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**TNC Comments on SB 100 Joint Agency Report Workshop**

*Additional submitted attachment is included below.*

California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814-5512  
Docket 19-SB-100  
Submitted via electronic comment system

September 19, 2019

RE: Comments of The Nature Conservancy on the Joint Agency Kickoff Workshop on the Senate Bill 100 Report (September 5, 2019, Docket: 19-SB-100)

## **I. Introduction and Summary**

The Nature Conservancy (TNC) appreciates the opportunity to submit comments in response to the September 5, 2019, Joint Agency Kickoff Workshop on the Senate Bill 100 Report (SB 100 Joint Agency Report). We strongly support the joint efforts of the California Energy Commission (CEC), California Public Utilities Commission (CPUC), and California Air Resources Board (CARB) to author the first SB 100 Joint Agency Report, and in doing so provide direction to the electricity market and coordinate the planning processes of the state agencies.

TNC is a global conservation non-profit working to protect the lands and waters on which all life depends. For more than 60 years, TNC has invested in and contributed to science-based, innovative approaches to conservation and land management to create a world in which people and nature thrive together. Achieving our mission also requires addressing some of nature's greatest challenges, including climate change. For this reason, it is a priority to TNC to identify and support the same science-based, solutions-oriented approaches that can achieve better climate outcomes that support thriving economies, advance a clean energy future, protect communities against climate impacts, and advance the conservation of critical lands and waters.

TNC recognizes the urgency to adopt ambitious climate policies and commends the state of California for its leadership. The enactment of SB 100 in 2018 and the mandate to move towards a reliable, safe, affordable and zero-carbon energy system demonstrates the state's commitment to achieving the climate outcomes necessary to slow and prevent the worst impacts of climate change. However, the adoption of policies alone is not enough. We must also move expeditiously and strategically to implement these policies, including analyzing the challenges and opportunities to doing this in a way that achieves best outcomes for Californians and the natural resources they care deeply about.

For these reasons, TNC submits the following comments intended to provide guidance on how California can rapidly scale zero-carbon resources to achieve SB 100 while protecting the natural and working lands that provide for conservation of wildlife and habitat along with important co-benefits such as carbon storage and protection of water quality and supply.

In comments that follow, we outline four key points:

- 1) The SB 100 Joint Agency Report should include policies that encourage widespread investment in zero-carbon generation while limiting impacts to natural and working lands.
- 2) Electricity scenario modeling to support the SB 100 Joint Agency Report should explore land and environmental implications.
- 3) The SB 100 Joint Agency Report process should include other agencies to ensure that planning achieves multiple policy goals.
- 4) As the joint agencies consider the definition of zero-carbon resource, the SB 100 Joint Agency Report should include the consideration of the many benefits that a diverse portfolio of resources can bring.

**II. The SB 100 Joint Agency Report should include policies that encourage widespread investment in zero-carbon generation while limiting impacts to natural and working lands.**

TNC supports the goal of the SB 100 Joint Agency Report to provide direction to the electricity market as articulated by the agencies at the September 5, 2019, SB 100 Implementation Workshop Kickoff, and we believe this directional guidance should include clear policy signals to limit impacts to natural and working lands. This is supported by the SB 100 requirement that the joint agencies take “into full consideration the...environmental costs and benefits of renewable energy and zero-carbon resources.”<sup>1</sup> Further, this is also consistent with state agency efforts to ensure that the state’s natural and working lands are maintained to help the state meet its climate mitigation goals.<sup>2,3</sup>

Accounting for the full environmental costs and benefits of SB 100 implementation is essential given the scale of generation and transmission infrastructure that will be required to achieve this ambitious goal. The Nature Conservancy, together with Energy & Environmental Economics (E3) and Energy Reflections, recently released a study titled *Power of Place: Land Conservation and Clean Energy Pathways for California* (*Power of Place* study). By reference, we incorporate the [technical report](#) and [executive summary](#) into the record. The *Power of Place* study uses spatial and capacity expansion (RESOLVE) modeling to explore the pathways and tradeoffs of achieving California’s 2050 deep decarbonization goals, including the zero-carbon electricity retail sales requirements of SB 100.<sup>4</sup> This research reveals that California will need to dramatically increase deployment<sup>5</sup> of renewable and zero-carbon resources to achieve 2050 deep decarbonization goals, and SB 100’s 100 percent zero-carbon resource retail sales requirement, emphasizing the planning and infrastructure challenges ahead.

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<sup>1</sup> 100 Percent Clean Energy Act, Cal. SB 100 § 5, 454.53.(b)(2)), Cal. Stat 2018, *hereinafter* SB 100 § 5.

<sup>2</sup> California Air Resources Board. 2017 Climate Change Scoping Plan.

<sup>3</sup> Executive Order to Achieve Carbon Neutrality. Brown, EO B-55-18, 2018.

<sup>4</sup> The scenarios in the study deliver 102–110 percent of retail sales of zero-carbon electricity, which we interpret to be consistent with the retail-sale requirements of SB 100 in 2050.

<sup>5</sup> Across the electricity scenarios, the total acreage of new wind and solar investments ranged from 1.6 – 3.1 million acres. Figure 12a. Wu, G.C.; Leslie, E.; Allen, D.; Sawyerr, O.; Cameron, D.; Brand, E.; Cohen, B.; Ochoa, M.; Olson, A. *Power of Place: Land Conservation and Clean Energy Pathways for California*, 2019.

For these reasons, it's important that California send clear, long-term policy signals to ensure that entities in charge of major generation and transmission investments have adequate time to plan for clean energy investments and adequate information to direct these investments to the places where impacts to natural and working lands can be limited.

Limiting impacts to natural and working lands via avoiding siting on, and conversion of, high conservation value lands can also yield benefits to zero-carbon resource deployment. Generation projects proposed in areas of high conservation value have been subject to multi-year delays, significant cost increases and, in some cases, have been abandoned. In California, recent research sponsored by TNC found that across public and private lands, utility-scale solar energy projects sited on lands with high conservation value took on average twice as long to permit (35 months) as compared to projects sited on lands identified as having low conservation value (13 months).

Given the tremendous scale of generation and grid infrastructure investments required to achieve SB 100 goals and the relationship between project location and project development outcomes, land use becomes an essential implementation factor in decarbonizing the grid and charting a path to a 100 percent clean energy future. To this point, we provide three specific recommendations:

1. It is critical that the SB 100 Joint Agency Report include a commitment to achieving the goals of SB 100 while limiting impacts to natural and working lands.
2. To operationalize this commitment, we recommend that spatial land and conservation data be integrated into long-term energy planning processes across agencies.
3. We support the proposal to include environmental considerations as part of a workshop that will help inform the SB 100 Joint Agency report process and we recommend that land use be a specific item on the agenda.

### **III. Electricity scenario modeling to support the SB 100 Joint Agency Report should explore land and environmental implications.**

As noted above, SB 100 requires that the joint agencies take “into full consideration the...environmental costs and benefits of renewable energy and zero-carbon resources.”<sup>6</sup> To implement this requirement, we recommend that if the Joint Agencies conduct an analysis of SB 100 electricity planning scenarios as part of the SB 100 Joint Agency Report process, that land implications of generation and transmission are included. In our *Power of Place* electricity scenario analysis, we found that the incorporation of spatial land considerations reveals tradeoffs that are essential to understand in planning to achieve ambitious clean energy targets. While we have incorporated the study by reference, we are including several key outcomes from the study that emphasize the need for integrating land use into long-term energy planning and SB 100 implementation. Our study found that:

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<sup>6</sup> SB 100 § 5

- **In the absence of a plan to limit land impacts and scale up renewables, impacts to natural and agricultural lands could be high.** The study reveals that a large percentage of areas in the West with renewable resource potential have environmental or agricultural value. If siting protections are not applied, many of these lands could be selected for energy development.
- **Access to Western wind resources reduces generation costs.** Access to Western renewable resources is more cost-effective than limiting new renewable resource development to California due to the availability of high value Western wind resources. While the California (In-State) cases require the least new interconnection and bulk transmission investment in comparison to regional scenarios, the In-State transmission cost savings are offset by generation cost savings in the Full West scenarios.
- **Achieving the best conservation outcome is more cost-effective at a regional scale.** Costs of increased environmental siting protections are highest when resources available for development are limited to California. In the regional scenario (Full West), the portfolio that protects high-conservation-value lands (Siting Level 3) is approximately 10 percent less expensive than the same level of protection in the California (In-State) scenario.

**IV. The SB 100 Joint Agency Report process should include other agencies to ensure that planning achieves multiple policy goals.**

We strongly support that the SB 100 Joint Agency Report is kicking off as a joint agency process and applaud the CEC, CPUC, and CARB for their collaboration. Further, we appreciate that a goal of the SB 100 Joint Agency Report is to coordinate the planning processes of the state agencies. We recommend that the Joint Agencies expand the SB 100 Joint Agency Report process to integrate natural resource and other agencies that have a role in zero-carbon resource generation and transmission planning and permitting to ensure that California is coordinating planning efforts to achieve multiple environmental policy goals, including climate, groundwater sustainability, land and wildlife conservation.

The integration of energy and natural resource agencies is especially important when considering landscapes such as the Central Valley. Across all electricity scenarios in the *Power of Place* study, one-third to one-half of all selected solar projects were sited on lands currently in agricultural production, and one-half of all selected solar projects were sited on rangelands; predominately in California's Central Valley. Given the future potential scale of utility-scale solar development, it is important to invest in new strategies to incentivize deployment on impaired agricultural lands. In the San Joaquin Valley, siting of solar on impaired agricultural lands may complement strategies to reconcile land and water use objectives under Sustainable Groundwater Management Act (SGMA) implementation. The key to unlocking the potential complementary benefits of groundwater and energy sustainability in this region will be integrating the appropriate agencies, at state and local levels, into planning to achieve SB 100.

To begin integration of agencies into the SB 100 Joint Agency Report, we recommend that the CEC work with other departments under the California Natural Resources Agency, including California Department

of Fish and Wildlife, California Department of Conservation, and Ocean Protection Council, to name just a few, on developing a process or forum for agency participation in report development.

**V. As the joint agencies consider the definition of zero-carbon resource, the SB 100 Joint Agency Report should include the consideration of the many benefits that a diverse portfolio of resources can bring.**

One of the key issues for the agencies in this process is defining ‘zero-carbon resource’ as required in SB 100. TNC recognizes that a diverse portfolio of clean energy technologies can contribute to an affordable and reliable energy system. As the agencies consider the definition of zero-carbon resource, we recommend they also take into consideration potential land sparing benefits from a broader set of energy resources. The state has an opportunity to lead in developing innovative solutions to energy and land use conflicts that can help spur climate action well beyond the state’s borders. As with renewable energy development, TNC believes any zero-carbon resource should include robust assessment of the environmental costs and benefits, including to lands and waters, and that they are deployed in the safest possible way.

**VI. Conclusion**

The Nature Conservancy continues to invest in energy and environmental analyses, such as the *Power of Place* study, to support the state of California’s efforts to protect natural and working lands and rapidly scale zero-carbon energy resources. We thank the CEC, CPUC, and CARB for the opportunity to provide comments on the Joint Agency Kickoff Workshop on the Senate Bill 100 Report. The state of California has the opportunity to set a precedent in charting a path forward to achieve climate, clean energy, and natural resource conservation goals. We look forward to working with the joint agencies to incorporate these important recommendations and principles as part of implementation of SB 100.

Sincerely,



Director, Energy Strategy  
The Nature Conservancy in California  
[ebrand@tnc.org](mailto:ebrand@tnc.org)  
415.281.0451