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Comments on AB 525 Economic Benefits

Thank you.

Additional submitted attachment is included below.

350 HUMBOLDT COMMENTS ON AB 525 ECONOMIC BENEFITS AND SUPPLY CHAIN CONSIDERATIONS

1. INTRODUCTION

A plan for a) necessary investments in ports, b) workforce development needs, c) workforce standards (including apprenticeship standards) is required in AB 525. It is a puzzle that the requirement for a report on economic benefits is part of the section requiring this plan. (Please see Appendix 1 for the legislative language.) In any case, this report is basically a literature review rather than a plan.

Even if the report is considered to be separate from the plan requirements, it should provide information relevant to meeting the plan requirements. In these comments we will attempt to indicate ways a revised report could become more responsive. In doing so we will first indicate aspects of the report that should be highlighted and expanded. Then we will note the elements of critical economic benefits that are missing.

Recommendation: The economic benefits report should be turned into a rigorous conceptual framework tied to action and investment recommendations that will help realize the economic benefits that are clearly possible but which are threatened by infrastructure and workforce needs that the report recognized but did not analyze in a way appropriate to actual planning.

2. *WHERE IS THE URGENCY*

For a number of years, we used to hear climate advocates saying we need an "all hands on deck" approach like the WWII mobilization of our country. Curiously, the more serious the climate crisis grow, the more annual damage, the less we hear about this kind of urgency. The planning for offshore wind exemplifies this. AB 525 provided a short time-line. But so far the workshops do not seem to have the appropriate urgency to meet the AB 525 goals of a clear and detailed plan.

To reach California's electrification we need to build wind and solar at five times the recent rate.[1]

> "We are not yet on track. If we just take a laissez-faire approach with the market, then we will not get there," said Sascha von Meier, a retired UC Berkeley electrical

[1] This figure and the quote below are from: https://calmatters.org/environment/2023/01/california-electric-cars-grid/

> engineering professor who specializes in power grids. The state, she said, is moving too slowly to fix the obstacles in siting new clean energy plants and transmission lines. "Planning and permitting is very urgent," she said.

More specifically, in dealing with the climate crisis we cannot treat wind generation as like any other economic development project. The report does not include any sense of the reason why rapid action to realize the benefits of offshore wind are critical to avoiding the worst effects of the climate crisis. The Paris Accord agreed to try to keep warming to 1.5°C. To do so we must not exceed our "carbon budget." Most people do not understand that we will exceed the budget by the time the first California offshore wind turbines are now planned to be generating a small amount of power. Please see a brief summary of the urgency of this issue in APPENDIX 2 below. It is derived from the IPCC reports published after AB 525 was enacted.

Finally, the climate benefits from successful wind power expansion can be realized equally by fixed bottom turbines or by the floating turbines (in federal jurisdiction) specified in AB 525. In some locations, notably Humboldt County, fixed bottom turbines may prove more economic and may be installed sooner. Thus, we suggest that the CEC's updated plan include that possibility for future development.

Recommendation: Include climate benefits of a fast development of offshore wind power.

3. ASPECTS OF THE REPORT WE WISH TO UNDERLINE AND REQUEST BE EXPANDED

Apprentices. The report says: "New training standards, curricula, and training facilities will be needed to create a trained and skilled offshore wind workforce that can grow to meet the pace of offshore wind development." However, specification of the necessary elements of that workforce creation and training are not included in the report in a systematic way.

We are now hearing that the IRA calls for hundreds of thousands of jobs for apprentices that businesses say do not exist.[2] Apprenticeships certainly don't exist in Humboldt County where there is only one program within a hundred miles. [3] Apprentice programs nationwide are in short supply, and they are radically deficient nationwide in serving indigenous people.[4] In California, the January 2023 Governor's budget *cuts* $40 million over the next two years for non-traditional apprenticeships.[5] Additionally, local labor and workforce leaders have argued time and again for pre-apprenticeship programs as part of the strategy needed to build out the offshore wind cluster.

Recommendation 1: The report should be revised to emphasize and plan for specific investments in apprenticeships and pre-apprenticeships to create a trained and skilled offshore workforce. Without this there will be few local benefits to workers, especially to Tribal Nations.

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[2] https://www.natlawreview.com/article/inflation-reduction-act-prevailing-wage-and-apprenticeship-requirement-faqs-and-key

[3] https://www.americanprogress.org/article/4-ways-the-biden-administration-can-ensure-offshore-wind-development-benefits-tribes-and-indigenous-people/

[4] Ibid.

[5] https://calmatters.org/california-budget/2023/01/california-budget-newsom-deficit/

Recommendation 2: The final report should have a detailed analysis of the ways in which the IRA can benefit California's offshore wind development and the actions we need to take to realize the benefits.

Where are initial investments needed? A second very important point, that received only a sentence in the report, is the necessity of building infrastructure *quickly*:

> "However, California ports may not be able to handle all the required activities to support the industry initially, even with investments and significant upgrades. Until the state can build out the infrastructure in a responsible manner, offshore wind components will have to be manufactured elsewhere and imported to California."

Recommendation: Report revisions should separately isolate the infrastructure needs that will not be fillable from local, from California, and from US sources and propose a plan for dealing with them immediately.

Bid Credits. One set of economic benefits will flow from the BOEM lease opportunities for successful bidders to get credits for creating local economic benefits. These bid credits for the Humboldt WEA would total 20% of $331.5 million, or $82.9 million. The report says:

> "Bid credits for developers who commit to community benefits agreements, with local and targeted hiring requirements, could help incentivize developers to use local content in their projects."

Recommendation: The Final report should present options regarding these bid credits that would maximize the benefits that local communities will realize. There is a danger of uncoordinated use of these bid credits or use for lower priority purposes. Ultimately the decisions are local, but the CEC should provide the framework that allows options to be adequately evaluated so as to maximize economic benefits and distributive justice.

The relationship between local job creation and centralized permitting. One incidental sentence stood out:

> "Denmark had success in building its offshore wind industry, with local job creation, by investing in its ports and centralizing the permitting process for offshore wind plants. From decades of experience with offshore wind, the Danish Energy Agency highlights the importance of local hiring provisions and local support for projects."

We will discuss the permitting process in more depth in our comments on the afternoon workshop, but we would like to underline the link here between local job creation, port investment and *centralized* permitting. The implications of this observation are at odds with the Conceptual Framework for Permitting recommendations.

Recommendation. Discussion between the CEC economic benefits team and the permitting team should look more closely at this link between local job creation and port investment and centralized permitting. Our suspicion is that this relationship will turn out to be critical rather than adventitious.

Conceptual organization. Finally, while we appreciated the attempts to systematize the consideration of benefits (for example, the distinction between direct, indirect, induced and

taxation benefits) we believe a comprehensive framework has to look both at benefits and costs and to be clear about who is benefitting and who is paying. A second very useful element would be the division into short, medium and long-term benefits and costs, as is done in the recent NREL roadmap for supply chain development.[6] It is clear that the 4.6 gigawatts of offshore wind energy for which bids have been awarded is a small first installment. The economic benefits analysis needs to look at phased port development, for example.

Additionally an appropriate plan would include the tasks and activities to be accomplished, arrayed on a time line, as is done with the critical path method (CPM). A comprehensive CPM plan would permit scheduling, identifying resource and labor needs, and financial forecasting. Again the NREL report could be a guide.

Included within the CPM plan should be the recognition that at least for the Humboldt site, four major uncertainties must be addressed. They are (1) whether adequate labor skills are present wherever fabrication occurs; (2) whether port facilities to manufacture the wind turbines will be in place in California or elsewhere to assure that turbines will be operational in time: (3) whether transmission will be in place by the time the offshore wind is operational; and (4) whether wind turbines will be in place when the transmission is operational.

Recommendation: For the final report, use a cost/benefit framework that focuses separately on near-term, mid-term and long-term needs using a critical path method of planning.

4. ELEMENTS MISSING FROM THE REPORT

***Community economic benefits**:* It is essential that wind development off the coast of Humboldt County benefit and enhance the hosting community rather than exploit it as resource extraction has historically done. We support the following statement by our local stakeholder organization, CORE Hub (the full CORE Hub list of benefits is in Appendix 3):

> "Our community needs equitable access to quality careers, increased environmental protections and research/monitoring capacity, reliable transportation systems, local electrification and housing to facilitate offshore wind development. This allows local leaders and experts to efficiently invest resources based on local needs and values in ways that will strengthen the community as a whole. Rather than asking developers or the local government to provide these benefits, we can more equitably and efficiently manage funds."
>
> "Appropriate community benefits include:
>
> 1. Partnerships, investments and protections for Tribal Nations and communities
> 2. Investments and support for commercial fisheries and portside communities
> 3. Community services and infrastructure investments including housing and education
> 4. Investments in environmental monitoring and stewardship
> 5. Job training and labor agreements
> 6. Community-led, decision-making groups."

[6] https://www.nrel.gov/wind/offshore-supply-chain-road-map.html

Recommendation: Include community benefits agreement requirements for port development funding and permitting processes for all stages of offshore wind industry development and operations

Workforce equity and justice

The report should include strategies and incentives for prioritizing *equity* and *justice* in workforce development. Rural residents on the north coast experience long-standing discrimination with respect to many characteristics. We don't want to replicate these patterns. We want training and hiring opportunities that can include these possibilities laid out by CORE Hub:

- Tribal members
- People of color
- People with education less than high school or low literacy
- Custodial single parents
- Older adults
- Persons with previous criminal justice system involvement
- Persons with income below the federal poverty level
- Persons with disabilities
- English language learners
- Workers applying for residency or citizenship
- Former foster youth
- Others subject to discrimination

The report should also include pathways for exploring Tribal workforce partnerships.

Recommendation: Include equity and its economic benefits as an explicit goal of planning.

There are additionally many ways in which the new offshore workforce could lead to losses rather than benefits. When large volumes of out-of-area workers arrive there are risks for vulnerable populations in rural and Tribal communities. These include the ongoing crisis of missing and murdered indigenous people. Some of the ways of dealing with these risks include:

- Local hiring and minimizing the use of short-term or transient workers
- Adequate housing for out-of-area workers
- Training regarding trafficking and the history of the area
- Strict rules and enforcement for domestic or partner violence
- Whistleblower protections

Recommendation: develop workforce plans that ensure local and community safety measures that apply to all workers and contractors.

Benefits to the wind industry: An estimated 2,000 gigawatts of offshore wind energy is anticipated by the industry.[7] But it is a young industry and potentially fragile. We must ensure

[7] Information from Mads Nipper, CEO of Orstead, largest offshore wind farm developer. From the Zero podcast of January 2023: https://www.bloomberg.com/news/articles/2023-01-19/the-wind-industry-s-success-has-become-its-biggest-threat?srnd=green-zero-emissions-podcast

that the industry itself benefits – not rapaciously like the logging industry and gold industry, but ensure that right action is rewarded.

Recommendation: Include ways to ensure economic benefits to the wind industry that the world needs desperately to succeed.

Thank you very much for the opportunity to comment on the report and the planning it needs to support.

350 Humboldt Steering Committee and Offshore Wind Committee
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Cathy Chandler-Klein
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Nancy Ihara
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Jenifer Pace

Humboldt Unitarian Universalist Fellowship
Climate Action Campaign
Sue Y Lee

APPENDIX 1. AB 525 Language mandating the economic benefits study and the permitting study

25991.3.

(a) Based on the sea spaces identified pursuant to Section 25991.2, the commission, in coordination with relevant state and local agencies, shall develop a plan to improve waterfront facilities that could support a range of floating offshore wind energy development activities, including construction and staging of foundations, manufacturing of components, final assembly, and long-term operations and maintenance facilities.

(b) The plan developed pursuant to subdivision (a) shall include all of the following:

(1) A detailed assessment of the necessary investments in California seaports to support offshore wind energy activities, including construction, assembly, and operations and maintenance. The assessment shall consider the potential availability of land and water acreage at each seaport, including competing and current uses, infrastructure feasibility, access to deep water, bridge height restrictions, and potentially impacted natural and cultural resources, including coastal resources, fisheries, and Native American and Indigenous peoples.

(2) An analysis of the workforce development needs of the California offshore wind energy industry, including occupational safety requirements, the need to require the use of a skilled and trained workforce to perform all work, and the need for the Division of Apprenticeship Standards to develop curriculum for in-person classroom and laboratory advanced safety training for workers.

(3) Recommendations for workforce standards for offshore wind energy facilities and associated infrastructure, including, but not limited to, prevailing wage, skilled and trained workforce, apprenticeship, local hiring, and targeted hiring standards, that ensure sustained and equitable economic development benefits.

(c) In developing the plan pursuant to subdivision (a), the commission shall consult with representatives of key labor organizations and apprenticeship programs that would be involved in dispatching and training the construction workforce.

(d) On or before December 31, 2022, the commission shall complete and submit to the Natural Resources Agency and the relevant fiscal and policy committees of the Legislature a preliminary assessment of the economic benefits of offshore wind as they relate to seaport investments and workforce development needs and standards.

(e) The plan developed pursuant to this section shall be included in the chapter of the strategic plan relating to economic and workforce development and identification of port space and infrastructure as specified in paragraph (2) of subdivision (c) of Section 25991.

APPENDIX 2: IPCC CLIMATE FACTS UNDERLINING THE URGENCY OF MOVING QUICKLY TO EMPLOY AS MUCH OFFSHORE WIND POWER AS POSSIBLE

Keeping warming to 1.5°C is critical because it is the highest temperature consistent with not setting off multiple global tipping points.[8] The primary concern is that the IPCC says we will not be able to keep warming to 1.5°C if we don't cut emissions by about 50% in the next 8-10 years.[9] We are still in a position that emissions and the atmospheric concentration of them are continuing to climb, not decrease:

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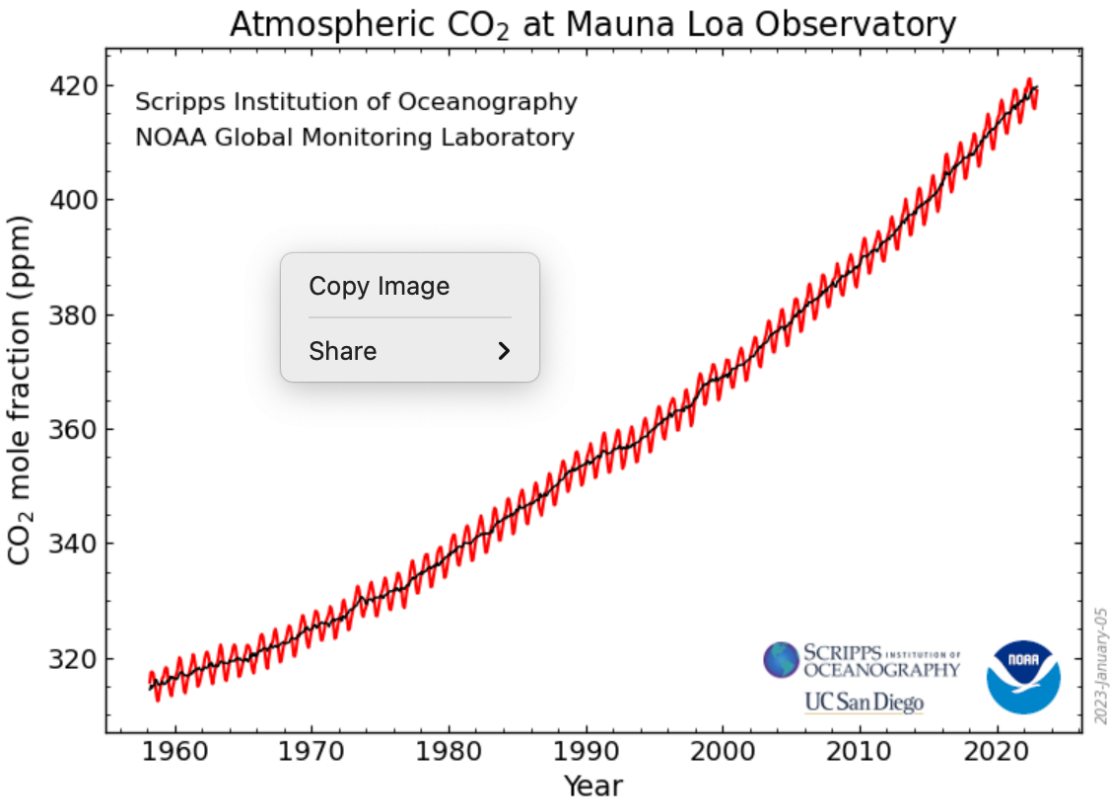
[8] "Current global warming of ~1.1°C above pre-industrial already lies within the lower end of five Climate Tipping Point (CTP) uncertainty ranges. Six CTPs become likely (with a further four possible) within the Paris Agreement range of 1.5 to <2°C warming, including collapse of the Greenland and West Antarctic ice sheets, die-off of low-latitude coral reefs, and widespread abrupt permafrost thaw." Science. 9/02/22 https://www.science.org/doi/10.1126/science.abn7950

[9] "To keep global warming below 1.5°C this century, we must halve annual greenhouse gas emissions by 2030. Without action, exposure to air pollution beyond safe guidelines will increase by 50 per cent within the decade and



Although we are making rapid progress in installing renewable energy, it is far too slow to prevent exceeding 1.5°C. As Bill McKibben says: "Winning slowly is the same as losing." Making changes rapidly means that we will have options if, as has been happening with regularity, scientists discover that even the tight time frame they have described requires further tightening. This is likely to happen if more methane than anticipated is released from melting permafrost, for example.[10]

Although temperature changes in a linear way, damage and costs from temperature increases is nearly exponential, so the impact of going to 2 degrees from 1.5 is far greater than going from 1.0 to 1.5. To get an idea of what this means, think of ten years ago, when the temperature was

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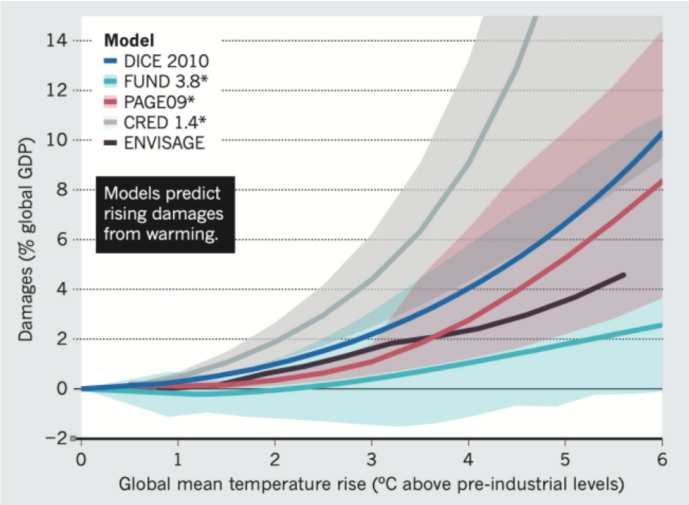
plastic waste flowing into aquatic ecosystems will nearly triple by 2040." https://www.un.org/en/observances/environment-day The amount of carbon we can still emit before passing 1.5°C is established by the IPCC at 500 GtCO2 given a 50% likelihood of achieving that goal. If we want a 67% likelihood, the carbon budget goes down to 400 GtCO2. "Global CO2 emissions are about 36 billion tonnes per year, so 400 billion tonnes will last just 11 years if no reductions are made, i.e. the global carbon budget runs out at the end of 2030."Summary of IPCC AR6 at: https://www.carbonindependent.org/54.html. In model pathways with no or limited overshoot of 1.5°C, global net anthropogenic CO 2 emissions decline by about 45% from 2010 levels by 2030 (40–60% interquartile range), reaching net zero around 2050 (2045–2055 interquartile range).For limiting global warming to below 2°C CO2 emissions are projected to decline by about 25% by 2030 in most pathways (10–30% interquartile range) and reach net zero around 2070 (2065–2080 interquartile range).

[10] Sam Fankhauser et al. "The meaning of net zero and how to get it right." Nature Climate Change 12, no. 1 (2022): 15-21.

about 0.18°C lower than today; we saw few climate change impacts.[11] Today they are catastrophic. The *effects* of that small temperature change should make us very concerned about the larger ones coming up.

We can't afford to "overshoot" 1.5. See the graph below. It shows damage as temperature increases, using several peer-reviewed models. The shaded areas are confidence intervals.



A new finding is that within the next 20-30 years we could lose half of the carbon sequestration provided by rain forests.[12] That is, within the planned build out time of offshore solar in California.

[11] "Earth's temperature has risen by 0.14° Fahrenheit (0.08° Celsius) per decade since 1880, but the rate of warming since 1981 is more than twice that: 0.32° F (0.18° C) per decade." https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature

[12] The temperature tipping point of the terrestrial biosphere lies not at the end of the century or beyond, but within the next 20 to 30 years…. without mitigating warming, we will cross the temperature threshold of the most productive biomes by midcentury, after which the land sink will degrade to only ~50% of current capacity if adaptation does not occur…. This reduction in land sink strength is effectively front-loaded in that a 45% loss occurs by midcentury, with only an additional 5% loss by the end of the century. Duffy, Katharyn A., Christopher R. Schwalm, Vickery L. Arcus, George W. Koch, Liyin L. Liang, and Louis A. Schipper. "How close are we to the temperature tipping point of the terrestrial biosphere?." Science Advances 7, no. 3 (2021): eaay1052.

APPENDIX 3: **Redwood Region Climate and Community Resilience Hub (CORE Hub) Community Benefits Recommendations**

CORE Hub is a community organization on the north coast that has a goal of becoming the first proven carbon-sequestering rural area in the US. In developing these recommendations (which are available in much greater detail by contacting executive director Amy Jester: AmyJ@hafoundation.org) CORE Hub convened a group of many types of organizations. Please see redwoodcorehub.org

Investments and protections for Tribal Nations and communities through specific Tribal capacity and fisheries funds democratically-managed by Tribal members to minimize the impacts of new industry; and safety plans to minimize the risk development has on increasing the rates of Missing and Murdered Indigenous People.

Investments and support for commercial fisheries and portside communities through specific community funds and protections to minimize impacts of new industry and supply chain activities on commercial fishing and other frontline, port communities.

Community services and infrastructure investments through specific North Coast Community Fund, democratically-managed by community, to make investments in important services, including education and housing, prioritizing Black, Indigenous, Communities of Color and frontline communities

Science-based and culturally-sensitive monitoring, research, and investments in environmental protections that minimize negative impacts on birds, marine life and coastal ecosystems; create channels to transparently share data on wildlife and ecosystem impacts; and provide opportunities for Tribal-led research/monitoring efforts

Job training and economic development investments, and a labor agreement to ensure this industry creates high-quality career training and opportunities for local residents in all steps of the project and supply chain, prioritizing Tribal Nations and underrepresented communities; and strong economic and environmental protections if offshore projects are decommissioned

Community-led, democratic decision-making groups with representatives from disadvantaged communities, regional Tribal Nations, local governments, and community-based organizations; and Tribal and environmental justice community engagement plans to ensure we achieve regional self-determination by strategically and efficiently reinvesting funds back into the community