



Mission Statement: To advance the understanding and practice of sound energy and resource management principles, and to provide a network among business, government, and utilities for information, education, and leadership.

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2008 OREGON APEM FALL FORUM ANNOUNCEMENT

Oregon APEM will be holding our Fall forum on October 9th, 2008 at the Dye House located at the Mission Mill Museum in Salem, Oregon.

The 2008 Fall Forum will focus on Cap and Trade and voluntary climate exchange markets, Peak Oil, environmental legislation, and case study presentations of the costs of value engineering. We are also working on arranging a tour of the hydroelectric generator at the Mission Mill.

For more details and to register go to http://oregonapem.org/forums.html

ECO-FRIENDLY SUNSCREEN

As we play in oceans, rivers, and lakes this summer, it's nice to know there are products that won't leach toxic chemicals into water. "Reef Friendly" sunscreens are made by many of the major companies and are available at major stores around Oregon. They were designed for use around reefs, which are some of the most fragile ecosystems on earth. According to National Geographic's Green Guide, "...a study noted that the 78 million tourists who visit areas with coral reefs leave behind 4,000 to 6,000 tons of sunscreen annually, because roughly 25% of what you put on gets washed off." In addition, there aren't regulations for what is biodegradable or reef-friendly through the EPA or FDA, so we should look for products that contain plant based ingredients. They break down faster than petroleum-based, which is good for the economy as well right now. In addition, what's better for us is better for these ecosystems as well - look for products with titanium oxide or zinc oxide. They contain a high UV barrier to keep out dangerous sun rays. It's nice to know there is a way to keep ourselves healthy, while not sacrificing one of the most delicate ecosystems on the planet.



Oregon Association of Professional Energy Managers

P.O. Box 6764 Portland, OR 97228-6764

PRESIDENT'S CORNER – FALL 2008



Dear APEM Members,

Not since the mid-1970's has energy efficiency policy been such a major priority for State and Federal Government's as it is today. We are fortunate to be located in a region that is known for proactive leadership in energy efficiency and environmental stewardship. Recent legislation and regional collaboration has initiated a goal to reduce our greenhouse gas emissions by 15% below 2005 levels by the year 2020. Oregon also has a Renewable Portfolio Standard requiring that 25% of our electric load come from renewable

energy by the year 2025. To meet these targets will require much more energy efficiency and renewable energy.

Oregonians spend nearly \$10 billion a year on energy. Most of that money goes out of our region and much goes out of our country. Oregon has no oil, and very little coal or natural gas. But we have renewable resources. Biomass, solar, geothermal, wind and hydro are abundant in Oregon and provide a great opportunity to reduce our dependence on foreign energy sources while creating jobs and strengthening Oregon's economy. As oil exceeds \$100 a barrel and forces the price of natural gas upward, renewable energy and energy efficiency deployment are more important than ever. The realistic solution includes a combination of renewable energy production with aggressive conservation through increased energy efficiency and simply using less resources.

I encourage all of you as leaders in the energy efficiency industry to get involved with local and statewide efforts to develop policy and programs that encourage and support energy efficiency and renewable energy projects. It is critical that experienced professionals participate in the development of policies and goals that impact energy efficiency programs. Experienced industry professionals have a wealth of knowledge regarding lessons learned and best practices and can provide valuable perspectives

that can enhance the quality and success of such programs. Opportunities include participating in working groups, tracking legislation and providing testimony, tracking rule making processes and providing comments, writing to your local political representatives, showing up to school board and city hall meetings, working with stakeholder groups to develop legislative concepts, join trade organizations and take advantage of networking opportunities, etc...

Additionally, do your research and find out what programs are available for your customers to help identify, analyze, and finance energy efficiency projects. Knowing the financial and technical resources available can give you an edge in the market place, and can help encourage a potential client, or your boss, to move forward with a project. Check out the Oregon Department of Energy, your local utility, Energy Trust of Oregon, Bonneville Power Administration, and the Federal Department of Energy EERE and FEMP web sites.

Brandon Adams

Oregon APEM President

SUMMER FORUM RECAP



The Oregon APEM summer forum was held on June 19th in Portland at the World Trade Center building. The focus of the Forum was tracking the performance of buildings. This forum was jam packed with four back to back presentations. The presentations contained a mix of useful and accessible information for the newcomers brought

into the energy field by four dollar a gallon gasoline and reports of a potential 40% increase in natural gas rates, as well as new tools, technical information and case studies for veteran energy managers. The Forum was capped off with a tour of the LEED Platinum certified Center for Health & Healing at Oregon Health Sciences University.

Cathy Turner from the New Buildings Institute started off the morning by presenting the results of a study showing how the energy performance of the new generation of LEED and High Performance Buildings is stacking up. Overall the results were promising, the best of the buildings are providing truly phenomenal performance, but not all of the buildings are living up to their “high performance designation”.

A panel presentation described how performance monitoring had resulted in Tigard-Tualatin School District being able find problems and to realize more than anticipated savings from recent energy efficiency measures. The panel consisted of Phil Wentz of Tigard-Tualatin School District, Bruce Alford from Oregon Department of Energy, and Sandy Spencer of Johnson Controls Inc. The three panel members provided their unique perspectives on what had been required to make this a successful project and how monitoring had improved performance and pinpointed problem areas. As always the APEM members and forum attendees had lots of questions for the panel.

Michael Brambley of Pacific Northwest National Labs brought us up to date on Automated Building Diagnostics. He was able to provide information on new software (some of it now available and others still under development) that will take us to the next level in building diagnostics. These included Energy Expert and a Daily Score card. Interestingly, Mike came all the way from Idaho to tell us that some of the best of this software is being developed right here in Portland, Oregon by Northwrite.

We barely managed to squeeze in the Networking Break before jumping into a presentation by Dennis Oberto and Jon Eicher on benchmarking buildings. During lunch Rick Durst of Portland General Electric gave a demonstration of Energy Expert, one of the new programs that Mike Brambley had discussed. He was able to show us the Daily Scorecard and how this tool targets the buildings that need attention by automatically notifying the building operator when use is higher than expected for the weather conditions.

Finally, after a quick trolley ride (to save energy, passes were provided by APEM as part of admission to the Forum) we arrived at the LEED Platinum certified Center for Health & Healing at Oregon Health Sciences University. Steve Decas of Interface Engineering, the commissioning agent for the project, met our group there and led us on tour of the building highlighting many of the components of the building that had allowed the medical building to achieve LEED Platinum. Steve was able to get us behind locked doors into mechanical rooms giving us an insider’s view of the heat recovery and water treatment systems, showed us the chilled beam cooling system, the daylight harvesting, solar panels and the on-site generation with micro-turbines. It was a great tour of an amazing building, what an accomplishment, LEED Platinum for a medical facility.

Mark your calendar for the upcoming Fall Forum continuing our series of forums on the theme of “Energy Management for the 21st Century”. You won’t want to miss this one, the topics include Cap and Trade, Peak Oil, and Environmental Legislation.

ENERGY TRUST LAUNCHES PILOT FOR ENERGY PERFORMANCE CERTIFICATE

Tool for new, existing homes would quantify energy performance and carbon impact through comprehensive inspection techniques

PORTLAND, Oregon — July 2, 2008 — Energy Trust of Oregon is piloting a study to determine how an energy-evaluation tool, called the Energy Performance Certificate (EPC), could improve the overall efficiency of Oregon's new and existing homes and reduce the amount of carbon emissions homes contribute to global warming. Think of it as a "miles per gallon" sticker for a home.

The EPC shows a homeowner how his or her home's energy use compares to typical energy used in an older home, a new home built to meet the Oregon building code, and a home that is more efficient than code requires. The certificate also reports the home's carbon footprint, measuring the home's impact on the environment in terms of carbon dioxide emissions.

"Many weatherization and energy efficiency programs exist, but very few provide a standardized rating tool to show exactly how much is being wasted, how much can be saved," said Sean Penrith, executive director, Earth Advantage. "We hope the EPC can become an effective yardstick to drive Oregonians to improve the energy performance of their homes."

Beginning in July, new-construction homes earning the ENERGY STAR® or Earth Advantage Silver® certification will receive an EPC. For existing homes, the study will research how to keep the EPC and EPC process as low-cost and timely as possible. Energy Trust is working with Earth Advantage's team of trained contractors to conduct the pilot. Energy Trust, which provides cash incentives to homeowners for energy upgrades, is underwriting the cost of the pilot study.

Homes contribute 21 percent of the total carbon emissions in the United States. "The EPC is a way to

demonstrate to both homeowners and home buyers how they can save money and substantially reduce the carbon emissions from their home by investing in energy upgrades," said Steve Lacey, energy efficiency director, Energy Trust. "The EPC can be an innovative tool to move Oregon along the path to a more sustainable future."

Earth Advantage and Energy Trust will begin the pilot in July and will report study by the end of 2008. After the results are evaluated, Energy Trust and establish a market-ready program in 2009.

Earth Advantage, Inc., a 501(c)3 non-profit corporation, is a leading green Pacific Northwest and the largest third-party tested program in the country. are designed to use 15 percent less energy than houses built to standard code Advantage works with builders, developers and home owners to bring the sustainable and healthy homes to the market. The organization has the ability Advantage (Silver, Gold and Platinum levels exist too), ENERGY STAR, or 9,500 homes in the state of Oregon have been certified to the Earth Advantage.

For more information visit:

www.earthadvantage.org.

Energy Trust of Oregon, Inc., is a nonprofit organization dedicated to changing energy by promoting energy efficiency and clean renewable energy for Oregon General Electric, Pacific Power, NW Natural and Cascade Natural Gas.

For Energy Trust information:

www.energytrust.org, or call 1-866-368-7878.

ENERGY EFFICIENCY WORKING GROUP

On August 7, 2008, Govern Ted Kulongoski, PGE, and the Oregon Department of Transportation announced the installation of the nation's first Solar Highway project. The 594 panel system will produce 104 kilowatt's of power and is expected to generate 112,000 kilowatt hours per year. This will provide approximately 28% of 400,000 kilowatt hours needed to light the interchange throughout a year. This project will cost \$1.3 million and is expected to be completed and generating energy by the end of the year.

For more information about the project:
www.oregonsolarhighway.com

SOLAR HIGHWAY

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LEDS – READY FOR PRIME TIME?

According to How Stuff Works, “Basically, LEDs (Light Emitting Diodes) are just tiny light bulbs that fit easily into an electrical circuit. But unlike ordinary incandescent bulbs, they don't have a filament that will burn out, and they don't get especially hot. They are illuminated solely by the movement of electrons in a semiconductor material, and they last just as long as a standard transistor.”

Currently, LEDs are used in exit signs, traffic lights, front and rear lights on cars, and other applications where they routinely operate on a near consistent basis. But, what about as general lighting in office buildings? Will LEDs replace all of our lights soon? The answer is yes and no. They are making great strides in LED applications, such as linear tubes that can replace the entire T- 8 luminaire (lamp and ballast). They even have LED task lighting that could go in our Systems Furniture and reduce the load by as much as 80%. However, the LED lamps are very expensive. In some cases, they cost up to five times more than a standard lamp. In addition, they are brighter and

show up as many small dots, so they need to be in an indirect application, rather than a direct, parabolic fixture. All that said, the energy conservation benefits of LEDs are undeniable, and Oregon's Department of Administrative Services (DAS) is experimenting with LEDs and finding applications that work best for them right now. One recent example was the replacing the elevator lights in the Public Utility Commission building. Not only did the LEDs improve the light level and save 60% of the energy, but DAS also received incentives from the Energy Trust that recovered 30% of the cost.

SOLICITATION OF INTEREST FOR POTENTIAL NET-ZERO BUILDINGS PILOT PROGRAM

PORTLAND, Oregon — August 4, 2008 —Energy Trust of Oregon, Inc., is soliciting interest from the commercial new construction market to explore the design of a potential pilot program that would provide premium cash incentives for the construction of commercial buildings with net-zero site energy.

Energy Trust would like to talk to design teams that have net-zero energy projects in Oregon in process to discuss the design and financial barriers for these types of projects. “Energy Trust believes that netzero buildings are where we need to go. We want to talk to a few real projects to see what it will take to help them get their net-zero buildings built,” said Spencer Moersfelder, business sector manager.

Energy Trust believes that net-zero buildings are an important milestone in the evolution of modern building design and provide valuable environmental and economical benefits. Very few net-zero energy buildings are designed and even fewer are built today because it is technologically difficult and more expensive to design

and build to a net-zero standard. Design teams working on a specific project with a net-zero building approach are encouraged to contact Moersfelder at 503-445-7635, or spencer@energytrust.org.

Energy Trust of Oregon, Inc., is a nonprofit organization dedicated to changing how Oregonians use energy by promoting energy efficiency and clean renewable energy for Oregon customers of Portland General Electric, Pacific Power, NW Natural and Cascade Natural Gas.

For more information:

visit the Energy Trust Web site, www.energytrust.org, or call 1-866-368-7878.

IMPACT DAY IN PORTLAND SAVES BIG

The Portland State Office Building Energy Committee formed about six months ago to improve resource use and sustainability in the building, and engage their co-workers in conservation projects through “Impact Days.” Their first Impact Day was on Earth Day, April 22, 2008. The focus of this one was on elevators, which account for 10-15% of the electrical load of the building. They put up flyers and encouraged their coworkers who were able to take the stairs. It worked without a hitch. Through this effort, the building saved more than 2% over the previous Tuesdays in the month and demonstrates how our individual choices make a difference!

CARPOOLERS SAVE PARKING SPACES, DOLLARS & EMISSIONS

We don't usually think of driving alone to work as wasting state resources, or our own money. Yet, dozens of other Oregon employees who live in your area are probably driving an almost identical trip at the same time. Carpooling with one or more of them could save scarce parking places, thousands of pounds of greenhouse gas emissions, and restore \$1,000 or more in gas and parking expenses annually into employees' pockets.

Ridematch info and registration at:

<http://www.cherriots.org/Rideshare/index.html>
and <http://www.carpoolmatchnw.org/>

SUMMIT FOODS: AMY AND MARK SMITH FOOD PROCESSING BYPRODUCTS BECOME VEHICLE FUEL!!

Family farms, commercial agriculture and food processing go hand in hand in Oregon. The Smiths began their blueberry drying business out of the trunk of their car over ten years ago on weekends. Mark, with a culinary background, was always looking for the perfect blueberry to bake with. When he got the moisture content right he couldn't keep enough semi-dried blueberries around to keep his commercial bakers satisfied. Combined with Amy's economics and accounting background, Summit Foods is now Oregon's largest supplier of premier dried blueberries for the baking and packaged dried fruit industries. They supply commercial bakeries, dried fruit specialists, and food distributors with premium dried blueberries, raspberries, marionberries.

With two facilities in Cornelius and one in North Plains Summit foods produces more than 100,000 tons of dried berries per year. Their new Cornelius facility is a fully integrated production facility capable of drying their fruit and using the waste juice that has high sugar content to produce ethanol. A neighboring facility that packages organic vegetables has starch in their rinse water that will supplement the berry juice and make even more ethanol. Mark Smith says, " what a perfect match, we have volumes of starch that we either have to add energy to by treating the biological oxygen demand to put into wastewater systems, or we can use it to make fuels and offset energy use. It's a triple win, we save waste treatment energy, the community wastewater treatment facility has less to deal with and they save energy, then Oregonians can use local fuels to replace fossil fuel use in their vehicle. All the while we are becoming more efficient, profitable and reducing demand for foreign oil."

The facility will initially use a conventional fermentation of these starches to make ethanol. A unique per-vaporation system from New Zealand is being added to significantly reduce the energy it takes to finish the fermented alcohol to the anhydrous state necessary for transportation fuels. The next step in the process is to add green starchy food wastes from Portland Metropolitan area processors, groceries or food services. These materials will be the first step in a much more energy efficient cellulosic ethanol pre-treatment that can convert food and other wastes to fuels.

The system is tested, production will start early fall 2008, an annual production is initially going to be million gallons. The systems design capacity will exceed that amount. Summit Foods is committed to premier quality in all its work, so the go at the speed it takes to get it right is their commitment. Mark Smith sees this as the future for all food processors. Millions and millions of tons of wet corn husk, apple peel, berry skins, grape mash, seed grass straw and other agricultural or food processing wastes are land filled or sent to waste water treatment each year in the Willamette Valley. These are untapped energy resources that will help Oregon reduce carbon dioxide emissions by reducing energy use to treat them and by eliminating the fossil fuel use they displace.

For more information:
<http://summitfoods.biz/>



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