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AWEA-California Comments on 2020 IEPR Update Scope

Attached please find comments of the American Wind Energy Association of California on the Scope of the 2020 IEPR Update.

Additional submitted attachment is included below.



January 31, 2020

California Energy Commission
Dockets Office, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

Submitted electronically

Subject: Comments on Draft Scoping Plan for the 2020 Integrated Energy Policy Report, Docket No. 20-IEPR-01

Dear Commissioner Monahan,

Thank you for the opportunity to comment on the Scoping Plan for the 2020 IEPR Update.

The American Wind Energy Association is the national trade association for the U.S. wind industry. AWEA-California is a project of AWEA, representing companies that develop, own, and operate utility-scale wind, solar, storage, offshore wind, and transmission assets. We work to drive immediate and sustained development of new utility-scale renewable energy to propel California toward a carbon-free electric future, and we advocate for procurement processes and market structures that fully value and deploy the energy and capacity attributes of renewables to achieve an affordable, reliable, resilient, and carbon-free grid.

In that spirit, we offer the following comments on the 2020 IEPR Scoping Plan:

1. Existing climate and renewable energy laws necessitate a focus on near-term actions to facilitate unprecedented deployment of utility-scale renewables and associated infrastructure to achieve long-term requirements. Utility-scale renewables can provide flexibility and reliability with thoughtful state and regional planning and coordination.
2. We urge the Energy Commission to consider the optimal areas and communities for the deployment of microgrids while also enhancing grid resilience through grid hardening, modernization, vegetation maintenance, and delivery of zero-carbon utility-scale renewable electricity from areas with optimal renewable resources.

Near-term deployment of utility-scale renewables is critical to achieve carbon and renewable requirements affordably and reliably.

California laws and Executive Orders mandate that the state's energy system must quickly transition away from fossil fuel combustion and towards zero and near-zero emission fuels and technologies, while protecting consumers and ensuring disadvantaged communities' benefit from this transition. Existing laws necessitate a closer look at near-term actions that will facilitate new development of utility-scale renewables than what has been proposed as the initial scope of the 2020 IEPR. New wholesale wind,



solar, storage, and associated transmission will enable a quicker and more affordable transition to our decarbonization targets. To achieve SB 100 mandates, California’s load-serving entities will need to invest in 100 - 150 GW of new renewable generation by 2050.¹ This will require development of a diverse range of renewable resources, including land-based and offshore resources. The CEC must pay attention to enabling technologies and policies that will fully recognize the energy and capacity value of land-based solar, wind, storage, and – in the near future – offshore wind.

A recent report from the Legislative Analyst’s Office found “Over the last decade, the electricity sector has been the primary driver of statewide GHG emission reductions. Annual emissions from the electricity sector have declined by about 40 million metric tons (40 percent) over this period. Reductions have mostly been due to a change in the mix of resources used to generate electricity—primarily large increases in renewables (solar and wind) and, to a lesser extent, reductions in the amount of coal.”²

Another recent report from Energy Innovation suggested that in order for the State to achieve its 424-million-metric-ton greenhouse gas target, California would have to double its rate of emissions reductions from the past decade.³ Of the six policy recommendations noted in the report, two are squarely related to the proposed 2020 IEPR scope: a slightly more aggressive renewable energy requirement and an increase in the state’s zero-emissions vehicle mandate from 5 million to 7.5 million cars by 2030. Doing both, among other things, can help California’s greenhouse gas emissions reductions get back on track.

These reports speak to the need for aggressive and sustained action toward renewable energy. The state needs to increase the pace of renewable development while exploring new technologies and strategies to accommodate deeper penetrations of variable generation. Utility-scale renewable energy has been the cornerstone of California’s climate progress thus far, and, as the LAO points out, “future costs to increase renewable generation are likely to be much different than past costs...procurement costs for renewable energy are likely to be much lower in the future due to declining renewable prices, but this could be at least partially offset by higher integration costs.”⁴ To address future integration of large-scale renewables, AWEA-California suggests consideration of the dispatchability of renewable resources, transmission planning, enhanced regional coordination, and deployment of new utility-scale technologies such as offshore wind.

Dispatchability of utility-scale renewables

Utility-scale renewables, both wind and solar, have demonstrated capabilities of providing essential reliability services increase grid flexibility, enabling the grid to reach higher levels of renewable penetration. Services such as frequency control, up and down regulation, load following, reactive power, and voltage control can be provided by operating utility-scale wind and solar resources below their

¹ https://www.ethree.com/wp-content/uploads/2018/06/Deep_Decarbonization_in_a_High_Renewables_Future_CEC-500-2018-012-1.pdf

² <https://lao.ca.gov/Publications/Report/4131>

³ <https://energyinnovation.org/wp-content/uploads/2020/01/Insights-from-the-California-Energy-Policy-Simulator.pdf>

⁴ <https://lao.ca.gov/reports/2020/4131/climate-policies-electricity-010320.pdf>



instantaneous maximum levels.⁵ Inverter-based resources can also provide synthetic inertia, replacing a feature of spinning generation and can sustain that service for much longer periods of time than conventional resources. In future resource forecasting and planning, utility-scale wind and solar resources should be considered for their benefits not only as low-cost carbon-free resources, but also as flexible, dispatchable assets.

Transmission planning

The CEC, in partnership with other state agencies and the California Independent System Operator, has played an important role in statewide transmission planning through administration of the Renewable Energy Transmission Initiative (RETI) and RETI 2.0. The CEC is therefore well-positioned to understand the need for long-term infrastructure planning to facilitate and enable achievement of renewable energy requirements and decarbonization targets. With that in mind, we encourage the CEC – either in the 2020 IEPR Update or in a separate effort - to initiate a long-term transmission planning effort similar to RETI and RETI 2.0 that would ensure development of the necessary infrastructure to support statewide goals of affordability, reliability, safety, and decarbonization. Such analysis should include consideration of transmission capacity in California, throughout the West, and off the coast of California to access offshore wind.

Enhanced regional coordination

The recent Western Flexibility Study,⁶ commissioned by the Western Interstate Energy Board examined strategies to reliably meet western state renewable energy and 100% clean energy goals. The study estimates a demand of 9 GW per year of new wind and solar investments between the years 2025-35, and showed dramatic cost savings and other benefits associated with the following regional and market strategies:

- Enhanced market development and coordination was found to be the top strategy to integrate new renewable energy investments cost effectively, with the least curtailment and best GHG reductions.
- Transmission investments, market coordination, and storage already exist to take the West to these levels.
- As the west moves closer to 2030 and beyond, market expansion and other flexibility strategies will minimize operation costs, curtailment and GHG emissions.
- Building already-approved transmission projects is fundamental to these cost-savings, GHG reductions, and low-curtailment benefits and additional transmission expansion can yield even more benefits.

The West has a long history of coordinating on electricity issues, including joint ownership of power plants and transmission lines, which has helped deliver energy to California and other states. The next

⁵ <https://www.nrel.gov/docs/fy17osti/67799.pdf>

⁶ <https://westernenergyboard.org/wp-content/uploads/2019/12/12-10-19-ES-WIEB-Western-Flexibility-Assessment-Final-Report.pdf>



step is an expanded regional market, *which if done properly*, can provide multiple consumer savings and economic investment benefits throughout the Western region. For California, this means facilitating the delivery of high-quality western renewable resources to balance solar generation and reduce costs associated with the state's renewable and clean energy goals. Transmission investments and upgrades are needed to further unite the region and link the best renewable resources with growing consumer demand. No state, including California, can affordably meet its ambitious clean energy goals by relying on solely in-state resources.

Offshore Wind

But as California works with its western neighbors, it should also consider the untapped potential for renewable energy along the California coast.

Offshore wind promotes energy security by taking advantage of a vast natural resource that is uniquely available to California, especially as the state's best land-based renewable resources approach full build-out and as demand increases for renewable electricity to serve the transportation and building sectors. The wind resource off of California's coast can generate consistent energy throughout the day, including in the evening hours when the sun goes down and net energy demand ramps up, and could therefore provide capacity to help replace coastal fossil-fuel resources.⁷ Offshore wind will also provide potential savings to California customers as compared to portfolios with less resource diversity.⁸

Furthermore, offshore wind can provide direct and substantial benefits to the California economy. Participants at the California Energy Commission's (CEC) October 3 IEPR workshop⁹ on offshore wind highlighted the economic development potential of offshore wind, which includes port revitalization as well as local manufacturing and construction. The American Jobs Project estimates that offshore wind could generate 5,300 jobs in California at a 5 GW scale and 17,500 jobs at an 18 GW scale in 2045.¹⁰

In order to achieve these benefits, however, coordinated statewide planning is needed. The state needs to plan for a robust offshore wind industry in order to grow the workforce and supply chain, build associated transmission, and permit offshore wind development through a robust stakeholder process. The CEC's IEPR is an appropriate venue for shaping California's thinking around the role of offshore wind in California's portfolio.

The CEC should balance consideration of decentralization with decarbonization and affordability objectives.

⁷ E3, The Economic Value of Offshore Wind Power in California, http://castlewind.com/wp-content/uploads/2019/08/2019-08-08_E3-CastleWind-OffshoreWindValueReport_compressed.pdf (Figure 4 page 21).

⁸ E3, The Economic Value of Offshore Wind Power in California,

⁹ IEPR Commissioner Workshop on Offshore Wind, October 3, 2019

<https://www.energy.ca.gov/event/workshop/2019-10/iepr-commissioner-workshop-offshore-wind>

¹⁰ American Jobs Project, The California Offshore Wind Project: A Vision for Industry Growth, February 2019, p. 28



The 2020 IEPR Update will include a review of the value of microgrids to enhance grid reliability and maintain critical services (such as power for emergency responders) and put forward policy recommendations on how microgrids can best be used to increase grid reliability in California.¹¹

AWEA-California recognizes the role that microgrids can play in California’s fire-prone communities and appreciates the CEC’s approach to analyzing the value of microgrids, however it is important to balance the provision of affordable lowest-cost, zero-carbon energy and capacity with the local attributes that microgrids can – and in some cases cannot - provide.

While strategic deployment of microgrids can provide resilience in the face of fires, disasters, and more frequent or sustained public safety power shut-offs (PSPS), hasty deployment of microgrids could also undermine both our greenhouse gas reduction goals and the fire-prevention objectives of PSPS events. We urge the Energy Commission to consider the best areas for deployment of microgrids while also enhancing grid resilience through grid hardening, modernization, vegetation maintenance, and delivery of zero-carbon utility-scale renewable electricity from areas with optimal renewable resources. It is worth noting that in many cases, the best (most efficient and lowest cost) renewable resources are not always be situated in local communities. The 2020 IEPR should consider how best to integrate microgrids into a more resilient transmission and distribution system that also incorporates low-cost carbon free renewable electricity. Such an analysis should consider the costs of a more decentralized system in the context of the State’s clean energy and carbon targets, which – as noted above – will require significant deployment of utility-scale renewables in the next several years.

Conclusion

We appreciate the CEC’s IEPR process as an opportunity to think through big questions around California’s energy future and look forward to your continued leadership.

Sincerely,

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¹¹file:///C:/Users/danie/Downloads/TN231581_20200117T134521_Request%20for%20Public%20Comments%20on%20the%20Draft%20Scoping%20Order%20for%20the%202020%20Integra.pdf