

Charging the Future

Local solutions to energy and climate challenges

It may be “an inconvenient truth,” but the climate crisis remains a mystery. While the Arctic melts away, freak snowstorms pummel the usually temperate Pacific Northwest. Is the Earth getting hotter or colder or just going berserk? To address such cosmic confusion, Lane County Commissioner Pete Sorenson and a group of local eco-activists led by Kathy Ging decided it was time to set the public straight about global warming. Their brainchild, the First Annual Lane County Energy Round-Up, comprises two free public forums, each running from 7 to 9 pm, Jan. 23 and Feb. 27.

Titled “Implementing a New Prosperity and Oregon’s State Motto: She Flies With Her Own Wings,” the round-ups promote a sustainable future for Lane County. The January forum, held at Harris Hall inside the Public Service building on 125 E. 8th Ave., aims to educate Lane County residents about climate change and renewable energies and to initiate dialogue that could evolve into green local policies. The 13 speakers from the community include scientists, energy professionals, gardeners, teachers, politicians and writers.

The Climate Crisis

The round-up’s overall message is not just another global warming doomsday prognosis — though many speakers agree that Earth’s current situation is dire. According to them, it’s time to get real about global warming. For starters, it’s called global *heating*, says keynote speaker **Alder Fuller**. “‘Warming’ is a misnomer,” Fuller says, painting a warm-and-fuzzy portrait of the dangerous heating of the Earth.

Fuller believes in a realistic approach to understanding global heating. Fuller’s Jan. 23 speech, “Global Heating and Climate Change: What Al Gore HASN’T told you,” aims to address Gore’s assertion that humankind can reverse climate change.

“We need to have an honest discussion,” Fuller says. “Can we stop [global heating]? What do we do if we can’t?”

Fuller, who has taught biology and math for more than 30 years, currently teaches at Euglena Edu — his self-created educational organization based in a warehouse studio. Fuller established Euglena Edu so he could teach the holistic science of “complexity” — a rarely taught and still emerging subject. In contrast to the reductionist approach of modern science, which studies the parts of the whole, complexity studies the system as a whole. “If you really want

to study the properties of life,” Fuller says, “you have to leave them intact.”

For his Jan. 23 speech, Fuller says he can’t explain climate change in his allotted 10 minutes — it would take 30 hours. But he hopes to convey an urgency for collective understanding about global heating and the need for action. “If we can’t stop [global heating],” he says, perhaps “we can at least slow it down.”

Like Fuller, **Kate Rogers Gessert** — a gardener, writer and ESL teacher at LCC — has no misconceptions about reversing global heating. At the same time Gessert, who co-coordinates the Climate Crisis Working Group, says there’s hope. On Jan. 23, she plans to discuss ways people can become global warming activists “without getting dragged down by it.” She says focusing on local conservation and activism can make a huge difference. For example, BLM’s proposed alternative to the Northwest Forest Plan could affect nearly one million acres of old growth. Oregonians value their forests, Gessert says. “That’s something locally that can affect change.”

“If we are able to keep the amount of global warming down 1 or 2 percent,” Gessert says, “that in itself will be a really important achievement.”

The New Old Renewables

Ever considered using solar electricity or fueling up with bioethanol? What about buying windpower through EWEB? These renewable energy technologies have been around for awhile — in some form for millennia, says energy round-up co-director Ging. But, far from going obsolete, these renewables have gone through major technological improvements in recent years.

Ging says Germany and Japan are leading the world in residential photovoltaic (PV) systems. According to an article co-authored by **Frank Vignola** in *Green + Solar* magazine, “Photovoltaics: Getting Electricity from the Sun,” “Even the cloudiest parts of Oregon receive more sunlight than Germany and Japan.”

Vignola, who will speak at the forum, directs the UO’s Solar Radiation Monitoring Lab (UOSRML), which he founded 30 years ago. The lab’s 27 monitoring stations collect solar data for use by solar facilities throughout the Pacific Northwest. “The solar age is just starting now,” Vignola says, adding that more businesses are going solar because they can receive tax credits while reducing carbon dioxide emissions.

Homeowner **Gary Delfiner** also bene-

fits from tax credits, though the climate crisis was incentive enough to install his own PV system in November 2005. While his 3,000-watt system cost about \$18,000 — he says he did spend more than usual, as he had to build an external structure to receive direct sunlight — Delfiner receives state, federal and local tax credits from EWEB. The whole system, he adds, will pay for itself in about 10 years and can last for 40 years. He also speaks at the round-up.

A PV system converts light photons into electricity. As sunlight hits silicon PV modules, it produces direct current (DC) electricity. Converting DC to alternating current (AC) requires an inverter. While many PV systems use storage batteries, more remain tied to the grid, including Delfiner’s. PV system owners can give or sell excess electricity back to the utility to contribute to the electricity pool. When their systems cannot make electricity — when there is no sun — owners can draw back from the grid. Essentially, the utility acts as a PV system’s storage battery.

Biofuels

Will Klausmeier, a biofuels consultant for more than 30 years, has dedicated most of his life’s work to developing renewable, waste-free energies. Recently, he advised a student project at LCC, where he teaches chemistry, that turned cafeteria cooking oil into biodiesel and saved the college about \$3,000 per year on oil disposal costs. Methyl alcohol is traditionally used in biodiesel production, but it is made from natural gas and emits toxic fumes, so the group used ethyl alcohol instead. That produced a safe and 100 percent renewable biofuel.

Klausmeier promotes the biodiesel as an example of what he calls “re-localization,” where locally made products can have multiple uses. For example, one product of ethyl biodiesel, glycerin, can be used in soap production. Klausmeier plans to hold a public event in late April to discuss the viability of “re-localization” in Lane County.

Klausmeier’s speech at the Jan. 23 forum, “CAN Our Liquid Fuel Needs be Met With Sustainable Technology?” will cover various potential biofuel technologies. Cellulosic ethanol technology — derived from plant material — Klausmeier says is “tantalizingly close” and could mean a way out of oil dependency.

Windpower

As Oregon’s largest public utility, EWEB is also one of the more progressive. It owns its own hydropower and geothermal generation projects in Oregon, Washington and Idaho and windpower projects in Wyoming. EWEB is also the first public utility in the nation to partner with a private

utility, says former EWEB commissioner **Sandra Bishop**. She says EWEB has a \$300 million budget and provides electricity, water and steam to customers, making it “a very complicated utility.” Even with its programs to support renewable energy, “conservation comes first,” Bishop says. “It’s the least expensive energy you can possibly capture.” Bishop and EWEB Energy Resource Projects Manager **Jim Maloney** will speak at the round-up.

The New Energy Revolution

Aside from PV systems and biofuels, there exists a vast field of new energy that remains unknown in the public sphere, says **Mark Hurwit**, webmaster for NewEnergyMovement.org, a non-profit dedicated to educating and supporting new energy research.

One example, zero-point energy (ZPE), involves tapping into the infinity of outer space — which scientists now know is “anything but empty,” Hurwit says. “Space is packed with energy, power and potential.”

Tidal power is another new technology that harnesses energy from fast-flowing tidal currents. Blue Energy International developed the Blue Energy Ocean Turbine, which is similar to an undersea windmill.

But cold fusion appears to have the most potential to rid society’s oil dependence.

Also called “low-energy nuclear reactions,” the process involves fusing together two hydrogen nuclei into one helium atom by using hydrogen-loving metals at room temperature. The result: enormous amounts of energy.

Hurwit says there are literally hundreds of new energy technologies in the works today. “We need to envision a new way to live on this planet,” Hurwit says, adding that peak oil — the point at which the world’s oil production can no longer grow to meet demands — is already here.

A Cleaner Lane County?

Sorenson and Ging hope that Lane County residents who attend the Jan. 23 forum will also participate in February’s roundtable discussions. While Sorenson praises the educational lecture event next week, he says “it’s really the warm up for the roundtable discussions,” held Tuesday, Feb. 27 at the Fellowship Hall of the First United Methodist Church on 1376 Olive St. The informal discussion will groups give residents an opportunity to brainstorm ideas about incorporating renewable energy or conservation programs in Lane County, which Sorenson hopes could lead to policy changes. What will Lane County’s future look like? Attend the Energy Round-Up and find out. **EW**



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