends on collecting and accessing better data, which necessitates new technology and automation, which in turn increases susceptibility to physical and cyber-attacks. Stakeholders must strike a balance between data access for market participants and protecting customers, and the ability for the electric grid to operate safely and reliably. Cybersecurity continues to be a key concern as cyber threats become increasing numerous and sophisticated, and the IOUs have to continue to play a leadership role in mitigating these risks.

IV. A HOLISTIC APPROACH, TRUSTED PARTNERSHIPS AMONG STAKEHOLDERS, AND LEVERAGING THE IOUS OVER WHOM THE COMMISSION HAS BROAD REGULATORY AUTHORITY ARE CRITICAL TO ADVANCING CALIFORNIA'S ENERGY POLICY OBJECTIVES

To achieve the overarching goal of decarbonization at the lowest reasonable cost while delivering safe and reliable electric service in an increasingly fragmented regulatory and procurement landscape, the Commission should take a comprehensive approach to policymaking and establishing rules. This requires centralized planning among Commission proceedings and coordination with CAISO and key regulatory agencies, CARB, CEC, and FERC. The Commission also should coordinate with the legislature, as needed.

It will also require the Commission to leverage those LSEs over whom it has broad regulatory authority to implement state policies; namely the IOUs. While the Commission has some authority over non-IOU LSEs, its authority is generally restricted to planning and

procurement mandates (RA, RPS, IRP) and consumer protections. For example, while the Commission can direct a CCA or ESP to procure certain resource attributes to advance state goals, it cannot require CCAs and ESPs to procure specific resources, or to manage resources to achieve societal objectives (*e.g.*, least-cost dispatch). Ultimately, it will fall on the large IOUs in coordination with the CAISO to fill policy, reliability and/or operations gaps, underscoring the need for a constructive regulatory and business environment in which the IOUs can implement policies on behalf of the Commission.

The Commission could seek legislation to extend its broad regulatory authority to CCAs and ESPs, but this is only practical for requirements that are readily allocated to all LSEs. For reliability requirements or policy objectives that are limited to specific facilities or applications, a centralized entity subject to Commission oversight – such as SCE – could more successfully deliver on the Commission’s centrally planned outcomes. And adjudicating the three IOUs’ proceedings is challenging enough – adjudicating proceedings for 20 or more entities would be very challenging without a substantial expansion of the Commission’s resources. Accordingly, the state and this Commission need to continue to leverage the IOUs as critical partners in advancing state policies. This requires a regulatory environment in which the IOUs can remain financially healthy and fairly compete in areas of choice. The IOUs have to be able to attract capital at reasonable rates to finance utility-scale investments in California’s energy future.

Issues surrounding the Commission’s enforcement jurisdiction over CCAs were recently highlighted in the IRP proceeding. The IRP seeks to facilitate the state’s primary goal in long-term resource planning to reduce or avoid GHG emissions in a cost-effective and reliable way, examining a holistic set of options rather than focusing specifically on energy supply mandates. The Commission has devised a planning process intended to ensure that LSEs meet targets that allow the electricity sector to contribute to, and facilitate achievement of, California’s economy-wide GHG emissions reduction goals. The Commission has asserted its authority to review and

approve IRPs from all LSEs, including ESPs and CCAs.⁸ However, the Commission recognizes its lack of broad regulatory authority over ESPs and CCAs, and has left “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.”⁹ CCA interests have argued that both planning and procurement approval authority rests solely with a CCA’s local governing board and that “CCA programs are not subject to the Commission’s general jurisdiction.”¹⁰

One example that illustrates the need for coordinated and centralized planning and implementation through the IOUs is energy storage. Deep decarbonization of the electric grid will be difficult to achieve without energy storage. It can be used for reliability, resilience, demand response, and shifting the delivery of energy supply. Its flexibility offers great promise. However, if it is not adequately sized or suitably located and managed through coordinated and centralized planning, the benefits of energy storage are not likely to be optimized or realized by all customers. Additionally, energy storage should be operated to benefit the grid (*i.e.*, least-cost dispatch) and all customers; not operated to maximize the extraction of market rents. Storage plans developed by local communities or third parties may seek different outcomes focused on individual needs and objectives. Storage resources will be needed at the transmission and distribution level, and storage ownership can vary, but central planning and coordination to optimize for grid and customer needs will be key to fully capture the flexibility and range of applications energy storage offers. And, once developed and located in a manner that benefits the electric grid, sufficient regulatory oversight will ensure that the energy storage resources are operated for the benefit of the grid and not necessarily to increase market revenues for the asset owner.

Another example is reliability. Today, the California’s market is driven predominantly by decarbonization policies, and less in response to growth in demand, which has been relatively

⁸ D.18-02-018, at pp. 28-29.

⁹ D.18-02-018, p. 29.

¹⁰ *See e.g.*, Opening Comments of the California Community Choice Association on the Proposed Decision, at p. 6, filed January 17, 2018 in R.16-02-007.

flat for years due to the success of California's energy efficiency programs. The combination of new technologies serving load behind the meter, retail choice creating a larger number of LSEs, and the transition from a predominantly gas-fired fleet to a low or zero carbon-emitting fleet is creating pressures on reliability. The Resource Adequacy (RA) process has been relatively successful to date, but it is showing signs of stress such as increased backstop procurement by the CAISO, difficulty in procuring the precise resources needed by the CAISO, and generators demanding sufficient certainty to viably make investments to continue operation as a result of distributed load-serving responsibilities.

To the extent the IOUs remain responsible for serving the majority of load, the IOUs can optimize their RA procurement to meet needed local, flexible, and system RA requirements. With more, and generally smaller, LSEs, the IOUs will not be in a position to procure RA resources from a system benefit perspective because doing so would burden their bundled service customers with system reliability costs. Instead, SCE must act in the interest of its bundled service customers and procure the lowest direct cost RA resources to meet its own RA requirements, even if SCE is aware that the CAISO will likely need to "backstop" procure additional, higher-cost resources to ensure that all system, local, and/or flexible resource needs are met. These higher-cost reliability resources would then be allocated to all benefitting customers. Although all customers have approximately the same level of local RA costs in this scenario, their total costs are higher than if a centralized entity, such as SCE, procured the optimal set of needed local RA resources.

Going forward, the necessary transition away from gas-fired generation and the resulting retirement of plants is expected to be even more difficult to achieve, as it will further limit the availability of reliability resources. Until a higher penetration of energy storage and dispatchable loads have been achieved, comprehensive planning studies are needed to address the orderly retirement of reliability resources. Otherwise, unintended consequences will arise. For example, closing gas-fired plants in a particular community may be important to address local environmental concerns, but without sufficient planning, the retirement may result in increased

production from less efficient plants in another community, which then experiences an adverse impact and the result is a greater increase in overall GHG emissions. Reliability planning has to include the following, which is only feasible through centralized planning:

- Evaluation of generating attributes (*e.g.*, location, ramping capability, *etc.*) necessary to reliably operate the grid;
- Evaluation of alternatives to carbon emitting generation in terms of reliability performance;
- Development of an orderly generation retirement plan that facilitates reduced reliance on carbon emitting generation, but includes long-term contracts and the necessary investments to responsibly continue operations of plants identified as needed for reliability;
- Tracking and adjustment of plans at a regular cadence.

Reliability procurement may undoubtedly need to be effectuated through a central procurement entity, such as SCE, provided the right regulatory conditions exist for approvals and compensation. There has to be broad cost allocation to all benefitting customers to ensure that needed resources are appropriately planned and paid for while LSEs meet their own customers' system and flexible RA requirements.¹¹ If the CAISO imposes certain costs relating to reliability on the IOUs, rather than other LSEs, the IOUs must be permitted to pass these costs along to all benefitting customers, as they have been assigned a central procurement role by the CAISO. Although perhaps not traditionally referred to as a reliability product, transmission service is a product whose costs today are allocated to the IOUs for all retail load in their service area, regardless of LSE.

Similarly, backstop mechanisms for electricity supply need to be centrally managed to provide adequate customer protection. For SCE to be the backstop, it must evaluate factors such as the cost recovery terms and conditions, their corresponding durability based on cost allocation, and the and the risks of absorbing uncertain numbers of customers and load in relation

¹¹ See *e.g.*, P.U. Code Section 380(g), providing for broad cost allocation to all benefitting customers of the IOUs' costs of meeting or reducing resource adequacy requirements, including system reliability and local area reliability; *also* Section 380(h), directing the Commission to determine and authorize the most efficient and equitable means of meeting system and local area reliability needs.

to the market share of the load it serves. Therefore, the state needs to create and enforce rules and compensation mechanisms that provide sufficient incentives and safeguard SCE if it is expected to continue to serve as provider of last resort (POLR).

V. THE CHALLENGES SUMMARIZED IN THE DRAFT GREEN BOOK ARE VERY REAL AND AN INTEGRATED PLAN NEEDS TO BE EXPEDITIOUSLY DEVELOPED

SCE commends the California Customer Choice Project team for its substantial work in assessing California's history and other markets to identify lessons learned that should be heeded in determining the path forward for the electric industry in California. The focus of the Commission, the legislature, and other stakeholders must now turn to solving the concerns raised in the Draft Green Book.

The California Customer Choice Project set out to analyze the fundamental question, "How does the increased customer choice occurring in the electric sector impact California's ability to achieve its policy objectives of affordability, decarbonization, and reliability?" If customer choice is not a Core Principle, but rather a means to achieve state objectives, SCE recommends that the Draft Green Book rephrase the fundamental question to one that asks: "What regulatory framework best enables the state to achieve decarbonization at the lowest reasonable cost while delivering safe and reliable electric service?" The solution should consider the choices available to customers, as well as the roles of the regulators, the IOUs, and other market participants. Stakeholders must also consider the regulatory process, market conditions, rates, cost allocation, cost recovery and other elements needed to advance and achieve this primary state goal.

Based on the imminence and magnitude of the impact of customer choice on the state's ability to meet its objectives and protect customers, the specific challenges can be prioritized and a roadmap can be created for developing solutions. Potential paths might include, but are not limited to: (1) new Commission proceedings; (2) modification to the scope of existing

proceedings; (3) recommendations for new legislation; and (4) stakeholder actions that may not require regulatory or legislative authority. To ensure comprehensive and sustainable results, stakeholders should assess the interdependencies among issues and proposed solutions as well.

In addition, to facilitate a manageable process, the current and new proceedings and stakeholder forums should be rationalized to identify gaps, overlaps, and opportunities to consolidate, re-scope and refocus in order to develop a comprehensive, long-term plan as envisioned by the Draft Green Book. For example, there are several interrelated issues in the Distribution Resources Plan, IDER, IRP, Energy Storage multi-use application, Energy Efficiency programs, many of which are topics raised in the Draft Green Book. Currently, these are being discussed and solutions proffered in siloes through individual proceedings. Going forward, the interrelated issues should be streamlined to the extent possible, and addressed in an integrated manner such that decisions made and rules established consciously address the interdependencies. Legacy proceedings that overlap or conflict with each other or detract from the policy objectives may need to be suspended or concluded.

Performing a systematic analysis as described above should enable the Commission and stakeholders to prioritize a specific set of areas that need solutions.

Based on SCE's review of actions undertaken in New York, SCE offers some observations from New York's REV proceeding.¹² The REV process had notable benefits, but also poses challenges that the Commission can consider regarding the path forward. The leadership and commitment from the Governor's office and the New York Public Service Commission were vital. The partnership with the utilities in recognition of their role as the platform for developing integrated solutions for the whole system and spurring third party innovation proved very valuable. Broad stakeholder engagement from diverse discipline groups including customer facing vendors, financial organizations, environmental groups, customer advocacy groups facilitated a collaborative, innovative, and solutions-focused approach. On the

¹² SCE focused on New York due to its relevancy to the California market and because of prior experience assessing the REV process.

other hand, the process was unwieldy due to the sheer number of participants and initiatives, the goals may have been overly ambitious in promising reduced bills when necessary investments should have been anticipated that would increase customers' bills in the near term, and customers found the process and outcomes complex.

The path for California can benefit from leveraging the successes and learning from other markets like New York. However, the specific process undertaken by California has to be informed by California's unique needs. Robust, sustainable, and equitable solutions can be developed only with California's executive, legislative and regulatory leadership, collaboration and partnership with the utilities and other stakeholders, agreement among stakeholders on principles and practical objectives, and a rational roadmap. And importantly, California should first clearly identify its hierarchy of policy objectives, and then determine on an element-by-element basis if retail competition or centralized planning and procurement is the most viable path to pursue to achieve success.

VI. SCE SHARES CALIFORNIA'S COMMITMENT TO DECARBONIZATION AND AIR QUALITY AND HAS ARTICULATED A VISION AND PATHWAY THAT CAN HELP INFORM THE STATE'S EFFORTS TO PLAN FOR CALIFORNIA'S FUTURE

SCE has developed an integrated framework to combat climate change and improve air quality. It builds upon existing state policies to achieve California's environmental goals, including reducing GHG emissions by 40% from 1990 levels by 2030 and by 80% by 2050, as well as significantly reducing nitrogen oxides and other health-harming pollutants in areas of the state with the highest levels of air pollution by 2032.

SCE published the *Clean Power and Electrification Pathway*¹³ in October 2017, analyzing several approaches to identify the most cost-effective means to achieve California's climate change and air quality goals while maintaining reliability – much the same as the

¹³ Stakeholders can read SCE's Pathway at www.sce.com/pathwayto2030.

objectives of the Draft Green Book. Using existing technologies, SCE's *Pathway* calls for an integrated strategy of (1) continuing to decarbonize the electric grid with carbon-free renewable and energy storage resources, and (2) leveraging the clean electric grid in other areas of the State's economy – namely, by accelerating transportation electrification, and increasing efficient electrification of commercial and residential space and water heating. As the electric supply becomes cleaner, so would the transportation and building sectors, ensuring an efficient and affordable transformation that will improve the environment and generate new jobs.

It is a major undertaking to achieve California's climate and clean air goals in the next 12 years. The IOUs are uniquely positioned to facilitate the transformation to a clean energy economy due to their size, scope, and infrastructure assets available to deliver clean energy and ability to expand electrification for all customers. They also have the capacity to finance prudent investments to maintain and modernize the grid, with timely regulatory approval. However, the IOUs cannot do it alone. Extensive decarbonization and electrification of the economy require comprehensive policies and broad-based partnerships among the IOUs, state policymakers, customers, communities, manufacturers, builders, charging companies, and others to quickly align on the near-term programs and market transformations to meet California's ambitious goals and schedule. SCE's *Pathway* identifies targets and solutions that should be part of the long-term planning that arises from the Draft Green Book.

To realize the vision laid out in SCE's *Clean Power and Electrification Pathway*, the IOU roles in procurement, reliability management, and Distribution System Operations have to be integrated to support customer choice. The Draft Green Book observes that “[w]ith the growth of these choice options, the role of investor-owned and state-regulated electric utilities in meeting customer load (aggregated demand for electricity) has decreased and is changing from the utility business model that has served California customers for the past 100 years.”¹⁴ While it is true that the IOU business model is changing – and must change – our role is becoming much

¹⁴ See Draft Green Book, p. 4.

more complicated and critical. For the reasons discussed herein, the role of the IOU as LSE becomes more critical as customer choice transforms the regulatory and procurement landscape, challenging the state’s ability to achieve the Core Principles.

Moreover, the IOUs’ value will extend well beyond its LSE role to help the state harness the power of new DER technologies that can be expected to open an array of new customer choices, markets and value streams through its DSO role.¹⁵

The Draft Green Book articulates, and SCE agrees, that “every outcome contemplated and analyzed by this assessment relies on the basic proposition that the utilities will continue to provide the fundamental backbone services of electric delivery to customers along with ensuring the safety and reliability of that delivery.”¹⁶ The IOUs are DSOs today in owning, planning, designing, constructing, operating, maintaining and managing the grid. As electricity markets evolve, these functions should continue to be integrated to reliably operate the grid, efficiently acquire and deploy wires and non-wires assets, optimize the use of DERs and customer load, coordinate operations with the transmission system operator, and provide customer services such as targeted GHG reduction programs. Unlike the transmission system, distribution system operations and ownership are inextricably linked, due to the extremely dynamic nature of the distribution grid.

As customer choice flourishes with more rooftop solar, behind-the-meter energy storage, electric vehicles, and energy management systems, *etc.*, customers will make choices about when and how they want to make these resources available to the grid or the market. To facilitate affordable decarbonization without compromising reliability, the electric grid must become a platform that integrates customer resources and connects them to wholesale and retail markets. Managing these resources to provide grid services at the right time, right location, right amount, and right application will be the key to achieving deep decarbonization in an affordable manner

¹⁵ Stakeholders can read SCE’s *Emerging Clean Energy Economy* at <https://www.edison.com/content/dam/eix/documents/our-perspective/der-dso-white-paper-final-201609.pdf>

¹⁶ See Draft Green Book, p. 25.

while delivering reliable electric service. DER owners have to be compensated based on the value at the time and location of the services they deliver. Grid operations and market operations cannot be segregated.

The grid will become more dynamic, necessitating interactions and coordination among millions of distributed resources, control rooms and field crews in real time. This will require visibility to available resources, the ability to signal the need, and control the appropriate resources to fulfill the need. Given the IOUs' in-depth knowledge and experience operating and maintaining the system and customer service, they are in the best position to both aggregate customers through a range of products and services, and act as coordinators for third-party aggregators to optimize DER usage among market products, local distribution grid needs and individual customer preferences.

The IOU as the DSO provides the physical infrastructure, market infrastructure, and platform on which retail energy providers can compete to provide customer energy solutions that will fuel the transformation of customer choice in the coming future.

VII. CONCLUSION

SCE appreciates the opportunity to submit these comments, and looks forward to working with the Commission and other stakeholders to address the important questions raised by the Draft Green Book.