



Oregon Coastal Notes

Oregon Coastal Zone Management Association

September 2009

Is Wave Energy Real? An Oregon Perspective *Onno Husing, Director, OCZMA*



The short answer is *yes*. If asked, that's what almost all of the 240 participants who came to the Oregon Wave Energy Trust's (OWET) 4th annual wave energy conference in Oregon on September 15-16, 2009 (photo to left) would say.

This year's wave energy conference, held at the Seaside Convention Center on the Oregon Coast was a lively affair. People traveled from a variety of places in the United States, Canada and Europe to learn the latest global developments and network with other professionals.

Scottish accents dominated the conference among the out-of-country guests. Oregon can safely claim it is *the* leader in North America on wave energy. Scotland though, is placing *big bets* on wave energy. With their history of shipbuilding, provisioning offshore oil and gas development, strong government support and legal system, and, active wave climate, the Scots are poised to be world leaders.

Before anyone gets too giddy and starts buying wave energy stocks, I have an important disclaimer.

Wave energy is *a fledgling industry*. At the outset of the conference in Seaside, several presenters underscored that fact of life. One speaker noted, "To move into the future, to commercial and industrial scale development, we need more than *love money*." Translation: climbing the next rung on the ladder will take *a lot* more cash than what wealthy folks and foundations that want to save the planet can put on the table. And, modest government grant programs won't cut it. It will take clear-eyed *investment capital* from Wall Street and private equity companies. In other words, it will take *real money*, adult dollars (tens of millions of dollars *per deployment*) to scale up the industry. Flimsy startups need not apply.

Another presenter put it this way. He said, "I'll know we've arrived when you go to a meeting on wave energy and half the room is made up of lawyers and insurance executives. That's what meetings on large wind energy projects are like; that's what a mature industry looks and feels like." Translation: that's when enough dollars are in play to merit expensive professional skill sets.

So, what has to happen to attract this scale of investment in the United States? There seemed consensus at the conference that “*Feed-in tariff*” legislation is required. Without it, wave energy, at least *utility-scale* applications, may be dead in the water.

What’s Feed-in-Tariff? Here’s an excerpt from *Wikipedia*:

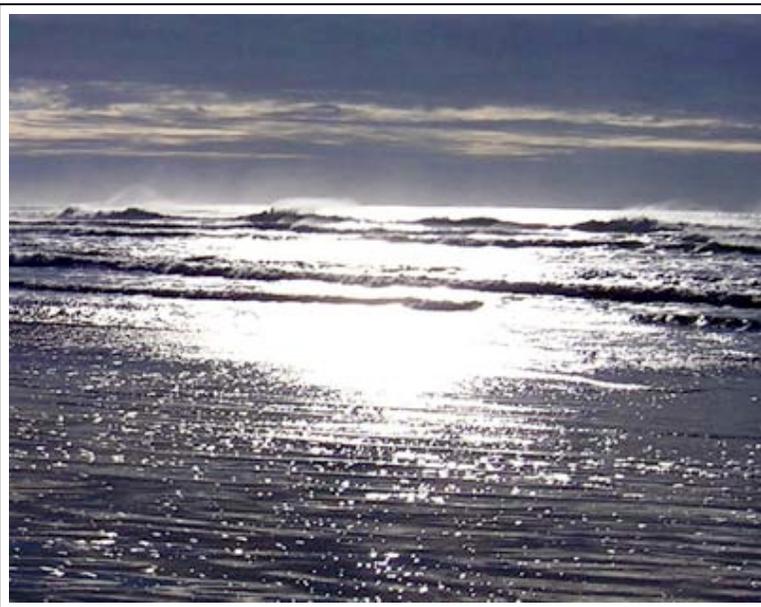
A Feed-in Tariff (FiT, Feed-in-Law, FiL, solar premium, Renewable Tariff, or renewable energy payments) is an incentive structure to encourage the adoption of renewable energy through government legislation. The regional or national electricity utilities are obligated to buy renewable electricity (electricity generated from renewable sources, such as solar thermal power, wind power, biomass, hydropower and geothermal power) at above-market rates set by the government.

The higher price helps overcome the cost disadvantages of renewable energy sources.

This is *not* unlike what the Oregon Legislature did with the Renewable Portfolio Standard (RPS) placed in legislation in 2007. The point is, of course, at this early stage, renewable energy (not just wave energy) can’t compete straight up with the burning of fossil fuel to generate electricity. Price points on kilowatt-hours (kWh) are the currency of the realm.

On the weekend after the conference (Sunday, September 20, 2009), *The Oregonian* ran a column by Thomas Friedman of the *New York Times* entitled, “Seeing the Light for What It’s Really Worth.” Friedman made the same point. He warned readers if we don’t create markets for renewable energy using techniques like Feed-in-Tariffs, China and other countries will reap the benefits of developing and manufacturing renewable energy technologies. We should memorize the last line of the column. Friedman wrote, “If you like importing oil from Saudi Arabia, you’re going to love importing solar panels from China.”

Looking at the big picture, Tillamook County Commissioner Mark Labhart also hit the nail on the head. He closed his presentation by saying, “We can’t keep pushing these problems off to the next generation.”



Amen. What’s the catch? A balancing act is required. Defining how much additional cost residential and commercial/ industrial customers can absorb to create markets for renewable energy is tricky and fact-intensive. Power rates vary considerably from region-to-region and from utility-to-utility.

Again, serious discussions about wave energy deployments are anchored in dollars per kilowatt-hour. Before anything happens, wave energy developers must have Purchase Power Agreements (PPAs) in place with utilities—the *customers* for the power. That’s why the break out

session on utilities drew a lot more private sector people than the panel on economic development.

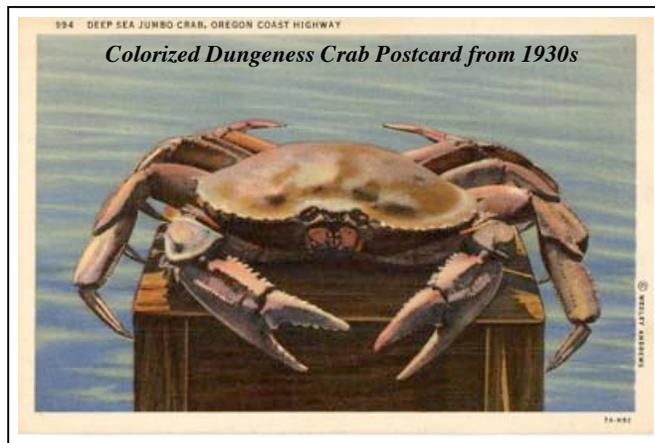
Marine Spatial Planning (MSP): A Chance to Get it Right

The other *key issue* for wave energy is—*where* should these things be sited?

I moderated a plenary panel entitled, “Existing and Future Uses of the Ocean”. It fell to our panel to focus on how to promote wave energy without screwing up the marine environment, priceless viewsheds, and, other industries dependent upon the ocean.

The list of panelists: Bob Eder (commercial fisherman, member of Fishermen Involved in Natural Energy [FINE] and Oregon Wave Energy Trust [OWET] Board member); Gareth Davies (Managing Director, Aquatera, an environmental consulting firm from Scotland); Paul Klarin (Marine Affairs Coordinator, Oregon Department of Land Conservation and Development [DLCD]) and Neil Rondorf, Vice President, Science Applications International Corporation (SAIC) (Neil is based in Virginia).

I opened with a sketch of the history of wave energy in Oregon. I didn’t pull punches. I noted how life changed in 2006 when Ocean Power Technologies (OPT), headquartered in New Jersey, filed a Preliminary Permit (PP) with the Federal Energy Regulatory Commission (FERC) to develop a wave project off Reedsport, Oregon. This was something *far* more significant than an Oregon State University (OSU) engineering project. By the summer of 2007, *seven* PPs were filed in Oregon’s Territorial Sea. A “gold rush” in Oregon’s Territorial Sea was underway.



I described how OPT’s project off Reedsport was proposed in the heart of some of the best Dungeness crab grounds on the Oregon Coast. That fanned the flames of controversy. These days the Dungeness crab fishery is a lynch pin of the commercial fishing industry in Oregon. Early on during the Reedsport talks, OPT’s representative held his ground that *the location* of OPT’s wave facility was *off the table* for discussion

I conveyed how astonished people were in 2007 to learn that Oregon had *no overall*

plan to guide wave energy development. The absence of a plan, coupled with an open-ended marine reserves process, led people to conclude Oregon’s Territorial Sea was up for grabs. At the conference, I exclaimed, “In Reedsport, you didn’t need a PhD to figure out a comprehensive planning process was needed!”

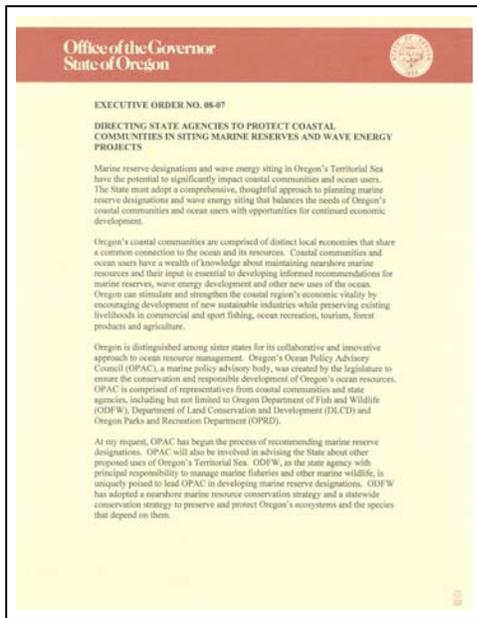
I likened the public meetings in Reedsport to the Battle of the Wilderness during the American Civil War. I chose my metaphor carefully. The Battle of the Wilderness (May 1864) was a horrific encounter. For two days, two great armies clashed and groped at each other in an impenetrable forest. No clear battle lines existed. As a participant in Reedsport, I can tell you, the engagement left emotional scars on all sides.

What was the historical significance of Reedsport? It demonstrated the *untenable* nature of the existing legal/regulatory process. Having wave energy companies file claims under the Federal Power Act (FPA) and then fight off existing stakeholders is, frankly, in this day and age, preposterous. In time, OPT realized this chaos was more than unpleasant; it was bad for business. OPT became early backers of comprehensive ocean planning. They knew Wall Street needed to see *a clear path to commercial development* and ocean planning was that path.

I stressed, “That’s what the people in Reedsport were asking for—*a context* to frame the discussion! The planning process *must* begin with *a robust inventory effort*. That’s the only way to identify general places in the ocean that *might* make sense for energy development.”

I underscored the extreme importance of establishing *a seamless planning process* with the U.S. Department of Interior’s Minerals Management Service (MMS) for ocean areas beyond three miles. Local, state and federal processes *all* must be aligned *from the start*. An expert on offshore development recently told me, “This is entirely different than oil and gas. Electrons need to keep moving. State governments and the federal government must be in sync or it just won’t work.”

“Several years after Reedsport,” I explained, “In Oregon, we now understand that under Goal 19 for state waters, and, under the 2005 Energy Policy Act for federal waters, doing planning is *not* discretionary. *How else* can you ‘*prevent interference with existing uses*’ of the ocean and protect the marine environment?”



I referred to David Chen’s keynote speech at last year’s wave energy conference in Coos Bay. I said, “Last year, at this conference, David Chen, a successful venture capitalist and the Chair of the Oregon Innovation Council (OIC), stressed the importance of planning. I remember David Chen saying, ‘In Oregon, we protect our special places’. And, in the venture capital world we have a saying, ‘*You gotta go slow to go fast*.’”

I praised Oregon *Governor Ted Kulongoski’s* decision in late 2007 to change course and do *an ocean plan*. Indeed, the State of Oregon’s MOU (Memorandum of Understanding) with FERC and Governor Kulongoski’s Executive Order O8-07 (Directing State Agencies to Protect Coastal Communities in Siting Marine Reserves and Wave Energy Projects)—issued March 2008—made it possible to engage people at the local level about planning.

So today, after a rough start, we’re busy amending Oregon’s Territorial Sea Plan (TSP) to set the stage for *a spatially explicit ocean plan*. We’ve got Ecotrust working in partnership with *local ocean resource planning groups* to prepare GIS-based inventories of recreational and commercial fishing grounds *for state and federal waters*. Other inventories are under development for the planning process. People are beginning to feel less threatened and more empowered.

The other panelists did a great job. Bob Eder (see photo page 5), though, the commercial fisherman, stole the show. Bob delivered remarks that captured the essence of what fishing means to Oregon. Here are excerpts from Bob’s speech:

For the purposes of this panel I feel like I should be wearing a sandwich sign. Right across the front, right here, it would say ‘EXISTING USER.’ But, on the other side, back here, it says ‘FUTURE USER’!

The development of wave energy will not turn commercial fishing into an anachronism—because, when you think about it, it already is one.

I mean, how odd is it? Here we are in the twenty-first century, in the middle of the developed world and just a few miles out there are professional hunters gathering wild animal protein!

We have been farming for ten to twelve thousand years, tilling and dividing the land, domesticating animals, taming the world around us.

But on the ocean, we still hunt in a common space—hooking, trawling, and trapping...bringing back fish and crustaceans to feed the tribe. Same as always. It's pre-agricultural. Primitive. If this is not an anachronism, I don't know what is.

Bob shared these thoughts about commercial fishing and spatial planning:

First, what factors have contributed to its persistence?



For one thing, the persistence of fishing may speak to how little attention has been given to all things marine. The ocean is not our natural element. It's a difficult place to work and even more difficult place to build. This has delayed the kind of activities you all aspire to.

Fishing has persisted partly because it occurs in a persistently wild space. It is an ecosystem-based activity. A proven, biological renewable.

We neither lease nor own our production area. It has remained a **public space**. This model, so different from the agrarian one, has contributed to ocean hunting's longevity.

The protein itself is top quality. It will continue to hold very high worth. But in terms of spatial economic value, it will be no match for the engines of raw power, the electron pulsing machines that you are developing.

I think the public's perception of commercial fishing is in the process of changing and fishing will persist in the future partly because the public will **want it to**...valuing its culture, valuing wild food, and valuing that *connection* to what is yet wild.

More and more, fishing will become not only a production industry, but also part of what people choose to protect (*emphasis in original*).

I think Bob's correct. Evicting fishermen (recreational or commercial) from fishing grounds doesn't sit well with people. Intuitively, the public understands there's a lot of space in the ocean. We should be able to figure out how to make both industries co-exist and fully protect marine ecosystems.

Bob drew attention to the formation of local planning groups working on fishing grounds mapping (photo to right—Ecotrust staff with Coos Bay fisherman Nick Edwards). Bob's comparison of fishermen's knowledge to intellectual property was apt. We need to strike a balance between generating information for spatial planning purposes and **not** giving competitors in the fishing industry actionable intelligence. And, frankly, a number of fishermen fear some groups in the conservation community will try to use this information against them.



No one said this would be easy. Goal 19 requires *at least some* documentation about the location and nature of fishing grounds be provided to amend the Territorial Sea Plan. We are working through this. And, if we require wave energy developers to absorb additional costs to avoid conflicts and preserve the marine environment, we *better* have the most professional/peer-reviewed inventories possible. I told someone at the conference, “Yeah, we are on the cutting edge. We are trying to stay off the bleeding edge.”

Another memorable event was State Senator Betsy Johnson’s (photo to right) Keynote Speech. Senator Johnson chairs the “Coastal Caucus”, an influential bi-partisan caucus of state legislators representing the Oregon Coast. Betsy reviewed Oregon’s progress on ocean planning. In particular, she singled out the groundbreaking work local ocean planning groups are accomplishing. Betsy proudly said, “That’s the Oregon Way. In Oregon, we have a special talent for bottoms up planning.”

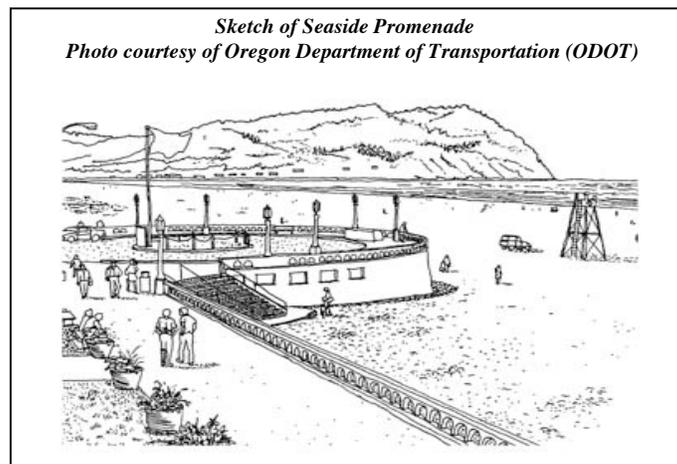


Because OCZMA pressed for ocean planning and organized the fishing grounds mapping effort in Oregon, some days I feel like I’ve grasped a nettle. It’s something that *had* to be done. As Bob Eder said at the close of his presentation:

But commercial fishing is just one element of marine spatial planning around wave energy. I see overlays upon overlays, but still feel confident that we will succeed in finding excellent locations for marine renewable energy with low impacts on fisheries. After all, this is not a question of absolutes, but rather of establishing relative priorities.

Although my industry is apprehensive now, I think we may look back at this experience as a positive one, and wave energy as a benevolent neighbor next to other industrial demands that may soon appear.

The planning surrounding wave energy development presents an opportunity. Even though we fishermen feel some pressure, even though we’re going to give something up, participation in the marine spatial planning process presents a chance to get it right.



Download this newsletter from OCZMA’s web site: www.oczma.org

Information about OCZMA

The Oregon Coastal Zone Management Association (OCZMA), formed in 1976, is a voluntary association of coastal counties, cities, ports, soil & water conservation districts, and the Coquille Indian Tribe on the Oregon Coast established to provide a forum for the resolution of issues of particular concern to the local governments of the coast and the people they represent.

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