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**SCE Comments on SB 100 Scoping Workshops**

*Additional submitted attachment is included below.*



**Catherine Hackney**  
Director, Regulatory Affairs

November 12, 2019

California Energy Commission  
Docket Office, MS-4  
Re: Docket No. 19-SB-100  
1516 Ninth Street  
Sacramento, CA 95814-5512  
docket@energy.ca.gov

Re: Southern California Edison Company's Comments on the California Energy Commission  
Docket No. 19-SB-100: Southern California SB 100 Scoping Workshop

Dear Commissioners:

On October 29, 2019, the California Energy Commission (CEC), the California Public Utilities Commission (CPUC) and the California Air Resources Board (CARB) jointly conducted the *Southern California SB 100 Scoping Workshop* (Workshop) to solicit input from stakeholders to inform the scope of the joint agency report required by Senate Bill (SB) 100, the "100 Percent Clean Energy Act of 2018" (de León, Chapter 312, Statutes of 2018). Staff from the three agencies presented on the state's climate and clean energy efforts, including CARB's Climate Change Scoping Plan and an overview of CPUC and CEC clean energy programs. Staff also outlined the SB 100 joint agency report development process, describing report requirements, interagency coordination, public engagement, and topical workshop planning.

Southern California Edison (SCE) applauds the joint agencies for embarking on assessing the impacts of SB 100 in a collaborative and thoughtful way. The SB 100 joint agency report will benefit from interagency coordination and analysis because each agency has a unique role and perspective in guiding California's path toward SB 100's goal of zero-carbon electricity by 2045.

SCE appreciates the opportunity to submit comments on the Workshop, which are summarized here and expanded on further, below:

- Assessing SB 100 must incorporate California's economy-wide climate goals.
- The reliability impacts of SB 100 must be analyzed and should include the expertise of the balancing authorities.
- Grid needs for SB 100 should be defined by attributes and not by technologies.
- Meeting SB 100's goal will require understanding achievable resource potential and transmission capacity.
- Affordability analyses should consider customers' total energy costs.
- Natural gas generation will still play a role in an SB 100 future.
- The impacts of SB 100 on planning and procurement should be explored.

I. Assessing SB 100 must incorporate California's economy-wide climate goals.

Meeting SB 100's goal of zero-carbon electricity by 2045 will require careful consideration of California's economy-wide greenhouse gas (GHG) emissions reduction goals.<sup>1</sup> Beyond the quantifiable mandates set by these policies, their statewide implementation will interplay with SB 100's implementation and outcome. For example, as California embarks on a path towards electrification to decarbonize its economy, the increase in load due to electrification will affect the resources needed to reach SB 100's goal.

SCE submits its Pathway 2045 whitepaper for consideration as one scenario to be studied for SB 100.<sup>2</sup> SCE's Pathway 2045 is an economy-wide view of how carbon neutrality can be achieved in California across all economic sectors, with particular focus on the impacts on the electric sector. Pathway 2045 emphasizes electrification of buildings and transportation coupled with renewable energy. SCE's Pathway 2045 closely follows the high electrification scenario from the CEC's Deep Decarbonization in a High Renewables Future, which determined that a renewable energy and electrification path is one of the lowest cost and highest feasibility solutions to meet California's GHG emissions reduction goals. Notably, both studies indicate that it is critical to meet interim 2030 goals to enable SB 100 and other longer-term goals including economy-wide decarbonization. In addition, CPUC's preliminary modeling results for the 2019-2020 Integrated Resource Plan includes a 2045 Framing Study for SB 100, which observes that planning for resources under a more ambitious 2030 GHG emissions reduction target (i.e., 30 MMT) is more in line with achieving SB 100's goal of zero-carbon electricity by 2045.

Finally, SCE notes that former Governor Brown signed and issued SB 100 and Executive Order B-55-18, the goal for economy-wide carbon neutrality, at the same ceremony. This clearly indicates that the push towards zero-carbon electricity is coupled with California's climate goals. To consider SB 100 impacts without expressly incorporating California's climate goals would run counter to the intent of California's long-term vision of decarbonizing its economy.

II. The reliability impacts of SB 100 must be analyzed and should include the expertise of the balancing authorities.

The implementation of SB 100 will require significant amounts of new clean generation that will be interconnected to the grid. The new generation poses reliability challenges as most of these resources will be inverter-based and non-dispatchable. The reliability of the grid needs to be assessed to ensure that electricity can be provided in a world that relies on increased quantities of inverter-based and non-dispatchable resources. To that end, SCE recommends the joint agencies engage with the balancing authorities (BAs) early to assess the system and local reliability impacts of SB 100. The BAs have the tools, analytical capabilities, and expertise required to fully understand how to reliably operate the grid as California pursues SB 100's goal.

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<sup>1</sup> California's economy-wide GHG emissions reductions goals were set by SB 32 (40% reduction of 1990 GHG emissions by 2030), Executive Order B-55-18 (carbon neutrality by 2045), and Executive Order S-3-05 (80% reduction of 1990 GHG emissions by 2050).

<sup>2</sup> SCE's "Pathway 2045: Update to the Clean Power and Electrification Pathway" can be found at: <https://www.edison.com/home/our-perspective/pathway-2045.html>.

III. Grid needs for SB 100 should be defined by attributes and not by technologies

SCE recommends the joint agencies define future grid needs in terms of attributes (e.g., energy, capacity, ancillary services, black start capability) and not technologies. Defining what the grid needs in terms of specific attributes will stimulate innovation as both existing resources and future technologies strive to provide those attributes. More importantly, targeting attributes rather than specific technologies promotes flexibility in California's pursuit of SB 100's goal.

IV. Meeting SB 100's goal will require understanding achievable resource potential and transmission capacity.

Because SB 100 will require a significant amount of clean energy, SCE recommends the joint agencies undertake an effort to better understand the resource potential of existing and emerging renewable technologies and current transmission capacity and transmission upgrades. This effort could be similar to the Renewable Energy Transmission Initiative (RETI), which assessed both renewable potential and transmission capability.<sup>3</sup> Beyond existing technologies, such an effort should explore new technologies that can provide needed attributes, which may require pilots to assess the capabilities of the new technologies. Ultimately, California needs to better understand how much clean generation can be built and energy delivered to end users.

V. Affordability analyses should consider customers' total energy costs.

To determine if the implementation of SB 100 is equitable for all Californians, SCE recommends the joint agencies consider not only the impact to electric rates and bills, but also the impact to other energy rates and bills (e.g., natural gas, gasoline). Because decarbonization is likely to result in changes to the fuel mix Californians use to meet their energy needs, assessment of Californians' total cost for energy will be necessary to understand financial impacts. In addition, SCE recommends that this analysis be performed for various customer segments (e.g., average residential customer, customers on discounted rates) and various levels of adoption (e.g., full electrification adopter, non-adopter). This will allow for a comparison of the financial impacts across potential customer and adoption segments to understand how SB 100 will be implemented equitably for all Californians.

VI. Natural gas generation will still play a role in an SB 100 future.

SB 100 requires that each load serving entity (LSE) provide 100% of its retail sales with clean energy. Because transmission and distribution losses are not part of retail sales and represent an additional 8% of energy that needs to be generated, natural gas generation can still be utilized in the future. In fact, SCE's Pathway 2045 specifically retains some natural gas generation to integrate the high penetration of renewables and maintain grid reliability. SCE recommends the joint agencies explore the role of natural gas generation in any scenario that assesses the impacts of SB 100.

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<sup>3</sup> The RETI process has occurred twice after each major statutory change to California's Renewable Portfolio Standard. The process explores both how much renewable potential is available but also the transmission capability to deliver those resources. More details can be found in the final report to the second RETI process: "Renewable Energy Transmission Initiative 2.0 Plenary Report" February 23, 2017. <https://efiling.energy.ca.gov/getdocument.aspx?tn=216198>.

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VII. The impacts of SB 100 on planning and procurement should be explored.

As the number of LSEs increases with new Community Choice Aggregators and potential new Energy Service Providers as a result of Direct Access expansion,<sup>4</sup> the joint agencies should explore how meeting SB 100 requirements will be achieved with numerous LSEs. Coordinating the planning activities of numerous LSEs will be challenging and should be addressed to ensure the SB 100 goal is met.

In addition, the joint agencies should ensure that all LSEs are treated equally and fairly with regards to their potential to meet SB 100 and climate goals. No LSE should be unfairly burdened with meeting California's SB 100 and climate goals.

VIII. Conclusion

SCE thanks the joint agencies for consideration of the above comments and looks forward to its continued partnership with stakeholders in the development of the SB 100 joint agency report. Please do not hesitate to contact me at (916) 441-3979 with any questions or concerns you may have. I am available to discuss these matters further at your convenience.

Very truly yours,

/s/

Catherine Hackney

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<sup>4</sup> See SB 237: [https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill\\_id=201720180SB237](https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB237).