Testimony for the Oregon Territorial Sea Planning Process

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- **Proposed leasing of sites in the Territorial Sea or further offshore is a giveaway of public resources for corporate profiteering, rather than leasing at realistic values and honoring existing uses**. It is a boondoggle comparable to the Wall Street and Home Loan debacles. No leasing for ocean energy should occur until costs and performance of projects are known, and therefore their lease value.

- **The underlying project assumptions of "available" ocean renewable energy have not been proven.** Past assumptions of "available energy" on the coast have proved false, due to high and variable wind and wave conditions and directions that shut down equipment, etc. Programs should not be developed from those assumptions until proven.

- **The project's assumption of future increase in energy "need" is unproven. Projected energy needs do not include expanded efficiency impacts from higher energy costs.** (Remember WPPSS or "Whoops" nuclear power???) The NW Power Council's Sixth Energy Plan warns that new energy will likely be costing almost *three times* current rates within 25 years. **This means as much new opportunity for less expensive efficiency-energy as in all previous BPA plans.**

- **The project fails to justify that development of ocean renewable energy in and beyond the Territorial Sea is a <u>Beneficial Use.</u>** Excessive expenditures on energy are not beneficial. Unnecessary impacts on marine environments, fisheries, other ocean uses, and industrialization of our ocean cannot be termed beneficial. Evaluation of alternatives is essential to determination of whether intrusive uses such as these could in any way be termed beneficial. Merely being possible does not make something beneficial.

- **The costs of ocean energy have not been shown to be affordable to Oregonians.** Offshore wind costs at least twice on-shore wind, and Principle Power, for example, has stated that no Oregon users could afford the costs, only Los Angeles.

- **The vulnerability of energy equipment in our ocean environment to catastrophic destruction, and impact on coastal areas needs to be evaluated and included in the planning.** Those risks create liability for public agencies, potential for power disruptions, and high capital risk - and need to be included in policy decisions. For example:

  > **(A) 13 February 2012 - New Scientist** stated that Stephen Rose and colleagues from Carnegie Mellon University in Pittsburgh, Pennsylvania, modeled the risk hurricanes might pose to turbines at four proposed wind farm sites. **They found that nearly half of the planned turbines are**

likely to be destroyed over the 20-year life of the farms. Turbines shut down in high winds, but hurricane-force winds can topple them. *Proceedings of the National Academy of Sciences*, DOI: 10.1073/pnas.1111769109

"Hurricane" winds are common here, and global warming has already ratcheted up extreme weather winds, wave heights, etc. We've had several 100 and 500-year storms in the last 10 years, including one with 157 mph winds. No present equipment is engineered for such stresses.

(B) Comparable same-scale image of "Oyster" and coastal residences it could potentially be throw into in a tsunami.

- **Oregon's Territorial Sea and offshore ocean are NOT needed to develop or prove ocean renewable energy technologies.** Most already have test sites in process elsewhere. There is no reason to allocate use of our ocean until need, performance, and cost are proven.

- **Testimony given about BPA transmission lines to the Oregon coast being at capacity IS NOT justification for ocean renewable energy.** Microgrids meeting energy needs locally eliminate costs of grid expansion as well as transmission energy losses. **They can perform this far less expensively and intrusively, however, without using ocean energy.**
    - On-shore wind is half the cost of ocean wind. On-shore wind, located at the ridge of the Coast Range, and fed into the transmission lines crossing the Coast Range can meet local needs invisibly and with far less cost.
    - Other "non-intrusive" local means of meeting needs such as cow manure methane-generated electricity, point-of-use PVs, heat-pump or solar water heaters, super-insulation, etc. have barely been tapped.

- **Alternatives to growth projections of energy "need" have not been, but need to be considered.** CB meeting testimony showed concern for accommodating future growth – in population and energy use. 2% growth in 30 years equals their assumed 50% reduction in electrical energy use.

  Continual exponential growth in a finite world is impossible and catastrophic. We need to take responsibility and limit our numbers and energy use. Government policies ensuring inflation and supporting growth of population and resource use only support more corporate profiteering.

  One simple way of dealing with "growth" is for new facilities to be required to be Net-Zero-Energy. That totally eliminates the argument for "expanded need".

- **Attempts to justify new ocean energy sources vs. efficiency alternatives have failed to reflect full-life-cycle costs and benefits.**
  - Insulation, for example, is good for the 80+ year lifecycle of a building, while ocean energy equipment may have trouble surviving 20 years.

  - **"Future discounting" of such extended benefits is a corrupt economics. We, and all life, deserve a non-discounted future.**

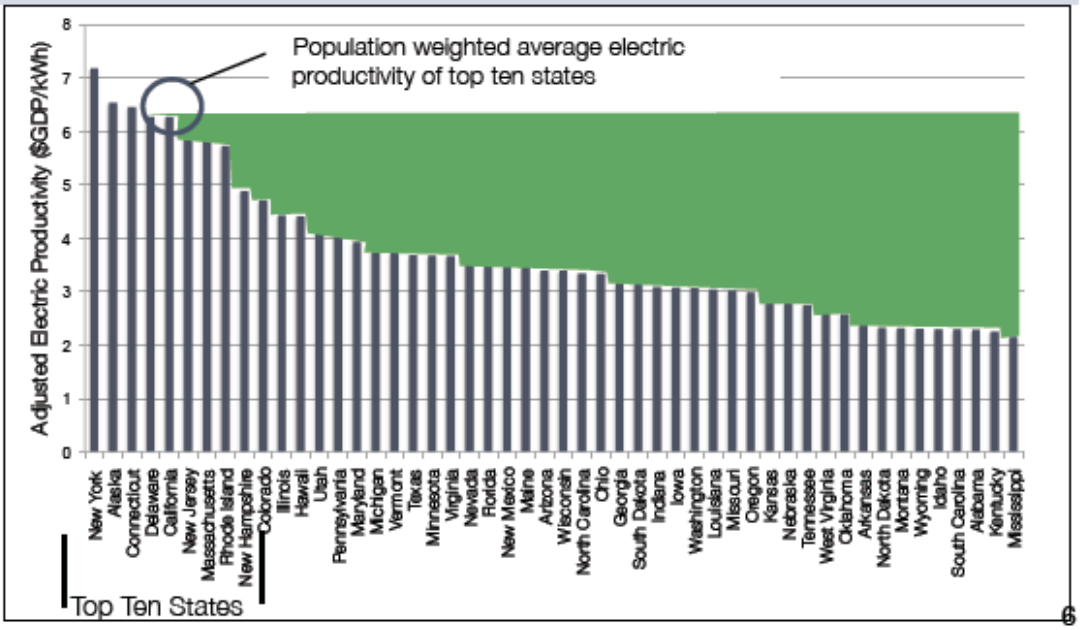
  - Proper, and expanded, funding of efficiency can also eliminate far more of the projected "need". BPA funding of efficiency has not been permitted to exceed CURRENT energy prices, while concurrent purchase of new energy SOURCES are at market costs – **currently more than twice present energy rates**. BPA Conservation has shown that expanding conservation to equivalent price levels would make huge new efficiency actions possible. **Efficiency purchases should be based on the <u>avoided future costs</u> of new energy sources during their entire projected lifecycle**.

- **"Least-Cost" meeting of energy needs must be used for comparison of ocean energy relative to efficiency and other energy sources, but is not being addressed.** Kulongowski's "Renewable Energy Action Plan" stated that: "cost-effectiveness be considered in state agency decision-making relating to energy sources, facilities or conservation, and that cost-effectiveness be considered in all agency decision-making relating to energy facilities."

- **Executed demonstration projects in every climate zone of the U.S., Canada, and Alaska have shown cost-effective reduction of energy use in existing homes by 80% through deep energy retrofits, eliminating major justification for ocean energy.** See *"Our Homes are a Goldmine*" by Tom Bender. Affordable Comfort Inc. has online resources demonstrating these benefits. RMI has demonstrated equivalent potential in commercial and industrial structures, transportation, etc.

- **RMI's 2009 study of electrical efficiency by state showed that Oregon is near the bottom among states (36th down from the best) in efficiency of energy use – with *half* the efficiency of the average of the top 10 states**. Our low energy rates attract energy gluttons and allow us to ignore efficiency. **Taxing electrical energy use to fund efficiency improvements can fund major avoidance of need for ocean energy**.

National Adjusted Electric Productivity Gap
The normalized electric productivity gap between the top 10 states and the rest of the country is 1.2 million GWh.



- **The Territorial Sea Plan SHOULD NOT APPROVE energy facilities where there is conflict with other uses**, until compelling need for such facilities, and their viability, is absolutely proven. Fisheries productivity, for example, is vital, and not replaceable with alternatives as is ocean energy.

- **Mapping of existing esthetic and spiritual benefits of our ocean and Territorial Sea has not been done. It needs to be included, should be a "High Competing Use", should cover the *entire* Territorial Sea, and should extend a minimum of 12 miles out from shore.** Ocean wind energy developers have acknowledged that their facilities would be visible even at that distance. Spiritual benefits of a non-industrialized ocean are vital. It might be possible to concur on a very small exception in a "clear" area on overlays, for "testing only" of potential technology.

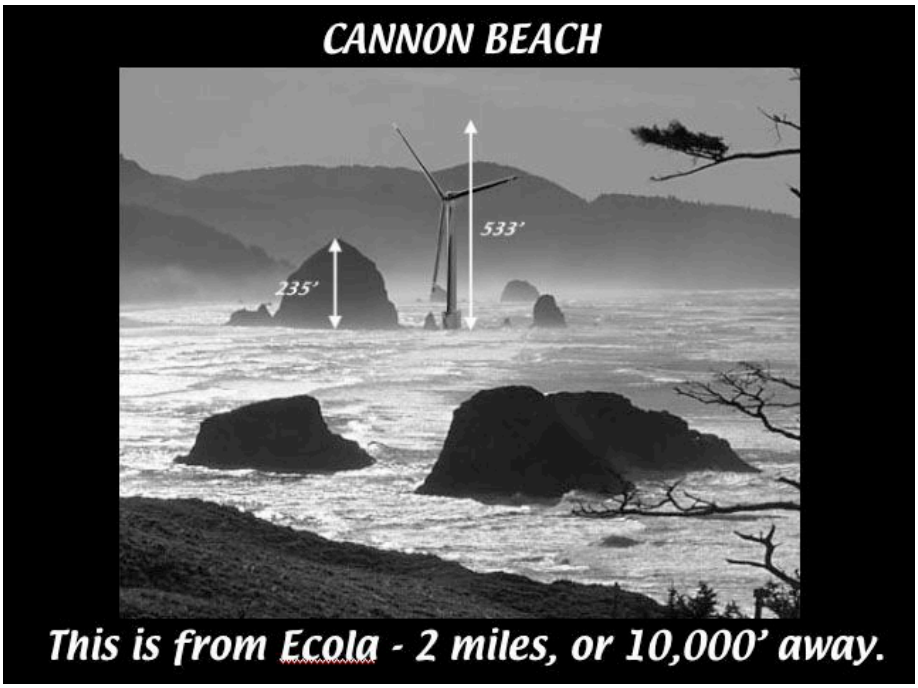
- **"Viewsheds" are core to our entire coastal tourism and retirement economy, but have been ignored in discussions to date.** People come here from the city for peace and restoration, for non-industrialized surroundings, to actually see the night sky and stars. There is no need to quantify this. Some

"qualitative" differences are ignorable because insignificant, but ones such as these are incomparable, irreplaceable, and not to be lost.

- **Approval for developmental testing should be separated from deployment.** Let viability be proven. Consider funding a single run of cable out 12 miles, with various proposals linked on and off where and when needed, for testing.

- **Initial area approvals for ocean energy projects should be highly conservative in extent and location, until feedback of viability, need, side-effects, public acceptance, and viability of alternatives is known.** IT IS EASIER TO EXPAND IN THE FUTURE, IF NEED IS PROVEN, THAN TO RESTRAIN APPROVALS ONCE GIVEN.

- **Discussion at the CB meeting totally ignored ocean wind energy projects and their impacts, with huge (500' high) and highly visible equipment, whose intrusiveness needs to be considered.** It focused totally on in-water wave energy projects. Almost all ocean energy facilities require flashing warning lights which are highly disruptive to the nighttime peacefulness of our non-industrialized ocean.



- There have been several disparate elements discussed for the current Territorial Sea Planning:
    - Documentation and determination of value of existing uses and resources.
    - Testing and evaluation of potential ocean energy production systems
    - Evaluation of potential location impacts and conflicts

  These are all worthwhile elements.

Other integral elements of a wholistic approach to the planning are essential, but not yet occurring:

- Justification for ANY use of Territorial Sea or neighboring oceans for energy production.
- Realistic integration with efficiency to determine real need
- Least-cost process of meeting or avoiding energy needs
- Development of strategies that separate development of new technology from wholesale approval of deployment
- Our taking responsibility for shifting from growth to sustainability

- Kulongowski's "Renewable Energy Action Plan" stated that *basic* human needs of every citizen, present and future, shall be given priority in the allocation of energy resources, commensurate with perpetuation of a free and productive economy *with special attention to the preservation and enhancement of environmental quality.* This does not in any way justify ocean energy projects.