

DOCKETED

Docket Number:	19-SB-100
Project Title:	SB 100 Joint Agency Report: Charting a path to a 100% Clean Energy Future
TN #:	232343
Document Title:	The Nature Conservancy Comments on SB 100 Modeling Assumptions Workshop
Description:	N/A
Filer:	System
Organization:	Maya Batres
Submitter Role:	Public
Submission Date:	3/9/2020 1:01:09 PM
Docketed Date:	3/9/2020

*Comment Received From: Maya Batres
Submitted On: 3/9/2020
Docket Number: 19-SB-100*

The Nature Conservancy Comments on SB 100 Modeling Assumptions 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

March 9, 2020

RE: Comments of The Nature Conservancy on the Senate Bill 100 Modeling Inputs and Assumptions Workshop

I. Introduction and Summary

The Nature Conservancy would like to express appreciation to the agencies for including us in the February 24, 2020 Joint Agency Workshop on Modeling Inputs and Assumptions for SB100, and for providing opportunity to respond with public comment.¹ TNC strongly supports the decision of state agencies – California Energy Commission (CEC), California Public Utilities Commission (CPUC), and California Air Resources Board (CARB) – to include land use issues as part of the scoping process in preparation for the first joint agency report. We hope to see land use considerations integrated both quantitatively in the modeling exercises, and qualitatively in the report. As discussed in our presentation, proactively planning for protection of the state’s important natural and working lands in long-term energy planning can yield multiple benefits and help put the state on track to meet its climate and energy goals. We are encouraged by the state’s efforts thus far and are committed to helping the agencies explore options for a safe, reliable, and affordable clean energy system, with strong environmental safeguards for communities and biodiversity.

Our follow up comments intend to address several issues raised in the workshop and generally fall into the following categories. TNC recommends:

- continued inclusion of environmental datasets as part of the modeling process for SB 100, with reliance on specific best available data;
- adoption of a core scenario that considers a wide scope of energy resources, including imports;
- adoption of governance considerations for technologies in the RPS+ scenario; and
- inclusion of climate-related risks in the joint agency report.

II. Electricity scenario modeling to support the SB 100 Joint Agency Report should use data from TNC’s report, *Power of Place: Land Conservation and Clean Energy Pathways for California*.

TNC appreciates that the joint agencies are proposing to incorporate environmental and land datasets as inputs to the SB100 modeling. We applaud this methodological step as an important part of a broader commitment in planning to achieve the landmark SB100 goals while limiting impacts to natural and

¹ This letter adopts by reference all previous comments submitted by The Nature Conservancy as a part of the 19-SB-100 Docket.

agricultural lands. Our understanding from the workshop is that the proposal is to use the RPS Calculator Version (V) 6.3 environmental and land data layers².

TNC recommends that supply curves from TNC's *Power of Place Study*³, specifically Siting Level 2⁴, be used instead of the RPS Calculator V6.3 environmental and land data layers. There are three reasons for this substitution:

- Our understanding is that the environmental data layers in RPS Calculator V6.3 were last updated in the fall of 2016⁵. At that time, Black & Veatch (B&V) had recommended several future updates⁶, including adding the National Wetlands Inventory, updating Williamson Act and Prime Farmland, updating Critical Habitat, incorporating final land use decisions related to Development Focus Areas (DFAs) from the Desert Renewable Energy Conservation Plan (DRECP), and incorporating county energy land use planning information. To our knowledge, these key updates have not been made.
- The Power of Place data sets are more inclusive and reflect recent regulatory siting decisions. The environmental data layers from TNC's *Power of Place* study were assembled more recently (2018), and include datasets that address nearly all the recommended future updates made by B&V. The TNC datasets are more current, and reflect recent renewable energy development land use planning decisions made by federal and local agencies. Specifically, *Power of Place* Siting Level 2 is more appropriate for use as an input to all scenarios in the SB100 modeling because it incorporates areas with existing legal restrictions against energy development as well as areas where the siting of energy requires consultation, or triggers a review process to primarily protect ecological values, cultural values, or natural characteristics.
- The RPS calculator data layers omit critical out of state environmental siting data. Our understanding is that the environmental and data layers from RPS Calculator V6.3 apply only to in-state resource potential, and the TNC *Power of Place Study* data includes areas across the Western Interconnection.

If the joint agencies do move forward with the RPS Calculator V6.3 environmental and land data layers, we recommend they run a new sensitivity that is more protective of natural and agricultural lands. We recommend including the data from Siting Level 3⁷ from TNC's *Power of Place Study* for use in the sensitivity analysis, since it incorporates prime farmland and areas with high ecological conservation value.

² Energy + Environmental Economics. Introduction to PATHWAYS and RESOLVE – E3 Presentation. Slide 30. February 2020. PowerPoint Presentation.

³ 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. ([link](#))

⁴ Ibid, appendix, table 10-11, pages 56 - 59

⁵ Black & Veatch. RPS Calculator V6.3 Data Updates. September 2016. Power Point Presentation. ([link](#))

⁶ Black & Veatch. RPS Calculator V6.3 Data Updates. Slides 11-12. September 2016. Power Point Presentation. ([link](#))

⁷ 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. ([link](#)). Appendix, Table 12, pages 60-62.

III. Consider an additional core scenario without limits on imports and provide clarity on final inputs and assumptions.

TNC encourages the CEC to consider adding an additional core scenario as part of the initial modeling process. This case should incorporate RPS+, high electrification, all resources available, and no limit on out-of-state imports.⁸ At such an early stage in the planning process, we believe it is key to establish benchmarks that are as least restrictive as possible, recognizing that technological, policy, and market structures that may change in the future. As the state plans for the delivery of zero-carbon energy across all economic sectors, a core scenario that allows for more resource flexibility will provide an important datapoints for consideration.

As decisions evolve about which assumptions and inputs will inform the scenario planning, TNC urges the agencies to consider hosting an additional webinar or public meeting to share these decisions and allow for questions from the public.

IV. Examine a wide array of technological options, and proactively address unique governance issues for each technology.

As a related matter, TNC recommends that in this first SB100 analysis, the joint agencies aim for technology inclusivity, allowing consideration of a diverse portfolio of RPS-qualifying and zero-carbon resources as candidate resources in the modeling. For this reason, we support studying RPS+, as well as non-combustion scenarios. Establishing wide-scope core scenarios can help reveal tradeoffs across technologies (e.g., resource mix, costs, cross-sector synergies and ancillary services), geographic distribution of resources (e.g., onshore, offshore, in-state, out-of-state), and other important environmental impacts and benefits (e.g., air quality, land area requirement). This data can help inform future policy decisions, such as which resources are eligible under SB100, decisions related to resource sharing across the West, and inform options for enforcement.

Furthermore, TNC believes California has important role in advancing zero-carbon energy options globally through the SB100 process. While emerging technologies like power generation from natural gas with CCS may play a smaller part in California's clean energy future, research, development and deployment of these technologies at scale can help drive down costs so that the global communities can more easily access firm resources that do not emit carbon. Global challenges need global solutions, and accelerating access to firm zero-carbon resources could have positive global clean energy equity implications. It is in the best interests of California to explore a suite of technologies that can contribute both to the state and also well beyond California.

We recognize that it is key to understand contributions that all technologies could make to producing zero-carbon energy, and we believe that it is critical for the joint agencies to address issues related to natural gas with carbon capture and storage (CCS) and biomass as early as possible in this process in the qualitative sections of the report. In this effort, we recommend that that the joint agencies:

⁸ It is unclear if the 3,600MW limit identified in slide 30 of E3's presentation: *Introduction to PATHWAYS and RESOLVE* applies in an 'all resources available' scenario. TNC is recommending that the import limit be removed for at least one core scenario. Clarity on this specific issue is important to TNC and we look forward to comments by the agencies.

- Pursue existing technologies now. Explore zero-carbon energy sources like biomass to electricity and natural gas with CCS, but without delaying efforts to scale up renewable energy resources like wind and solar. TNC’s studies, and others, show that solar power generated in California is likely to play the biggest part in helping achieve state climate and energy goals. Investments in renewable energy technologies that are responsibly sited is part of a no-regrets strategy that the state can pursue now. Those efforts should not be hampered by consideration of emerging technologies, rather they should be complementary approaches.
- TNC believes it is critical for the SB 100 process to address the following issues and considerations related to natural gas with CCS:
 - Permanent sequestration of the carbon dioxide in geologic reservoirs and infrastructure needs that may be required to move carbon dioxide from source to storage, including consideration of cross-sector synergies that may be relevant. If more information is needed, the report should identify those gaps.
 - The production of natural gas powered generation with CCS needs additional studies to understand any air quality considerations beyond CO₂. These issues should be explored by the SB 100 process in an objective and transparent manner. This includes determining whether more information is needed to make full assessment, and if additional policy structures are needed to ensure non-carbon dioxide pollutants are addressed.
- As the agencies consider biomass to electricity as one of the resource options, TNC notes the importance of recognizing that all biomass to electricity facilities are not created equal. The state needs a transition plan for evolving the biomass to electricity fleet, which could include retirement of facilities, retrofitting existing facilities and developing the next generation of strategically-sited biomass facilities that can help California achieve a long-term healthy forest management strategy. The following are essential criteria for identifying multi-benefit biomass to electricity facilities:
 - geographically-situated near forests that are at a risk of high-severity wildfire;
 - the fuel source should be forest material that is generally lacking in significant commercial value, including dead trees and small diameter trees;
 - use of best available control technologies to reduce carbon and criteria pollutant emissions; and
 - right sized by location, for the estimated quantities of hazardous forest fuels available; and

The joint agencies could consider adopting a policy preference for multi-benefit, strategically-sited or retrofitted biomass to electricity facilities as part of a plan to achieve SB100 and support long-term healthy forest management in California, including mitigating the short-term environmental and human impacts of high severity wildfires.

V. Include climate-related risks in scenarios.

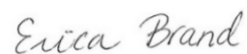
At the SB100 workshop, several parties made comments encouraging the agencies to consider climate-related risks as part of the analysis. TNC supports those comments, which press understanding the reliability and resiliency needs of a zero-carbon power system in the face of increasing and more extreme weather events. Planning for a system that can bounce back from unexpected disruptions such

as high winds, dry landscapes, and resulting increased fire risk is critical in light of recent events in California. Thus, to the extent feasible, scenarios should be stress-tested against these already known risks. We recommend that the joint agencies prioritize climate-related risks in future reports.

VI. Conclusion

We would like to thank the CEC, ARB, and CPUC for the multiple opportunities to provide input for the SB100 report and for any clarification on issues identified in this letter. We continue to be available as a resource throughout this process and look forward to working with the joint agencies to implement our recommendations.

Erica Brand



Director, Energy Strategy
The Nature Conservancy in California
ebrand@tnc.org
415.281.0451

Maya Batres



Project Manager, Energy and Land Use
The Nature Conservancy in California
maya.batres@tnc.org
612.310.0224