

SOLAR RISING

March 2003

Volume 5, Issue 1

Quarterly Newsletter of the Oregon Solar Energy Industries Association (OSEIA)

Bringing you tomorrow's sustainable energy technologies today!

OSEIA LETTER FROM THE PRESIDENT

by Bob Maynard



2003 is shaping up to be another exciting year for solar technologies in Oregon with the launch of the Energy Trust's system rebate programs for both Thermal and PV systems. This joins Net Metering, LRT (Limited Renewable Energy Technicians formerly **R**enewable **E**nergy **T**echnicians) and Thermal licensing as yet another positive step forward for our industry in Oregon. Ten years ago, I would never have guessed we could be this far along in that period of time. In the past we have depended on customers who were "Early Adopters" and now we are seeing the transition to more of a mainstream customer base. The growth of OSEIA's membership in the last year is strong testament to this. For the first time ever, OSEIA has an Executive Director, Jon Miller. Jon's knowledge of the energy picture in the Northwest along with his passion for renewables makes him a treasured asset for our industry association. Jon, along with membership growth, and the continued efforts we collectively put in will strengthen OSEIA.

With Jon's hard work, OSEIA has ac-

complished some large tasks in a rather short time. The Electrical and Elevator Board recently approved a continuing education course, qualifying for 24 hours credit. Those potential LRT candidates who were short classroom hours but had the required field hours to sit for the RET license test, can now proceed. The LRT Apprenticeship Program is now in place providing a path for those people short on field hours and place for new entries to get started on a career as a Limited Renewable Energy Technician. Also, a Solar Plumber's license is now available and details for that apprenticeship program are being worked out.

One should not forget BPA's recent adoption of the Bright way Program on region wide basis.

With the rapid growth and changes coming to our industry, a strong OSEIA can and will influence the growth and profitability of our individual businesses. I encourage each and every member to make a little more time and effort available to OSEIA. Now is the time to be certain we are driving the bus rather than riding it!

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Letter from Executive Director

by Jon Miller

OSEIA Members,

In many ways the solar industry is at a crossroad. Encouraging new trends include the passage of Oregon Renewable Energy (RE) licenses, a regional solar thermal Bright Way program, solar programs offered by the Energy Trust, and a renewed interest in clean, sustainable, and safe energy supplies.

However, this isn't the first time the solar industry has seen promising trends. Challenges to Oregon's RE licenses remain, public awareness of energy impacts is low, and national energy subsidies that undermine RE have been increased. To remain relevant OSEIA must address financial, political, and public awareness challenges.

OSEIA must remain financially solvent to foster the new Oregon RE licenses and to ensure a strong industry voice is heard. The RE licenses will not survive without substantial effort by OSEIA and commitment by the industry. While grants are required in the short term to fund OSEIA, our long-term goal is the development of a strong self-supporting RE industry. In the last 6 months we have added 10 new members. We will continue to grow our membership to meet future funding goals.

Our political and public challenges converge around the primary hurdle

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SOLAR RISING is the newsletter of the Oregon Solar Energy Industries Association (OSEIA). OSEIA is Oregon's local chapter of the Solar Energy Industries Association. The information presented in this newsletter reflects the opinions of the authors and not necessarily those of OSEIA.

The success of the newsletter depends upon your contributions. This is an opportunity to tell the OSEIA members about your activities and to express your opinions. Photographs or figures to accompany articles are most appreciated. Articles of current and timely interest will be given highest priority. Otherwise, articles will be published on a first come basis as room allows.

Send your contributions to:

Frank Vignola
 Department of Physics
 1274 - University of Oregon
 Eugene, Oregon 97403-1274
 Phone: (541) 346-4745
 Fax: (541) 346-5861
 Email: fev@uoregon.edu

OSEIA Meeting Agenda

April 8, 2003

11:00am-3:00pm

EWEB Conference Room—Eugene

1. (10 min) Introductions (11:00am)
2. (10 min) Welcome new members
3. (5 min) Approve previous meeting notes
4. (10 min) Treasurers report
5. (30-45 min) Executive Directors report (12:00pm)
 - a. LRT license issues
 - b. BCD funding concern for LRT license
 - c. Solar Plumbing license issues
 - d. Apprenticeship programs
6. (30 min) Membership Issues
 - a. Membership update
 - b. Dues changes
 - c. Web site
 - d. Set date for next meeting
7. (20-30min) Solar plumbing license
8. (10-15min) NABCEP Update - Bob-O Schultz
9. (10-15min) Oregon State Carbon Tax - Frank Vignola
10. (15-20min) Announcements
 - a. ASES 2004 Conference in Portland
 - b. SolWest RE Fair July 25-27
 - c. Oregon Country Fair July 11-13
11. (45-60 min) ETO solar program update

Contact Information

OSEIA Web Page

<http://www.OregonSEIA.org>

Executive Director

Jon Miller

Phone: (503) 236-0367

Email: oseia@attglobal.net

OSEIA Officers



President: Bob Maynard

Energy Outfitters

Ph: (541) 592-6903

Vice President: Bob-O Schultze

Electron Connection

Ph: (800) 945-7587

Secretary: John McIntosh

Cascade Solar Works

(541) 548-7887

Treasurer: Andy Bortz

Solar Design & Consulting

Ph. (541) 753-8725

OSEIA Member	Company	Phone	OSEIA Member	Company	Phone
David Parker	Advanced Energy Systems	(541)-683-2345	John Murray	Lane Electric Cooperative	(541) 484-1151
Patrick M. Kemmerer	Aqua Energy	(541) 383-5088	Barker	Morning Hill Associates	(541) 542-2525
Bob Claridge	Bobcat and Sun Construction	(541) 389-7365	John Patterson	Mr. Sun Solar	(503) 222-2468
Doug Boleyn, P.E.	Cascade Solar Consulting, LLC	(503) 655-1617	Lloyd Marbett	Oregon Conservancy Foundation	(503) 637-3549
Douglas Railton	Cascade Sun Works, Inc.	(541) 548-7887	Chris Dymond	Oregon Office of Energy	(800) 221-8035
Sidney Clouston	Clouston Energy Research	(503) 642-1886	Dan Stifle	Oregon Solar and Water	(541) 344-1594
Phil Tussing	Electric Norm, Inc.	(503) 861-1688	Sonja Ling	Renewable Northwest Project	(503) 223-4544
Bob-O Schultze	Electron Connection	(530) 475-3402	Dick Kent	RV Energy Systems-Environmental Energies	(541) 954-6786
Joe Savage	Emerald PUD	(541) 744-7448	Newt Loken	Solar Assist	(541) 338-4957
Vincent McClellan	Energy Design	(541) 937-8284	Roy Mizani	Solar Depot	(916) 381-0235
Bob Maynard	Energy Outfitters	(541) 476-4200	Andrew Bortz	Solar Design & Construction	(541) 753-8725
Tom Scott	Energy Service Co., The	(541) 302-6808	Andrew Koyaanisqatsi	Solar Energy Solutions	(503) 238-4502
Brian Bowman	Energy Smart Systems LLC	(503) 885-9571	Pat Stapleton	Stapleton Electric of Oregon	(503) 970-2976
Don Spiek	EWEB, Attn: E.M.S.	(541) 484-1125	Dave Robison	Stellar Processes	(503) 827-8336
Gary Higbee	Windstream Solar	(541) 607-1818	Ron Summers	Summers Solar Systems	(541) 683-4014
Brent Gunderson	Gen-Con, Inc.	(503) 245-7657	Rick Reed	Sun Earth Inc.	(909) 605-5610
Rick Newman	Goldstar Electric	(503) 289-6066	Paul Israel	Sunlight Solar Energy	(541) 322-1910
Christel Bieri	Heliodyne, Inc	(510) 237-9614	Tim Dawson	The Solar Collection, Inc.	(541) 535-5364
Joe Schwartz	Home Power Magazine	(541) 512-9281	Frank Vignola	U of O Solar Radiation Monitoring Lab	(541) 346-4745
Bob Klecha	Idaho County Solar	(208) 983-0820	Leonard O'Donovan	West Linn Electrical, Inc.	(503) 656-4375

OSEIA Minutes

Tuesday, January 14, 2003

Prepared by John McIntosh, Reviewed by Jon Miller



New Officers elected:

President: Bob Maynard

Vice President: Bob-O Shultz

Secretary: John McIntosh

Treasurer: Andrew Bortz

The minutes from the last meeting were not available, postponed and will be read next meeting.

Christopher Dymond distributed the OEE Certified Solar Professional application.

Jon Miller - Executive Director RET Status Report

- 1) 4 in the state
- 2) 12 eligible for test
- 3) Scheduled class tentatively for March 13-15 in Eugene
- 4) Discussion on RET class content
- 5) Cost not determined
- 6) May be scheduled in other areas and times if it's of interest and a sufficient number of students were scheduled.
- 7) Course for grand fathered RET tech who have hours
- 8) Additional 16 hours education will be required to be taken at other institutions with additional course-work.
- 9) Please note that 2003 RET are required for PV, wind, and micro-hydro systems.

10) Apprenticeship program needs full RET and electrical contractors to take on apprentices

Apprentice Committee tentative meeting is scheduled for February 5, 2003 in Salem OOE

- 1) John Patterson
- 2) Jon Miller
- 3) Ryan Mayfield
- 4) Alan Hall
- 5) Andrew Koyanisqaatsi
- 6) Roger Ebbage

Any interested electrical contractors must apply to the apprenticeship committee to gain approval to begin RET apprenticeship.

Jon Miller: ETO - open solicitation opportunities to pay for local projects and community demonstration projects. Contact Jon Miller if you need information or help working with the ETO.

Christopher Dymond reported that Jerry Ventrete NABCEP test developer will be at the OOE office in Salem on Feb. 21 at 10am to review the NABCEP test.

John Patterson reported on ethics report to Electrical Elevator Board. Non-compliance citations up 100 fold.

Special emphasis was made that all permits are pulled ahead of time. Make sure that you have properly licensed plumbers and electricians doing all the appropriate work.

Feedback: open discussion

- 1) Meeting schedules regularly posted on web site.
- 2) Recruit new members potential to compensate member for recruiting.
- 3) Investigate potential for Insurance/bonding rates and breaks for OSEIA members.

Resolved membership committee chairmanship. Don Spiek, Jon Miller - chair.

Andrew Koyanisqaatsi - secretary, Tom Scott, Bob-O Schulze.

Web site committee, Jon Miller chair. Cosmos still doing maintenance as needed. Bob-O Shultz, Bob Maynard, Frank Vignola, Christopher Dymond, Steve Musser.

Special thanks to David Parker for web site work.

Web site additions agreed to

- 1) What's new
- 2) Industry/members press releases.
- 3) Passive solar and legislative pages

Peter West (ETO) called in to give presentation on ETO Solar Program update.

Demo Programs guidelines - not formalized yet. Schools 100%, others 50%. Submit proposals to Peter West. Must support program launch and marketing.

Rebate PV Funding - October 2003 - \$1-1.2M program. 50% launch costs. Raw rebates 5-600K to customer. 1M/yr 2004 10% renewable funding. Rebate solar thermal 2 cents/kWhr over 10 years. May 1 start date for PV rebate program.

OSEIA brochure and logo - completed for approval with removal of OR in 'O'.

Steve Still (EWEB) for BPA Bright way. Central Electric Cooperative in Redmond, OR

2/19/03 12:30 - 5:00 Staff

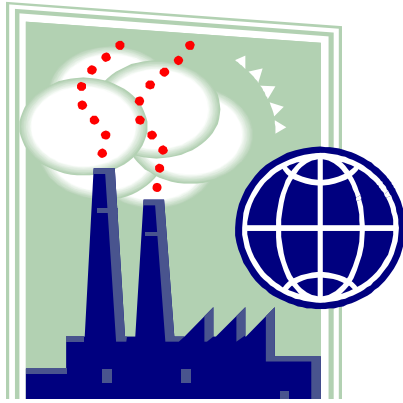
2/20/03 9:00 - 5:00 Solar Contractors

Steve Still - Energy Outlet has Solar Site Selector unit back in stock.

Frank Vignola - Oregon Carbon Tax:

- 1) Ballot initiative House Bill
- 2) Solar plumbing license authorization coming up.

(Continued on page 6)



Oregon's Carbon Tax Legislation

by Frank Vignola

Recently, Senator Tony Corcoran and Representative Floyd Prozanski helped me to introduce a carbon tax legislation into the Oregon legislature. A carbon tax is a tax on burning of fossil fuels. One might consider this a sin tax for polluting. The bill number is HR 2788 and can be found at <http://www.leg.state.or.us/03reg/measures/hb2700.dir/hb2788.intro.html>.

HB 2788 imposes tax on each fuel suppliers and utility based on amount of carbon in carbon-based fuel that is sold by fuel

supplier to consumers in-state or that is used to produce carbon-generated electricity supplied by utility to consumers in state. To conform to current law, tax on certain oil and natural gas is limited to six percent of market value of oil or natural gas. If passed, the legislation distributes moneys collected from tax to State Highway Fund, Common School Fund, Energy Crisis Trust Fund and Renewable Energy Resources Account. The legislation also creates Renewable Energy Resources Account to fund development of renewable energy resources.

Rationale for a Carbon Tax:

The burning of fossil fuels for transportation, heat, and electricity is changing our climate by emitting large amounts of carbon dioxide into the atmosphere. Carbon dioxide works much like the window of a

car that enables the interior to get hot inside even on a relatively cool day. The window lets the light in and keeps the heat from leaving. Carbon dioxide is also similar to putting a lid on a pan to make it boil faster, the lid traps the heat inside just as carbon dioxide traps heat in the atmosphere.

The extra heat in the atmosphere changes the world's climate. In Oregon, climate change is threatening the health of forests by making them more susceptible to disease, and exacerbating water problems by limiting the availability for irrigation and hydro power. Some of the climate change effects are more subtle. For example, climate change is also warming the oceans and warmer ocean temperatures create large, more severe storms and change the

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Example impacts and revenues

Sample TABLE	
Tax Rate (\$/ton of carbon)	\$7.50
Total Revenue (\$ millions)	\$111.2
Tax Rate (\$/ton of CO ₂)	\$2.05
Tax Rates for Common Fuels	
Gasoline (cents per gallon)	2.0
Electricity (cents per kWh)	0.06
Natural Gas (cents per therm)	1.3
Fuel Oil (cents per gallon)	2.3
Coal (\$/ton)	\$5.26
Residual Oil (\$/barrel)	\$1.11
Impact on Average Annual Household Energy Bill	
Residential Energy	\$16
Gasoline	\$19
Total Energy Bill	\$35

State:	Oregon	
Base Year:	1999	
Revenue by End-Use Sector		
Sector	Millions	Percent
Residential	\$17.2	15%
Commercial	\$13.9	13%
Industrial	\$27.7	25%
Transport	\$52.3	47%
Total	\$111.2	100%
Revenue by Fuel Type		
	Millions	Percent
Coal	\$0.0	0%
Natural Gas	\$22.7	20%
Diesel	\$11.5	10%
Gasoline	\$30.1	27%
Aviation Fuels	\$6.0	5%
Other Oil Products	\$10.6	10%
Electricity	\$30.3	27%
Total	\$111.2	100%

Oregon's Carbon Tax Legislation

(Continued from page 4)

migratory habits of marine life.

While the United States imports considerable quantities of fossil fuels, Oregon imports 100% of the fossil fuels it uses. By the end of the century the world will have used up all of its oil reserves and most of the natural gas. In the next 10 to 20 years, the world demand for oil will exceed production by up to 20% and the price of oil will increase dramatically. While the price of natural gas is relatively inexpensive today, growing demand will increase its cost and large amounts of liquid natural gas will have to be imported at much higher cost. Because Russia is the "Saudi Arabia" of natural gas, future supply and price will be subject to Russian policy.

There are two ways to reduce the amount of carbon dioxide (CO₂) being dumped into the atmosphere. We can either pass regulations limiting the amount of CO₂ being emitted or we can make people pay for dumping CO₂ into the atmosphere just as people are charged to dump garbage in a land-fill.

The advantage of charging to emit carbon dioxide into the atmosphere is that regulations don't have to be enforced and money raised by the charge can be used to help solve the problem and also provide revenue for much needed state services such as schools and maintaining roads.

Energy is a multi-trillion dollar industry worldwide. As the cost of fossil fuels increase, there will be a steady increase in the use of renewable energy. This is already happening with Japan and Europe investing billions of dollars into solar and wind technologies. We can either help facilitate the change and reap economic benefit in the process or wait until a crisis is upon us and face the economic consequences. The electricity crisis of 2001 was just a small sample of what will happen if we don't prepare for the change.

Those who invest early in the renewable industry stand to capture a sizable portion of the market in the future. Energy use is a much more steady market than high tech and agriculture (including forestry) products. A renewable energy industry could do much to strengthen and stabilize Oregon's economy. Oregon has all the renewable resources: hydro, solar, wind, biomass, and geothermal. With a renewable industry not only could the Pacific Northwest become energy independent, but it could export expertise, technology, and equipment to the Pacific Rim countries.

Already renewable companies show interest in locating in Oregon. With money to invest in renewable energy and attract companies, Oregon has the potential of becoming one of the world leaders in renewable technologies. It has the expertise, the resources, and easy access to the market. All it lacks is enough funding to

- **The carbon tax is a sin tax – one pays to pollute**
- **It is relatively easy to administer**
- **It benefits schools**
- **It benefits roads**
- **It benefits the environment**
- **It benefits the economy of Oregon**

interest the renewable industries and get the ball rolling. The budget for Oregon is already stretched thin and hence the Carbon Tax is necessary to raise the type of money that is needed.

For more information contact Dr. Frank Vignola

Director University of Oregon Solar Energy Center

Department of Physics
1274 – University of Oregon
Eugene, OR 97403-1274
Phone (541) 346-4745
Email fev@uoregon.edu

Sequestering Carbon

By Jon Biemer

One would need to plant 1 1/3 acres of trees to sequester the carbon from one passenger car.

Supporting calcs:

One acre of tree plantings sequesters 3.67 tons of CO₂ per year (assuming 5 year old trees).

One "average" passenger car emits 5 tons of CO₂

acres per car = 5 tons/yr/3.67 tons/yr = 1.36

References: "Emissions Factors, Global Warming Potentials, Unit Conversions, Emissions, and Related Facts", p. 9. compiled by ICF Consulting, Nov. 23, 1999. [Their assessments are drawn from: Annual Emissions and Fuel Consumption for an "Average" Passenger Car, U.S. EPA, 1997. (cars) and Sector-Specific Issues and Reporting Methodologies Supporting the General Guidelines for the Voluntary Reporting of Greenhouse Gases under Section 1605(b) of the Energy Policy Act of 1992, Appendix 5E.



US EPA/APPD calculated from referenced DOE/EPA publication. (tree plantings)]

OSEIA Minutes

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- 3) ASES 2004 in Portland July 11 - 14.
- 4) SolWest (www.solwest.org) July 25 - 27, 2003.
- 5) Oregon County Fair July 11 - 13, 2003.
- 6) OSEIA Tank Standard.
- 7) Net Energy Homes with OOE May 6, 7, 8 at Skamania Lodge

Special thanks to Jon Patterson and Newt Loken for all of their hard work on behalf of OSEIA..

Action Items:

- 1) Formulate Email Rules for OSEIA members. (Jon Miller)
- 2) Investigate the idea of using discussion group to discuss OSEIA agenda and ideas. (Jon Miller)

HOPE Eco-Design Arts Conference

By Robyn Scofield



Please join us for the 9th Annual HOPES Eco-Design Arts Conference April 10-13, 2003 on the University of Oregon campus in Eugene. HOPES (Holistic Options for Planet Earth Sustainability) will focus on "Ecological Urbanism" this year, and will include keynote addresses by Lois Arkin, Los Angeles Eco-Village; Stuart Cowan, co-author Ecological Design; Kathryn McCamant, co-author Co-

Housing; Richard Register, Eco-City Berkeley; and Mark Lakeman, Portland City Repair. Panels and demonstrations will include Photovoltaics for Integrating in Buildings, Solar EMU, Alternative Fuels, LEED Buildings, Transportation Design Solutions, Politics of Renewable Energy, and more. Registration forms and the schedule are available online at <http://edc.uoregon.edu>.



photo by Steve Musser of ESCO

NET ENERGY HOMES CONFERENCE



The two day event will present ideas and technologies that have emerged over the past decade that integrate the concepts of energy efficiency and solar energy into an affordable home. Classes cover topics of advanced shell design, heating systems, solar systems, indoor air quality, heat recovery, green building, marketing and incentives. Half the time at the conference is structured as presentations and the other half is structured as small working groups competing to develop the best possible and affordable net energy home design. The best three designs will be featured in press releases and on the sponsor's web sites. This mix of class and design "charette" approach will ensure that those who attend will have ample networking opportunity and gain hands on design experience.

When and Where

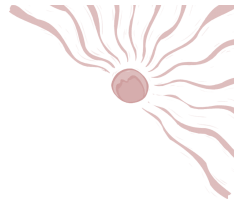
May 6-8, 2003
Skamania Lodge
Stevenson, WA

More information:

<http://ccapps.wsu.edu/netenergy>

Or call WSU Conferences and Professional Program at (253) 445-4575

Washington State University Energy Program and the Oregon Office of Energy have teamed up with Clark County PUD, and Portland General Electric to host this event. WSU Conferences and Professional Programs staff have been contracted to provide logistical and conference organizational support.



Headrick Solar-Voltaic Dome™
Power Station

From
[http://www.geocities.com/
Eureka/1905/](http://www.geocities.com/Eureka/1905/)



National SEIA

By Glenn Hamer

National SEIA is busy securing the best possible package of tax incentives, national interconnection/net metering standards, and appropriations for solar technologies. We're also working on other projects such as securing more solar on federal lands and fighting for an RPS that benefits all solar technologies. The 15 percent residential credit (capped at \$2,000) for photovoltaics and solar water heating is secure and will move in any package that contains energy incentives. The best guess is later this year, but the timing is impossible to determine at this point. We also expect an Energy Bill with stronger language on interconnection and net metering than has ever seriously been considered on the Federal level. The budget levels for PV and Solar Buildings are in good shape and I expect adequate

funding for programs such as MSR to continue.

In terms of Member benefits for our state SEIAs, we provide Solar Today subscriptions as well as our E-Newsletter. We also stand ready to help in whatever capacity asked. Importantly, we often need YOUR help to convince federal lawmakers to support our position. For example, Senator Gordon Smith is a member of the powerful Senate Finance Committee and his support is essential for us to realize tax incentives. A strong industry association helps us at all levels of government. Please always feel free to contact me or our Legislative Assistant Colin Murchie at 202-628-7745. We value your input and good work.



Keeping in Touch with Your Legislators

While your legislators may seem far away, they do pay attention. It certainly helps to have a lobbyist, but many times it is their constituents that they listen too. Right now there are several bills before congress and the state legislature that can affect your job. So it is important to follow what is going on.

In Washington, SEIA takes on this important task. They are lobbying for money for research, tax credits, and to make sure that solar is taken into consideration when policy issues arise.

Recently, SEIA asked for some help in getting Senator Smith to increase the cap on the federal tax credit for renewables from \$2,000 to \$4,000. About 20 SEIA members responded rapidly to sign onto a letter which Colin Murchie will deliver when he talks to the senator's staff.

Writing both senators and your representative about your opinions on solar energy issues always helps and it helps bring the issue to the legislator's attention.

There are at least two bills before the state legislature. One bill, HR 3087, seems to greatly restrict the jobs a Limited Renewable energy Technician can perform. Keep in close contact with Jon Miller on this issue. Quick action may be needed when this issue is brought up for hearing. (We should be thankful for Don Spiek of EWEB alerting OSEIA to this bill.)

The other bill is HR 2788, the carbon tax discussed earlier in this newsletter.

To see what is happening at the state capitol, you can log onto the web site at <http://www.leg.state.or.us/index.html>. Of course, it really takes someone in the capitol to keep track of all the legislation and to prepare bill that could help the industry. That is one reason it is important to encourage the growth of the renewable industry in Oregon. With a larger industry come the funds to hire the needed lobbyist.

OSEIA has taken the important step of



hiring an executive director. This has already paid dividends in his actions to develop programs for LRT. Jon has also taken filled the void to increase the number of participants signing on the letter to Senator Smith.

While most of us have little time to participate actively in the political process, laws are being made that do affect your job and if OSEIA acts in as a group like the recent letter, then a lot can be accomplished.

OSEIA LETTER FROM THE PRESIDENT

(Continued from page 1)

I would like to issue a warm welcome to our new members. I look forward to serving OSEIA as president this year. Feel free to contact me any time via phone, 800-GO-SOLAR (800-467-6527) or email, bob@energyoutfitters.com .

Letter from Executive Director

(Continued from page 1)

facing the RE industry – energy awareness. While recent events have generated renewed interest in RE, a majority of the public remains unaware of the profound negative impacts of our current energy supply. And, as always, politicians won't address what the public isn't concerned about.

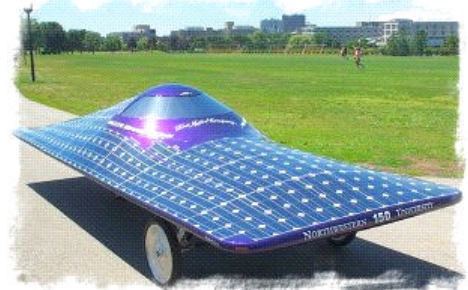
Our failure to address current energy problems may well be a defining moment for generations to come. OSEIA must play a more active role increasing energy

awareness and illustrating the essential need of a thriving RE industry. Safe energy sources, an enhanced quality of life, and the creation of new jobs are all benefits of embracing RE.

To increase OSEIA's effectiveness all of you should be contacting your state and federal representatives in support of renewable energy. Our future depends on it.



Northwestern University
Solar Racer
<http://solarcar.northwestern.edu>



2468 Hawkins Lane
Eugene, OR 97405-1202