Guest Column: Energy and Earthquakes

By Tom Bender Sustainable Architecture and Economics, Nehalem | Posted: Tuesday, March 5, 2013 4:30 pm

The Feb. 27 issue of the Headlight Herald was filled with interesting information and perspectives on wave energy and electrical distribution lines. A vital element affecting both of them was lacking, however, and seems absent from consideration.

The Oregon Coast is due/overdue for a major R-9 subduction zone earthquake and resultant tsunami. We've known that for years. Most recent tsunami maps show the last one, 300 years ago, similar in size to the devastation that recently hit Sendai, Japan. Recent research now considers that to be only a "medium-sized event". Vastly larger earthquakes have occurred on a 3000-year cycle. And guess what, the last one, of course, was 3000 years ago. So we're due for a big shakeup, and it's time to get prepared as much as we can.

The recent release of the draft Oregon Resilience Plan, dealing with earthquake preparedness, is sobering. The Coast will be last to get access to assistance and rebuilding. Current projections suggest 1 – 3 *years* to get just the non-tsunami-impacted parts of the Coast operational again. 3-6 months to restore electricity, 4 months for governmental facilities, 1-3 years for water, sewer, and healthcare. And those rosy numbers are not for getting service everywhere.

The report states very simply and clearly, "Given the expected problems of energy delivery following a Cascadia event, coastal communities should explore alternatives to the statewide utility grid and, to the extent possible, work towards greater self-sufficiency."

So what does this add to the ocean energy and energy distribution line issues? Most simply put, there is no reason to believe we could depend on either. It makes far more sense to invest in local distributed energy (solar hot water and photovoltaic, woodstoves anchored to the floor) and ratcheting our energy efficiency level higher than current.

We know the BPA and TPUD distribution lines will be down. We know probably every utility pole with a transformer on it will be broken off. We know that some of the proposed wave energy gidgets are as tall as a six-story building, and likely will be pushed ashore. We have no assurance that any of the ocean energy schemes could maintain functionality or be able to deliver energy. Disregarding LCDC's absurd violation of public process regarding ocean energy sites, we need to consider what investments will truly help ensure our wellbeing.

Solar PV panels on buildings scattered throughout the county have a far greater probability of keeping some local electricity available for emergency use. There now are some operational within a block of the ocean, and TPUD should have performance information available on them. Costs have fallen, a variety of financing systems are available. They also need to be assisted by

additional funding.

Do we even really need new distribution lines? A far simpler, and possibly wiser alternative is to mandate efficiency upgrades when a property is sold and to require zero-energy performance on any new construction. No increase in demand, no need for new distribution. It's doable, cheaper, eliminates the need and expenditure for distribution lines we know will fail. Use those funds to subsidize distributed PV electricity.

PV roof panels on gas stations, hospitals, city halls, schools, and doctors' offices – even homes and milk parlors - make sense in everyday life as well as the long emergencies predicted. They avoid the energy losses from the power line systems, and the shorter-term power outages we're all familiar with. Combined with satellite internet, they can help maintain essential communications. Gee, maybe even the TPUD should have solar energy on their buildings? These things need to start happening now. You're not going to get UPS to deliver your satellite internet kit after the quake.