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Comment Of Invenergy, LLC, On Senate Bill 100 Inputs And Assumption Workshop

Please find our comments attached.

Additional submitted attachment is included below.

March 1, 2024

California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Docket No. 23-SB-100
Submitted via electronic comment system

COMMENT OF INVENERGY, LLC, ON SENATE BILL 100 INPUTS AND ASSUMPTION WORKSHOP

Invenergy, LLC (“Invenergy”) appreciates this opportunity to comment on the February 16, 2024 Senate Bill (“SB”) 100 Modeling Inputs and Assumptions Workshop (“Workshop”). Invenergy provides the following comments to be taken under consideration on the draft inputs and assumptions to be used to develop and model SB 100 scenarios in the 2025 SB 100 Joint Agency Report:

- Central Coast offshore wind capacity is underestimated, and 7 gigawatts (“GW”) of offshore wind capacity in the Central Coast is a more appropriate target.
- 2025 SB 100 Joint Agency Report inputs and assumptions data for offshore wind do not reflect the most recent data and lead to much higher offshore wind costs.

About Invenergy

Invenergy is one of the largest privately owned clean energy developers headquartered in the United States. Invenergy develops, constructs, and operates some of the largest renewable projects in the country and operates 30 GW of energy assets globally including onshore and offshore wind, solar, and storage, among other technologies. Invenergy is a leaseholder near Morro Bay developing Even Keel Wind. Invenergy is also developing an offshore wind project in the New York Bight, Leading Light Wind, which recently won a highly-competitive contract to provide 2,400 megawatts (“MW”) of clean energy to the state of New Jersey, enough to power more than 1 million homes.

Central Coast Offshore Wind Total Capacity is Underestimated, and Targets Should Reflect the Total Offshore Wind Capacity Achievable

The proposed 49.2 acres/MW capacity density metrics for offshore wind presented at the workshop underestimate the capacity density that offshore can achieve. National Renewable Energy Laboratory (“NREL”) figures use less dense turbines per square kilometer figures and use smaller turbine sizes than what is commercially feasible. Recent analysis¹ supports at least 6-7

¹ See Enevoldsen, Peter & Jacobson, Mark. (2021). Data investigation of installed and output power densities of onshore and offshore wind turbines worldwide. *Energy for Sustainable Development*. 60. 40-51. 10.1016/j.esd.2020.11.004. *See also* ACP-CA Comments on February 1, 2024 SB100 Landuse Workshop, February 23,2024, at 4-5 and Attachment 1 (noting that with changed density figures alone, a potential for 6825MW in the Central Coast.)

MW/square kilometre (“km²”) of offshore wind density is achievable in the Morro Bay lease areas for a total of around 7 GW of offshore wind capacity in the Central Coast. While we do support the additional 1GW of offshore wind being allocated to the Central Coast, the 5.9 GW allocated to the Morro Bay wind energy area (“WEA”) presented at the workshop undervalues Central Coast offshore wind, and something closer to a 7 GW overall target for Central Coast offshore wind is appropriate. The 2025 SB 100 Joint Agency Report should reflect the total offshore wind capacity achievable in the Central Coast.²

SB 100 Offshore Wind Inputs and Assumptions Should Account For More Recent Data

The 2025 SB 100 Joint Agency Report inputs and assumptions should recognize that the NREL Annual Technology Baseline (“ATB”) data uses older numbers before the California offshore wind auctions occurred. NREL’s older assumptions for capital costs and fixed operational and maintenance costs³ lead to higher costs for offshore wind. Additionally, NREL assumptions for cost decreases over time are meager, while we would expect costs to fall more significantly in the longer term. These factors all contribute to much higher offshore wind costs that may not provide a fully accurate picture of what to expect in California.

Conclusion

Invenergy appreciates the consideration of these comments and looks forward to continuing to work with California as part of the 2025 SB 100 Joint Agency Report process.

Respectfully submitted,

/s/ Jessica Yarnall Loarie

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² California Energy Commission Presentation Slides for SB100 Inputs and Assumptions Workshop on 2/16/24, Slide 40.

³ California Energy Commission Presentation Slides for the SB 100 Inputs and Assumptions Workshop on 02/16/2024, Slides 26-27.