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**Comments of Hexicon USA, LLC Comments Regarding June 27,  
2022 CEC Workshop on AB 525 Offshore Wind Goals in Docket No  
17-MISC-01**

*Additional submitted attachment is included below.*

**STATE OF CALIFORNIA  
BEFORE THE  
CALIFORNIA ENERGY COMMISSION**

California Offshore Renewable Energy      )  
  )  
  )      Docket No. 17-MISC-01  
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**Post Workshop Comments of Hexicon USA, LLC Regarding AB 525: Offshore Wind  
Maximum Feasible Capacity and Megawatt Panning Goals for 2030 and 2045**

These comments are submitted by Hexicon USA, LLC (“Hexicon”) pursuant to the invitation for written comments contained in the June 17, 2022 “Notice of Lead Commissioner Workshop on Assembly Bill 525”. These comments supplement the oral comments offered by Hexicon at the California Energy Commission’s (“CEC” or the “Commission”) June 27, 2022 meeting (“CEC Workshop”).

**I. Introduction**

Hexicon is a developer of floating offshore wind and game-changing, innovative floating foundation technology provider with more than 5 GW of floating projects in active development globally. These projects include the first contract for differences in the United Kingdom for floating offshore wind,<sup>1</sup> and a historic partnership with the fishing industry to develop a 2GW offshore windfarm in Ireland.<sup>2</sup> In these comments, Hexicon is supplementing the Commission’s record with information demonstrating the feasibility and prudence of the reasonable, and necessary goals of 5 GW of offshore wind by 2030 and *at least* 20 GW by 2045. This approach

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<sup>1</sup> *Hexicon secures first ever CfD for UK floating Wind* <https://renews.biz/79005/>

<sup>2</sup> *Fishermen Behind Newly Proposed 2 GW Floating Wind Farm in Ireland* <https://renews.biz/79005/>

will benefit from hard won lessons from the United States east coast, and result in better outcomes for California in areas ranging from consumer costs to reduced fisheries impacts.

## II. Comments

Hexicon supports the critically important work of CEC in moving offshore wind forward for California – not only for important for climate goals, but also to hedge against the higher costs and volatility of fossil fuels. A 2020 ISO New England study found that 8GW of OSW would reduce electric system production costs by 50%.<sup>3</sup> Offshore wind can also provide much greater energy system reliability, ensuring that essential services are affordable and not interrupted due to supply or climate change impacts like reduced hydro resources and more intense wildfire seasons.

Offshore wind has long lead times and the move to 5 GW for 2030 and at least 20 GW by 2045 are important goals to set *now*. AB525 offers an insightful policy framework to ensure the success of California’s ambitious SB100 goals by critically recognizing that offshore wind offers an exceptional clean resource for the State’s grid and that its achievement is most effective at scale and with thoughtful planning. The planning goals that are required of the CEC in 2022 and the policy roadmap that will immediately follow in 2023 are essential tools in unlocking this valuable resource for the benefit of California consumers. The current question as framed by the CEC Workshop is *right-sizing* the State’s goals to ensure thoughtful planning and the avoidance of missed opportunities for want to forward thinking. Key opportunities that are essential to achievement of SB100 and that are at risk of being missed with undersized planning goals

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<sup>3</sup> <https://www.iso-ne.com/static-assets/documents/2020/10/2019-anbaric-economic-study-final.docx> see e.g., page 1: “The results for the production cost analyses indicate that energy-production costs are reduced by approximately one-half with the interconnection of 8,000 MW of offshore wind. Similarly, system carbon dioxide emissions are reduced by approximately one-third with 8,000 MW of offshore wind.”

include: (1) cultivation of supply chain and economic development opportunities, including essential support for port infrastructure; (2) transmission planning; and (3) stakeholder engagement and equity.

The work in California should be informed by the growing pains on the east coast, where there were smaller initial offshore wind targets despite the clear need for more energy to meet state policy goals. The offshore wind targets have quickly expanded - sometimes *more than doubling or tripling* at an interval, quickly overtaking earlier goals *and the planning assumptions* that went with them – under sizing upfront leads to more environmental and fisheries impacts later on – along with greater costs than necessary. The lesson learned is to use planning goals for exactly what they are: a planning roadmap to bring all the pieces together to ensure that *we're planning efficiently to larger targets while meeting our near-term goals. Under-sizing the* planning goals risks inefficient planning and significant opportunity cost to the detriment of California consumers and communities including greater impacts, stalled progress, stakeholder fatigue, and greater exposure to the threat of climate change.

As a precondition to the near-term goal, Hexicon affirms that there is *high confidence* that the current BOEM lease areas provide sufficient area for the 5 GW 2030 goal to be a technically feasible target. Modeling work done by Hexicon utilizing its TwinWind two turbine floating foundation shows that an energy density of approximately of 7 GW or more is possible from these first existing wind energy areas using *current* technology 15 MW turbines. And this over 7 GW number is with *greater* than 1 mile spacing due to using fewer floating structures.

In terms of opportunity-cost, first, a goal of 5 GW by 2030 and at least 20 GW by 2040 sends the needed investment signals to incentivize another type of planning: supply chain and port development. The West Coast needs port infrastructure, localized manufacturing, and

workforce readiness to support SB100 through the cost-effective construction of offshore wind. Given the size of offshore wind components, transportation from Europe or elsewhere in the United States will be limited to sub-supply and pre-assembly activities. To achieve SB100, there is perfect alignment with the resource needs and opportunity to cultivate significant economic and workforce development in California. Globally and on the United States east coast, manufacturing facilities and port investments follow where significant goals have been affirmed. In the US, these have included port redevelopment, expansion, new port facilities, and offshore wind manufacturing in the form of marine vessel orders, planned transmission cable and wind turbine component factories.<sup>4</sup> Supply chains require policy stability, magnitude of market, and a smooth uptake curve to back the business case for investment. Already, the offshore wind industry in the U.S. has attracted more than \$12 billion in total investments.<sup>5</sup> Undersized planning goals will stunt investment in critical port infrastructure. Scarcity and technical insufficiency in this area will serve as a major bottleneck to the State's 2045 obligations and will impede supply chain investments. Conversely, right-sized planning goals will offer the framework to analyze port utilization and throughput rates to determine total acreage requirements, technical specifications, and ultimately port investment capital requirements with the requisite rigor and lead-time to ensure readiness. This is also true for training needs, including apprenticeships, which require the foresight of planning and skills analysis to ensure workforce readiness.

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<sup>4</sup> <https://www.whitehouse.gov/briefing-room/statements-releases/2022/06/23/fact-sheet-biden-administration-launches-new-federal-state-offshore-wind-partnership-to-grow-american-made-clean-energy/> In just 2021, \$2.2 billion in new funding was invested for nine major manufacturing facilities to produce foundations, towers, cables and blades.

<sup>5</sup> <https://www.offshorewindus.org/2022/06/23/business-network-applauds-federal-state-partnership-to-unlock-offshore-wind-industry-supply-chain/>

Second, planning signals now will drive the transmission that is designed and built. Planned, coordinated transmission – as has been used in Europe<sup>6</sup> and is being developed now by the state of New Jersey<sup>7</sup> in a state-led ocean grid RFP, can significantly reduce the number of transmission cables – along with associated costs and environmental and community impact. Studies of the US East Coast found material cost savings, not just from offshore transmission costs, but billions in avoided onshore upgrade costs and *annual* savings in the hundreds of millions of dollars.<sup>8</sup> The UK, an area with a similar electric load to California, has moved from radials to a planned, network program for offshore transmission based on a 50 GW target by 2030.<sup>9</sup> More details announced this week highlight that the significant investment will save consumers money,<sup>10</sup> and has identified savings of over 6 billion GBP compared to radials and a greater-than 50% reduction electrical facilities – *if* the program starts by 2025. Even a five-year delay cuts those savings in half.<sup>11</sup>

Further, planned transmission in California can provide substantial power system benefits that extend beyond offshore wind. For example, a new north-south high voltage transfer path that is not susceptible to wild-fire curtailment. This sort of grid planning could not only enable offshore wind on the scale needed to meet California’s renewable energy goals but provide needed transfer capability and resiliency to move a range of renewable power generation types across the state to load centers.

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<sup>6</sup> <https://www.tennet.eu/our-grid/offshore-outlook-2050/the-2gw-program/>

<sup>7</sup> <https://www.nj.gov/bpu/pdf/boardorders/2020/20201118/8D%20-%20ORDER%20Offshore%20Wind%20Transmission.pdf>

<sup>8</sup> See e.g., [https://www.brattle.com/wp-content/uploads/2021/05/18939\\_offshore\\_transmission\\_in\\_new\\_england - the benefits of a better-planned grid brattle.pdf](https://www.brattle.com/wp-content/uploads/2021/05/18939_offshore_transmission_in_new_england_-_the_benefits_of_a_better-planned_grid_brattle.pdf)

<sup>9</sup> *UK Government unlocks key barrier to offshore wind with new plans to interconnect wind farm clusters.* <https://www.renewableenergymagazine.com/wind/uk-government-unlocks-key-barrier-to-offshore-20220426>

<sup>10</sup> <https://www.nationalgrideso.com/future-energy/the-pathway-2030-holistic-network-design>

<sup>11</sup> <https://www.nationalgrideso.com/document/177226/download> at page 10. Related technical review here: <https://www.nationalgrideso.com/document/182931/download>

Transmission is planned to clear goals, takes years to develop, and suboptimal choices now can raise overall costs and limit future expansion options. Of note, the Federal Energy Regulatory Commission last June issued a policy statement that highlights that states, in addition to New Jersey, may also utilize a state-led transmission expansion approach. Under that approach, states lead transmission RFPs supported by the technical expertise of their RTOs or ISOs.<sup>12</sup> This approach has been used because, while existing planning process do a good job of reacting to near-term reliability issues identified by modeled violations of reliability criteria, there have been limitations to the ability of the RTO/ISO planning process to develop the kind of forward-looking, robust grid elements beyond the study phase. State-directed procurements, on the other hand, put the state in the driver's seat with ISO technical support to specify the type of transmission system it is seeking, issue an RFP for design solutions, and then select which project or projects best meet the state's near, mid, and long term needs most efficiently. The New Jersey offshore grid RFP resulted in 80 proposals from multiple developers, many of which proposed innovative and aggressive cost containment measures.<sup>13</sup> This approach has also proven to be time efficient: New Jersey issued the RFP with the support of the PJM RTO in April of 2021. Responses were due by September 2021. Project selection is slated to take place by October 2022.

Third, we recognize that right-sizing the State's planning goals will have critical bearing on stakeholder engagement approaches and design solutions that are crucial to mitigating impacts on communities and vitally important ocean users, especially fishing communities and

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<sup>12</sup> See *State Voluntary Agreements to Plan and Pay for Transmission Facilities* 175 FERC ¶ 61,225 (June 17, 2021) in Docket No. PL21-2-000. <https://www.ferc.gov/media/e-2-061721> FERC press statement here:

<https://www.ferc.gov/news-events/news/states-transmission-providers-may-enter-voluntary-agreements-ferc-says>

<sup>13</sup> *New Jersey Receives 80 Offshore Wind Transmission Proposals* <https://www.offshorewind.biz/2022/02/01/new-jersey-receives-80-offshore-wind-transmission-proposals/>



sensitive ecologies. The technical and physical solutions and related stakeholder and equity approaches that the State and industry will undertake to achieve SB100 will be directly informed by the size of planning goals and efforts to think holistically about program design.

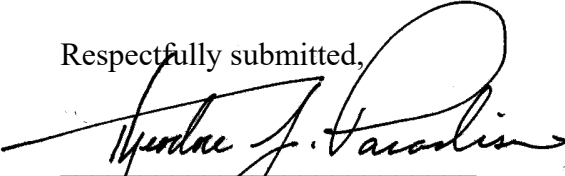
Furthermore, we are mindful that stakeholder time and resources are valuable and finite and that consultation and engagement, while essential to a just process, are demanding. Underserved communities do not necessarily have the resources to participate in a multitude of processes, and we likewise appreciate the competing demands for time and resources faced by fisheries. Agencies have in part addressed this by requiring all the lease auction winners to collaborate in stakeholder outreach to avoid overwhelming key stakeholder groups, however we wish to emphasize that we have concerns that should the scale of the State's offshore wind planning goals change over time as has been suggested (and has been done with the Renewable Portfolio Standards) we collectively risk undermining essential transparency and shared understanding with stakeholders through the consultative processes.

A right-sized approach to planning is as essential to robust stakeholder engagement as it is to technical challenges such as transmission or port infrastructure. Incrementality risks yielding false conclusions, stifles potential design improvements – to individual wind farms or the program as a whole – that may lessen impacts when compared with a more holistic view of the future and will undersize the total impacts, benefits and mitigation strategies employed.

### III. Conclusion

For the reasons stated above, we strongly encourage the California Energy Commission to recommend the feasible and reasonable planning goal of 5 GW of offshore wind by 2030 and at least 20 GW of offshore wind by 2045. Thank you for the opportunity to submit these further comments.

Respectfully submitted,



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