

The NMSEA SunPaper

January/February 2010

Published Bimonthly

Volume XVIII, Number 1

Alternative Energy on a Budget

By Gary Vaughn

Solar panels are for rich people. High tech “energy efficient” homes are for rich people. Hybrid cars are for rich people. What about the vast majority of New Mexicans? What can NMSEA offer them? This is a fairly common theme in our organization. It surfaces regularly in Board and committee meetings and in private discussions. Turns out that it’s a tougher nut to crack than you might think.

One of the striking things about reviewing documents and reports by NMSEA from the 70’s and early 80’s is the strong focus on solar from the bottom up, i.e. projects and approaches that were meant to be available to almost everyone. NMSEA members championed passive solar building techniques and hands-on owner-builder do-it-yourself approaches that quickly spread across the country. But for a variety of very real reasons, many of those solar projects and initiatives have gradually faded into the sunset. Solar remains the exception, not the norm in rich and poor neighborhoods alike.

Today the alt-E emphasis seems to be on state-of-the-art grid-tied PV systems, active solar hot water or radiant heating systems, and high-tech Prius hybrid or Tesla electric vehicles. “Tax incentives” are designed to drive “investment choices” that will jump-start the “Green Economy.” PV is proposed as the answer to Global Climate Change. A recent Solar Today article advised us to overlook financial justifications for PV and focus on “energy payback”. Expensive PV systems are starting to compete with Mercedes Benz and Santa Fe Style for status symbol cachet in one of the poorest states in the whole country. In 1989 Mother Theresa established a mission in Gallup, New Mexico. Think about it.

In most New Mexicans’ minds “solar energy” means “solar panels,” period. High quality well-installed solar PV, water or air panel systems work, but they’re expensive. These systems must be paid for out-of-pocket.

(Continued on page 5)

Don’t Ignore Nature’s Messages

By Kent Salazar, National Wildlife Federation
Letter to the Editor, Albuquerque Journal, Oct. 29, 2009, reprinted with author’s permission.

On a recent visit to Zia Pueblo, a group of us worked to restore a sacred spring that had dried up. The spring had been around for centuries, judging from the petroglyphs in the area pointing to the source, so its disappearance was troubling. Thankfully, we were able to find innovative ways to help replenish the spring, building rock dams to slow and hold runoff water to restore the aquifer that feeds it.

We need that same spirit of cooperation and innovation to find solutions to our energy and climate challenges. That’s because signs are everywhere, telling us that something is amiss. Around the state, tens of millions of beetle-killed piñon pines provide one portent. [Editor: I was shocked recently to see the number of tall pines devastated on the east side of the Sandia Mountains.] We’re seeing changing movements of animals, like changing migration patterns of waterfowl, appearances of

(Continued on page 8)

Inside this Issue

Page

- 1 Alternative Energy on a Budget, Don’t Ignore Nature’s Messages
- 2 NMSEA personnel, location, advertising rates; Words of Sol
- 3 NMSEA Chapter Leaders and Contact Information
- 6 NMSEA Board Meeting Jan. 16, NMSEA Board Election Results, Abq Meetings Return to REI
- 7 Thanks to NMSEA Leaders! Solar Fiesta Bake-Off
- 9 Ben Luce in Vermont
- 10 Letters to the Editor
- 11 NMSEA Advocates for Passive Solar
- 14 Greenbuild Phoenix, PNM Filing Still Pending
- 15 Membership Form
- 16 NMSEA Mission, Vision, Coming Events

The NMSEA SunPaper

NMSEA Board of Directors, Voting Board Officers

President:	Monte Ogdahl
Vice Presidents:	Randy Sadewic, Gary Vaughn
Secretary:	Jim Barrera
Treasurer:	Barbara Menicucci

Balance of Voting Board Members

Carl Axness	Jennifer Beyss
RP Bohannan	Janet Bridgers
Mars DeLapp	Lisa Silva

Executive Director: Mary McArthur

Advisory Board Members

Bob Andruszkiewicz, Odes Armijo-Caster, Elya Arrasmith, Gale Zander Barlow, Charles Bensinger, Carl Bickford, Marlene Brown, Mark Chalom, David Dobry, Wayne Evelo, Jr., Dr. William (Bill) Gross, David Hughes, Rose Marie Kern, Deena Klein, Michael David Lipkan, Jim Palmer, Eric Robinson, Allan Sindelar, Julie Stephens, Steven Stephens, Howard and Virginia Stephens.

Chapter Leaders

Alamogordo:	Ron Offley
Albuquerque:	Olga Lavrova
Las Vegas:	Lloyd Goding, Emelie Olson
Los Alamos:	David Griggs
Santa Fe:	Bob Kreger, Gary Anderson
Silver City:	Gayle Simmons
Taos:	Scott Evans, Larry Mapes

NMSEA Office Staff: Ragan Matteson, Rose Chavez

SunPaper Editor: Ron Herman

Send all letters, comments, and articles to

The NMSEA SunPaper

1009 Bradbury Dr. SE #35

Albuquerque, NM 87106

(505) 246-0400 (888) 886-6765 www.nmsea.org

If you wish to submit an article, you may do so by traditional mail or send it by e-mail to info@nmsea.org.

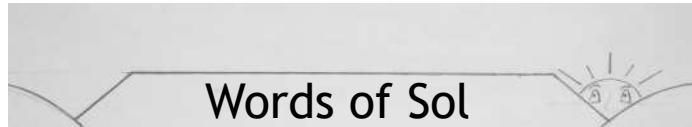
Advertising Rates

All advertising is in black and white, and photos and graphics must have a resolution of at least 250 dpi in JPEG, TIF, or PDF format. Text-only ads may be provided in MS Word (.doc) format (not .docx). Ad copy must be e-mailed by the 15th of the month before publication. Circulation is typically 800, but 3,000 for the Sept/Oct Solar Fiesta Guide. The size requirements and new prices for the SunPaper ads are as follows:

	SunPaper
Full Page:	9½" H X 7" W
Half Page:	4½" H X 7" W
Quarter Page:	4¼" H X 3½" W
Biz Card:	2" H X 3½" W
	\$115.00
	\$65.00
	\$35.00
	\$20.00

The NMSEA SunPaper is printed with soy ink on recycled paper by Vanguard Printing in Albuquerque, NM. The views expressed in the SunPaper are not to be considered an endorsement by the staff or Board of Directors. We strive for an open platform.

© 2010 by the New Mexico Solar Energy Association



Words of Sol

Happy Solar New Year 2010!

Those of us that are Solar powered and heated truly rejoice that we've made it past the winter Solstice. Can you believe it's 2010 - two thousand and ten, or twenty ten? Still kind of clumsy for conversational purposes in the "text" age. Why not just "ten," since hopefully we are beginning to move away from the old paradigm towards the new "Golden Age"?

An awakening of more of the general public is now causing a search for answers and assistance on how they can help curb the environmental and energy problems. In the years past there were not many organizations like ours that were offering to educate children and adults on renewable energy (RE) and that has professional technical people in their membership to help provide their energy needs. With renewed RE interest numerous new organizations have come on line to compete for the market we have been serving. NMSEA needs to not only maintain market share, but by taking some new approaches and using some new tools, we should be able to increase our influence, membership, and bottom line.

How to start: NMSEA has been holding long term planning (LTP) committee meetings on a regular basis since the Solar Fiesta (SF). We have had good attendance with creative input and vision. After a couple of sessions of brainstorming future ideas, some of the new members suggested we revise our mission and vision statement and promptly went to work on them. Once those have been reviewed by the committee, they will be sent out to the membership for review and then voted on by the board. The first agenda of the LTP has been focused on how to increase the effectiveness of the Solar Fiesta.

From then to now: There has been a ten-year evolution from the annual "Ghost Ranch show and tell," to the first Solar Fiesta in Bernalillo, which was started by Rose Kern. (See page 8.) It was expanded under the management of Joe Griffin at the Indian Cultural Center, and under Mary McArthur's direction the SF moved to Highland High, where the SF committee has evolved into an efficient professional operation.

The next steps: Do we want the Solar Fiesta to go beyond its current size, location, and attendance? If so, what are our goals, and how do we accomplish them? After much discussion by the committee, Mary Mac put together a customized survey that was sent out to the active committees, exhibitors, and the general membership. Participation in this survey was very good, and Mary was able to put the response data into pie, bar, and graph charts, which was a great help in developing our recommendations. The responses confirmed that we should increase our participation in collaborative events



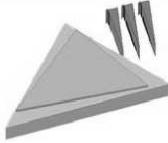
Mailing: PO Box 705,
Albuquerque, NM 87103
(505) 243-3196 (866) 873-6746
www.loanfund.org

Lending for Change Since 1989!

The Loan Fund serves hardworking people developing ideas, building dreams and working toward economic security for themselves, their families and their communities.

We are a private, nonprofit organization offering financing and consulting services to business owners and nonprofits.

Call us today- let's talk about your financing needs!



**DELTA
THIRD
DESIGN**
**ENERGY EFFICIENT CUSTOM
OWNER-BUILDER HOME DESIGN**
505-264-3993, KATIE ERICKSON
WWW.DELTATHIRD.COM

to increase our exposure and income, while limiting our costs and personnel needs. The committee recommends that NMSEA collaborate with the Green Ideas Show at the Albuquerque Convention Center April 9-11, and possibly coordinate with other organizations throughout the year. They also recommend that the Solar Fiesta remain a separate and unique event, but, surprisingly, there was considerable interest in moving the 2011 Fiesta to May. Based on these recommendations, we would hold a SF this fall at a new location somewhere around Albuquerque and then hold another in the early part of May, 2011.

Planning forward: In the upcoming LTP meetings we would like to discuss the following:

- expanding to a parallel website that will be able to host blogs, videos and more open dialogue;
- acquiring real estate and managing it;
- marketing and educational avenues for NMSEA;
- the types of organizations that would be good for collaboration, and how we could best make these collaborations work well.

We look forward to your input. If you wish to attend a committee meeting, check with Mary McArthur or me for the dates and locations.

Sincerely,

Monte Ogdahl

NMSEA President



NMSEA Chapter Leaders and Contact Information

Alamogordo Chapter

Official Name:
Alamogordo-NMSEA

Chapter President:
Ron Offley, (575) 682-6027,
offley@nmsua.nmsu.edu

Chapter Vice-President:
Lance Pickett, (505) 446-6054
Lancepickett00@yahoo.com

Albuquerque Chapter

Coordinator:
Olga Lavrova, olga_al@yahoo.com

Las Vegas (New Mexico) Chapter

Official Name:
Sustainable Las Vegas
President:
Lloyd Goding, (505) 454-9122,
lgoding@hughes.net
Communications Contact:
Emelie Olson, (505)-454-3920,
eolson@desertgate.com

Los Alamos Chapter

Official Name:
Los Alamos Sustainable Energy Network
(LASE Network)
Website:
www.lasenergy.net
Chapter President:
David Griggs, (505) 661-4572,
griggs2000@hotmail.com
Alternate Contact:
Gale Zander Barlow,
galezb@earthlink.net
Chapter Box:
P.O. Box 221, Los Alamos, NM 87544

Santa Fe

Leaders:
Bob Kreger, (505) 660-9391
kregerdesignbuild@msn.com
Gary Anderson, (505)
Gla_5573@yahoo.com

Silver City

President:
Gayle Simmons, (575) 388-1727,
wentzsimmons@signalpeak.net
Chapter Box:
P.O. Box 5129, Silver City, NM 88062

Taos Chapter

Official Name:
NM Solar - Taos Chapter
Chapter President:
Scott Evans (505) 758-5338,
scott@greenbuilderstaos.com
Chapter Vice-President:
Larry Mapes

Available now!

FONdraising Events!

A Step by Step Guide for the Small to Medium Non-Profit
by Rose Marie Kern



505-417-6790

www.solarranch.com



Shrayas Jatkar
Conservation Organizer
(505) 243-7767
shrayas.jatkar@sierraclub.org

Solving climate change requires engagement at all levels – from local grassroots projects to advocacy for smarter policies. Join the NM Sierra Club in advancing energy efficiency through the Low Carbon Diet and CoolBiz projects, or help us in implementing clean energy policies at the local, state, or federal levels. Contact the Albuquerque office to learn more and get involved!



Turn-key Installation of Renewable Energy Systems Throughout New Mexico

Including Taos, Santa Fe, Albuquerque,
Las Cruces, Carlsbad, Roswell, Tucumcari,
Clayton, Pecos, Las Vegas and Raton

Fully Licensed • Bonded • Insured
Residential • Commercial
Over 20 Years Experience

We had an *Indoor Booth at
Solar Fiesta 2009!*

Toll Free: 877-765-2713
www.energyconcepts.net



Sewer & Water Line Construction • Site Development
Darco Rainwater Catchment Systems
Road Construction
NM Lic. #030972

KELLY MEDFORD
505/690-9765 (mobile)

505/473-1000
FAX: 505/473-1307
27A Paseo De River
Santa Fe, New Mexico 87507

Central New Mexico Community College

Your source for green education
and workforce training.



For more information call
(505)224-3711 or visit cnm.edu



Central New Mexico Community College



• QUALITY
• INTEGRITY
• EXCELLENCE

3312 Girard NE
Albuquerque, NM 87107
505-856-9500 Fax: 505-856-9400
prime-electricusa.com



Lic. No. 80707

RON GUTIERREZ
BUSINESS DEVELOPMENT
Cell: 505-463-3186
rgutierrez@prime-electricusa.com

SAFETY

LINEAR CITY CONCEPTS

<http://www.imagine-city.info>

Federal and state tax incentives don't pay for solar energy systems, they reduce income taxes. A surprising number of New Mexicans pay little or no income tax. Average household incomes for 80% of New Mexicans have actually fallen in the past decade, even before the current economic crisis.

As for "investments" and "status symbols" – get real. PV and solar hot water systems are simply out of the question for most New Mexico families. So, what are some viable solar-related alt-E options for those who don't have the kind of disposable income it takes to buy conventional solar energy systems?

Articles, magazine spreads, and workshops touting energy-saving ideas, strategies and home improvements are everywhere. Caulk, seal, insulate, change light bulbs and upgrade your old fridge. All worthwhile suggestions, and ones that NMSEA advocates in our own literature and workshops. Great energy-related do-it-yourself projects can be found in back issue collections of Mother Earth News and Home Power magazine. But how about some ALTERNATIVE alternative energy ideas for New Mexicans on a tight budget?

About 10,000 years ago some enterprising folks in the Fertile Crescent came up with a way to capture and store solar energy that revolutionized human civilization – they planted gardens. Who plants gardens these days? I live in Albuquerque, but I spend a lot of time in rural New Mexico, and gardens are an endangered species everywhere. If you want to harness solar energy, supply your family with healthy food, and save some serious money in the process, then plant a big garden. Extend the growing season with dark-colored solar-powered rock or adobe walls in your garden. There are all kinds of solar-powered greenhouse designs that can be built from readily-available materials. Dark-colored rocks, or dark barrels or large diameter black plastic pipes filled with water can make a great temperature control system for a simple greenhouse. Instead of using expensive and energy-intensive fertilizer, harness compost, mulch and earthworms. If you choose your plants wisely, you may be able to sell some of your bounty - legally.

Continuing the food theme, lifestyle changes are free, and they can have a huge impact on the planet. To quote from a recent article in Solar Today – "The average North American who quits eating meat saves a ton and a half of carbon dioxide per year. That's equivalent to installing a 3.75 KW photovoltaic system in a sunny climate. And a lot cheaper." The good news is that just cutting back on meat consumption, as well as on other items that take lots of energy to manufacture and distribute, like fast/junk foods and sodas, can make a big positive difference in the health of the planet, in the health of your family, and in the health of your bank account. Win-win-win.

A surprising number of New Mexicans heat their homes with a renewable, solar-sourced, environmentally acceptable and (in theory at least) carbon-neutral fuel that was first harnessed at the dawn of human prehistory. It's called wood. Most fireplaces are better at cooling a large house than heating it, but woodstoves are a different story. If you can figure out how to supply outside air rather than inside air for combustion, then you have an efficient and economical heat source. Modern high efficiency wood stoves are worth the extra investment, because they generate more heat per cord while significantly reducing polluting by-products. And, of course, the ashes go into that garden of yours.

Carbon capture and storage (sequestration) is a hot topic these days. Scientists and engineers are proposing all sorts of new technologies to save the earth from our pollution. So, sequester some carbon the old-fashioned way – plant a solar-powered tree. In fact, plant lots of trees. Raise them from seeds or sprouts (in your solar-powered garden) and spread them around in acts of random solar-powered hopefulness. There's no better expression of optimism for a sustainable future than planting a tree! And while you're at it, you're replenishing the stock of those trees that you burned in your wood stove. You can also sequester carbon by composting a good part of your household garbage – even newspapers, not to mention the leaves from all those trees – for use in that garden of yours.

In New Mexico, summer "coolt" is as important as winter warmth. Our flat tar and gravel roofs are solar thermal nightmares in July, and our unshaded west-facing windows and house walls are solar furnaces in August. One of the most effective ways of saving the planet is to opt for a white roof. Send most of that energy back where it came from, stay cool, and save money on air conditioning all at the same time. The same goes for the sunny west-facing wall of your house. Paint or re-stucco it white or a light color. Add a healthy overhang or awning to west-facing windows. Plant some of those solar-powered trees so they shade the west side of your house. The flat roof on my old house is now white, and the un-shaded west wall was re-stuccoed Navajo White instead of Buckskin Brown like the other walls. The temperature difference in the summer is amazing.

Windows play a major role in home heating and cooling efficiency. If you can't afford to replace your windows, and you've already caulked and sealed them, thermal shades or drapes can make a huge difference in comfort and energy bills, both winter and summer. Check out products from Window Quilt, Symphony Shades, or Awindoway – or make your own. A few years ago I replaced my leaky windows with Energy Star rated units. But adding Symphony Shades' thermal blinds was still a big improvement - and they look great.

(*Continued on page 8*)

NMSEA Board Meeting Jan. 16

The next meeting of the NMSEA Board of Directors will be on Saturday, January 16, at the NMSEA office, 1009 Bradbury Dr. SE, Albuquerque, 87106, from 12:00 noon to 3:00PM with a potluck before at 11:30AM. Members welcome. Call 505-246-0400 by Jan. 11, if you have an item for the agenda.

NMSEA Board Election Results

Congratulations !!! to those new and returning members of the NMSEA Board of Directors elected in November. Jenny Beyss and Gary Vaughn were re-elected, and RP Bohannan and Lisa Silva were elected as new members. Jim Barrera was elected after serving an interim position and is now our Secretary. Mars DeLapp was inadvertently omitted from the ballot, but was appointed to another term at the first meeting of the new Board in December. So, this year's Board will include Jim and Mars, along with Carl Axness, Jenny Beyss, Janet Bridgers, Barbara Menicucci, Monte Ogdahl as President, and Randy Sadewic and Gary Vaughn as Vice-Presidents, plus our new members Lisa and RP. Deena Klein and Marlene Brown stepped down as Directors, but both will serve on our Advisory Board. Best wishes to our BOD, and "thank you" to all of you who reviewed their qualifications and voted.

Abq Meetings Return to REI

The meetings for the Albuquerque Chapter of NMSEA will once again be held at the REI Recreational Equipment store at 1550 Mercantile NE, 87107, near I-25 and Montaño (Montgomery west) in their meeting room. The January 26 meeting at 6:30 pm will feature Jeffrey Granger of Granger Technologies, Inc., who will give a talk about energy management in your home and energy audits. Jeffrey is a Certified Home Energy Rating System rater who began conducting residential energy audits and training auditors in the late 1970's. He will present a brief overview of home construction and energy loss/gain and will conclude with the "top 10" list of steps that homeowners can take to save energy – today!

Monthly Chapter meetings will now be held at REI each month on the fourth Tuesday at 6:30 pm. These are open to the public and free of charge. For more information, contact NMSEA at 505-246-0400 or visit www.nmsea.org.

right size, right use



245 MPG EFFICIENCY
100% ELECTRIC: PLUG IN ANYWHERE
\$3492 TAX CREDIT

ZENN

Solar Electrical & Mechanical Contractors since 1985.

Go SOLAR with LUZ Energy Corp

We provide solar systems for:

- New construction & existing commercial/residential applications
- Solar electrical for home, business, & RV
- Solar water pumping and pool heating
- Solar hot water, radiant heat, and forced hot air
- Repair, replace, & upgrade existing solar systems
- Service after the sale

505-877-3304 / www.luzenergy.com



Bonded & Insured with Free estimates

Solar Power for Life!



Mark Drummond
Pascal Duverg 
Tom Engel
Randy Sadewic
Allan Sindelar
Mark Westbroek
Gordon Woodcock

SUNPOWER
Premier Dealer

Electrical Contractor #82573
Licensed, Bonded & Insured
Employee Owned

- Solar Electric Systems Design • Sales • Installation
- High Quality • Full Service • Turnkey Systems
- 40% Tax Credits Available
- Residential and Commercial
- Over 250 Systems Installed since 1997
- 99% Great Customer Rating (www.solar-estimate.org)

Santa Fe • Albuquerque • Las Cruces • Taos

 **POSITIVE ENERGY**

505-424-1112

www.positiveenergysolar.com



EARTH ORIGINS
REALTY LLC
SUSTAINABLE • HOME • COMMUNITY

Paul Chavez
EcoBroker Certified®
688•1228
www.earthoriginsrealty.com

Thanks to NMSEA Leaders!

By Mary McArthur, Exec. Dir.

Having closed out a successful 2009, NMSEA would like to thank several volunteers who helped us on a regular basis. Chere Hartmann maintained our website event calendar, which was key to keeping our membership aware of our activities around the State. Mars DeLapp maintained the technical aspects of our web server. Lisa and Gary Hendel and Mike Prine handled our bulk mailings, particularly the SunPapers. They attached address labels, sorted by zip code, and took each batch to the post office, so that members would receive each issue in a timely manner. Deena Klein served as Chapter Coordinator, Event Coordinator, and Sales Manager for several years. Ray Shortridge is our new Event Coordinator. Thanks, guys and gals.

Heart-felt appreciation also goes out to our Sun-Chaser city school instructors, the core of our education program – Gary Vaughn (coordinator), Lisa Silva, and Bryan Pletta in Albuquerque, Karlis Viceps and Scott Evans in Taos, Lloyd Goding in Las Vegas, Monte Ogdahl and Randy Sadewic in Santa Fe, Ron Offley, Don Starkey, and Rob Garrett in Alamogordo, and Gail Simmons in Silver City.

A special thanks is overdue to Diego Mulligan of KSRF, 101.1FM, Santa Fe Public Radio, who gave us 30 minutes on his program at drive time to advertise the Solar Fiesta.

Thanks so much to our advisory board and Board of Directors, who oversaw all of our activities with patience and professional guidance, and to our chapter leaders, who organized regular meeting all over New Mexico. See the left panel on page 2 for the names of these wonderful folks.

We invite others to join all these who have contributed so much to help us in the next exciting decade. ☀

Solar Fiesta Bake-Off

By Monica Canaris

There was a new event at the 2009 Solar Fiesta last September, a Solar Bake-Off. Participants were asked to bring the ingredients and their solar ovens and prepare a bread recipe of their choice. To my delight, four intrepid women and one fearless fellow came prepared to showcase their solar baking skills. The entries were varied and included vegan banana bread, a spinach/feta pie, pumpkin bread, and the first-place wining corn bread with honey drizzle! The judges were much appreciated and left plenty of sampling fare for fair-goers. Prizes were awarded to all participants. Next year we'll do it again, so be thinking of what you'd like to showcase! ☀

(Nature's Messages, Continued from page 1)

bird species that weren't in our area before, and smaller snow packs that we rely on to restore our ground waters, the seasonal drying of some trout streams, as well as scarier fire seasons. Everywhere in our dry state, we live with a constant awareness that our life-blood - water - is increasingly being stressed by drought that scientists tell us will only worsen as our planet warms.

If you think that predictions about global warming are off-base - you're right. A recent United Nations report warned that temperature increases will be nearly double what the best science predicted just two years ago. Now, we should expect a 6.3 degree F increase during the lifetime of a child born today because of the carbon pollution we've already belched into the atmosphere. The changes to our climate are coming faster and more severe than even the worst estimates from 2007. The good news is there is something we can do.

New Mexico's Senators Jeff Bingaman and Tom Udall have taken a leadership role in trying to get their colleagues to take action on global warming. Now, we look to them to utilize their leadership roles to help advance the Clean Energy and American Power Act that will create made-in-America jobs, reduce the carbon pollution that is damaging nature and give Americans back some control over our lives. We must stand behind them to ensure that our children have a clean healthy environment and a bright economic future.

The march toward energy independence starts with initiatives that favor the vast solar, wind and geothermal resources we have under our big Southwestern skies. It also starts with courage — like that shown by PNM, our largest utility, when they withdrew from the U.S. Chamber of Commerce because of the Chamber's stance on climate change. "We believe the science is compelling enough to act sooner rather than later," PNM stated. "We support federal legislation to meaningfully reduce greenhouse gases and protect customers from unreasonable cost increases." PNM has it right.

In fact, the Department of Energy's latest forecast predicts that America's energy bill will increase by \$420 billion annually within the next five years, if we do nothing. Doing nothing shouldn't be an option. Inaction is costing Americans every day in the oil we buy, the bills we pay, and the air we breathe. We continue to spend \$400 million every day on foreign oil, which does little to secure our national security.

Moving away from our dependence on fossil fuels will also create jobs. New Mexico saw the clean energy sector grow by 50 percent over the last decade — one of the highest rates in the country. We shouldn't stop there. The Center for American Progress projects we could gain 13,700 more jobs if legislation like that passed in the House, and now being debated in the Senate, gets signed

into law.

Creating jobs is one benefit. Protecting family budgets and public health are benefits too. Our Four Corners region is home to some of the dirtiest coal-fired power plants in the nation. We had the sense to stop the new Desert Rock plant, and we can now look forward to a bonanza of renewable technologies that are ready to take their rightful place in our future.

The petroglyphs that marked the location of the Zia Pueblo sacred spring weren't obvious. You had to know what the signs meant in order to find it. Today, we know what the animals and the plants are telling us. If we ignore these signs, the consequences of inaction will only grow worse, and the opportunities to improve our economy and our environment will slip further and further away.

Kent Salazar is a National Wildlife Federation Board member representing Arizona, Colorado, New Mexico and Utah; past president of the New Mexico Wildlife Federation; former member of Gov. Richardson's Climate Change Task Force; and a New Mexico State Game Commissioner.



(Alternative Energy, Continued from page 5)

The list doesn't stop here – we'll continue it in the next newsletter. Over the decades, NMSEA members have come up with scads of creative energy-related ideas and innovations that work well and that are relatively easy on the wallet. OK, you eclectic NMSEA folks, let's hear a lot more about what's worked for you – email your favorites to GVaughn@att.net.



Rose Kern, honored at the 2009 Solar Fiesta as founder and first manager of the Fiesta in 2000.

Ben Luce in Vermont

Many of you will remember Ben Luce as a recent President of NMSEA, a SunChaser instructor, and a vocal advocate for renewable energy. Ben left Albuquerque about two years ago and recently wrote "A big hello to you all from the wilds of Vermont!" He said he misses New Mexico and the NMSEA community, but has settled into a position at the small college of Lyndon State, where he is teaching physics and sustainable energy.

Dr. Luce reports that "the local community is small and somewhat depressed [economically], but has some really nice aspects, and the region is gorgeous: There are beautiful mountains, rivers, and lakes all around." Besides teaching, he has been attending energy conferences and workshops, and volunteering with the Northwoods Stewardship Center and an NMSEA-like group called the Vermont Energy Education Program. He has created a new website for them at www.veep.org.

Ben recently visited China and reported that it "is rocketing forward on clean energy and electric transportation and will likely completely eclipse the USA and everyone else soon." He says that they are planning to build about 20 gigawatts of solar over the next 12 years, which is about 20 times New Mexico's entire peak demand for electricity. "They also have about 100 million electric bikes on the road already, and over 2,700 e-bike manufacturers," he says.

Dr. Luce says that Vermont passed a new law recently creating a "feed-in" tariff similar to the PNM REC program that he helped create here in 2006, except it pays "an incredible 30 cents/kWh," compared to PNM's average 14 cents. The program has a cap of 50 megawatts, but received over 200 megawatts in applications within a few hours after it was made public. He suggests that they might have funded more systems with a smaller incentive.

Dr. Luce mentioned that he helped obtain funding for a 5 kw PV system at the college through Senator Bernie Sanders. He says "I was amazed that Sanders took the time to spend a full hour with the students, and then another hour with a larger group in the Auditorium - very impressive guy." (See <http://www.lyndonstate.edu/AboutLyndon/LyndonNewsEvents/LyndonReceivesGrantforSolarArray/tabid/676/Default.aspx>.) Furthermore, he says "Vermont has a very vibrant sustainable energy community, one that reminds me very much of NMSEA. Lately there has been a movement to establish 'energy committees' in many towns (there are over 90 now), headed by 'energy coordinators,' which can be appointed by town select boards under state law. They have a large conference once a year to bring them all together to network and learn about new policies and ideas. [That] might be a good model for NM."

Editor

Solar Properties Near Santa Fe



53 Ojo de la Vaca

Peaceful serenity on Glorieta Mesa.
2 bedrooms, 1 bath, 1,235 sq ft. 40+ acres. Strong well, sturdy barn, ample pasture for your horses

\$385,000 | MLS 902452

875 Ojo de la Vaca

sophisticated solar adobe home, 4 beds, 2 baths, 2800 sqft, on 18.9 ac., detached studio, organic gardens, expansive views

\$685,000 | MLS 902725



JEFF WELCH
505.577.7001 jeffwelch@sfrp.com
JACK WELCH
505.780.099 jackwelch@sfrp.com



SANTA FE
REALTY PARTNERS

417 E. Palace Avenue Santa Fe, NM 87501
505.982.6207 www.sfrp.com

Letters to the Editor

NMSEA encourages members to express their opinions in letters to the Editor of the SunPaper. The following are excerpts from letters received over the past year:

I just got an invitation to re join NMSEA. Upon visiting your website it seems to me you have little to offer....I have strong opinions about what the country and especially the Southwest need to be doing....

Your Passive Solar design contest could be something useful, but because it is tied to UNM, I doubt it will ever accomplish much....You ought to open up the passive solar design competition ... to all of the Southwest at no fee at all with all useful information at your website. That might create something really useful...

Where is the NMSEA Blog that could discuss issues of renewable energy?... Create a website that deals in ideas that people building homes can use - especially owner-builders.... Create some controversy. What are the merits and problems of CSPs [central solar power plants] vs. rooftop solar[?] How might Santa Fe, Taos, or Silver City emulate Palm Desert, CA, and implement really useful renewable energy policies and practices[?]? LUZ in Mojave and the CSP tower at Daggett, CA, showed conclusively that focused sunlight CSP needed to

consume immense amounts of water to keep mirrors clean. Then they had to use lots of herbicide to keep the weeds down that were being so heavily watered. The Southwest will be the loser if CSPs become the nation's energy solution - we don't have the water to spare, we don't need the power transmission lines or herbicides polluting our aquifers. The reason that distributed power is not attractive has to do with corporate entities like Tri-State and PNM not being able to find viable ways to make money off of distributed power generation. Where is that discussion? Where is any discussion of the Kachadorian system - the best idea for passive solar ever invented?....

As far as I am concerned NMSEA is part of the problem, not part of the solution. Your Silly Solar solutions do nothing to promote renewable energy. They [have] all the relevance of a wind energy experiment kit from Edmond Scientific. Where is any discussion of what the countries that are actually accomplishing something about conversion to photovoltaic[s]? How are they doing it?

Offered in the spirit of strong constructive criticism,
Ed Scott, Taos

Editor: Several of these issues are addressed in this SunPaper, or will be in coming months.

(Continued on page 12)

COMING SOON:

“SOLAR SUPER STORE”

Include your products or advertising in this flagship, all-inclusive
Alternative Energy and Green Products Super Store
at no charge what-so-ever!

Go directly to **www.swWindandSolar.com**

Or, call Gary at Southwest Wind & Solar LLC, 505-280-9820.

NMSEA Advocates for Passive Solar

By Ron Herman and Gary Vaughn

NMSEA's Vice-President Gary Vaughn has been advocating for a more favorable regulatory climate for passive solar construction. He recently talked with State officials and wrote to Cabinet Secretary Fred Mondragon of the New Mexico Economic Development Department. He described the long history of passive solar in New Mexico and asked for an amendment to the NM Sustainable Building Tax Credit statute (SB 463 – Cisneros) to allow for a second method of calculating the energy efficiency performance of passive solar buildings. Currently the law requires use of the Home Energy Rating System (HERS) to earn the tax credit, which severely penalizes passive solar features, often causing those designs to fail the criteria.

Vaughn also followed up with an opinion piece in the Albuquerque Journal on December 18 that echoed his letter to Mondragon. He emphasized the following:

"While this national standard [HERS] works well for conventional building construction methods, and it even makes some provisions for alternative designs, it doesn't allow credit for some of the proven energy-saving techniques that New Mexico's world-class passive solar adobe architects pioneered and have been using for decades. The result is that passive solar adobe homes that significantly exceed the overall energy efficiency levels set by the national LEED/HERS standards cannot qualify for the New Mexico Sustainable Building Tax Credit. This is an unfortunate and unintentional consequence of the original legislation... The HERS rating system works fine for conventional architecture in an average (cloudy) American climate, but it was never intended to meet the special needs of New Mexico's unique climate and passive solar innovations."

"For example, the thermal performance of ... south facing [and interior] mass walls [are] discounted; night air flush cooling and night sky radiant cooling are not recognized; natural day-lighting is not given full credit, especially if skylights are used; a tightly-sealed envelope and high insulation values are rewarded, while the proven thermal performance and temperature modulating effects of interior thermal mass is not."

"Most of New Mexico has to depend on special building code variances, applied case-by-case, to even get a building permit for a passive solar adobe house. As our building energy codes become more stringent (as they must) and as local and state codes default to specifying national standards..., depending on case-by-case variances will discourage the use of passive solar."

"NMSEA is advocating that the existing NM Sustainable Building Tax Credit statute, as well as our general building energy code, be amended to allow for a second

method of calculating the energy efficiency performance of passive solar buildings, using the nationally-accepted Energy-10 modeling program developed at the Los Alamos National Lab and the US National Renewable Energy Lab and widely used by architects. This would give our ... passive solar architects and other innovators an alternative way to demonstrate that their designs meet the NM building energy code and qualify for the NM Sustainable Building Tax Credit. This modest amendment would encourage the construction of energy efficient passive solar adobe homes in our state and help to preserve this unique and 'enchanting' blend of some of the oldest and some of the newest New Mexican green building and energy efficient technologies."

If you would like to lend support for this effort or other solar advocacy, just call the NMSEA office. ☺



Your money.

Your values.

Our mission.



PERMACULTURE
CREDIT UNION

(866) 954-3479 • www.pcuonline.org

NORTHERN/EL RITO ADOBE CONSTRUCTION

Basics, Wall, Roof, Floor, Foundations,
Finishes, Arches, Domes, Vaults.

CERTIFICATE: Two semesters,
Foundation to Roof & Passive Solar.

AAS DEGREE: Leads to Contractors License.

Build an adobe vault in Abiquiu, May 3-14, 2010.

www.nnm.edu, www.adobecollege.com

Quentin: 575-581-4156

NORTHERN/EL RITO RENEWABLE ENERGY

ASSOCIATE OF APPLIED SCIENCE DEGREE
HOMESTEAD SCALE:

Passive and Active Solar Heating,
Solar & Wind Electricity, Bio-Diesel,
Electric Car Conversion, Biomass,
Geothermal, Emerging Trends to 2030.

www.re-college.com, www.nnm.edu

Quentin: 575-581-4156



**WHOLESALE DISTRIBUTORS
of SOLAR thermal, hybrid
RADIANT HEATING and
SOLAR ELECTRIC SYSTEMS**

**CALL US TODAY!
1-800-658-5942**

We are seeking qualified dealers in your area.

**Interested in solar
for your home
or business?**

**Want a career as a
solar professional?**

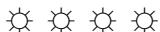
Reliable high performance systems and packages
Residential, Commercial and Institutional equipment
Experienced technical support for dealers, installers & resellers
The highest quality equipment to support the best trained
team of professionals in the industry



DISTRIBUTORS OF APRICUS PRODUCTS
HIGH EFFICIENT EVACUATED TUBE SOLAR COLLECTORS

Independent Energy Center, 118 So. Miller Ave., Farmington, NM 87401, 505-326-3634, rgc@iecsolar.com

(Letters, Continued from page 10)



Just a quick note of thanks for an excellent article by Ron Herman in the November/December issue of the SunPaper. I thought his piece, "Reality Check" [Nov/Dec SunPaper], provided thorough, honest and insightful analysis on the current state of affairs for solar energy in New Mexico. Obviously, there is much work to do and hopefully we can start making significant progress for the adoption of solar and other renewable energies.

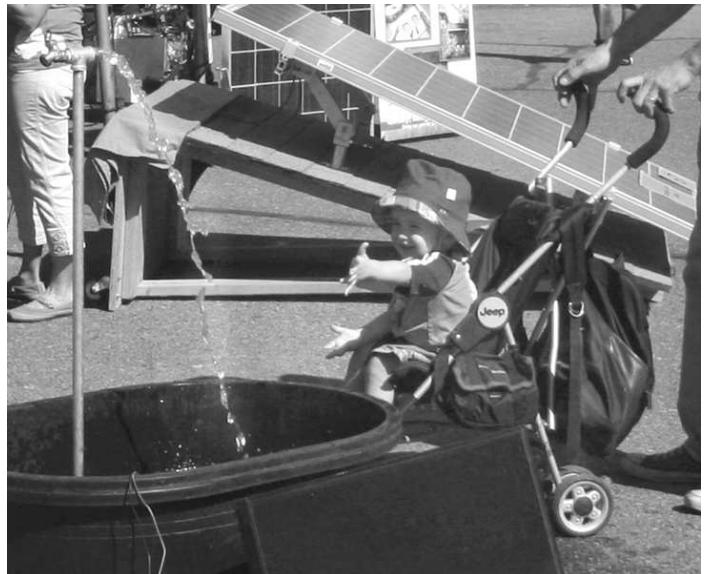
Jim DesJardins



(Regarding the choice between a few large PV plants versus distributed PV on many houses/buildings/fields in "Reality Check" ...)

Large scale utility creates the same problem as power plants – centralized power running into power lines that are already maxed out using open land space to do that. Is that a good thing to do? If we do build utility scale power plants, it should be CSP with storage!

Randy Sadewic, Santa Fe



Baby Seeks Solar Bathwater

An unidentified child appreciated the simple fountain supplied by a PV solar pump at the 2009 Solar Fiesta in September.

"My roof is too small for solar panels."



Right. And the Spanish Armada was invincible. We hear these myths and misconceptions about solar power all the time. But the truth is, a 900 square foot roof can easily handle a PV system. The smaller your house, the less electricity it consumes. So 30 to 60% of your electric needs can be easily—and efficiently—met by just a five-panel system. Now that's generating big savings with a small overhead.

Solar fits in anywhere.



SUNERGY INC.
A CLEANSWITCH COMPANY

505-888-8966 www.sunergy-solar.com

DWIGHT P. MILLER, PHD

Environmental Design Consultant



"connecting people with places"

Environmental and Design Psychology
LEED for Homes • Project Management
Residential Programming • Site Analyses
Human-Factors Engineering • Ergonomics
Remodeling Coaching • Feng Shui • Vastu
Environment-Behavior Research • Litigation

505-934-6718

www.RightHomeConsulting.com

GreenWheels

Center for Sustainable Transportation

A non-profit dedicated to reducing carbon fuel use and emissions by 80%



PLUG IN AMERICA
WWW.PLUGINAMERICA.COM

Richard "Skip" Dunn
P.O. Box 4748, Los Alamos, NM 87544 • (505) 672-1095
greenwheels@newmexico.com • www.greenwheels.ws



SUSTAINABLE BUILDING FOR OVER 30 YEARS!

- Installing the OASys™ High Efficiency A/C
- Solar Hot Water
- Energy Efficient Construction
- Radiant Heating & Cooling
- Free Energy from the Sun
- Tax Credits, No Sales Tax on Solar
- Certified Systems

James L. Graham, President

www.sunandearth.net 575-521-3537



**Employing 118 workers in the
Solar Industry**

Installing turn-key systems since 1993

**Complimentary consultation
and site analysis**

800.260.3792

4000B Vassar Dr. NE ABQ, NM 87107
505.889.3585 • 800.260.3792

www.directpower.com

SHARP

GREEN ENERGY FOR NEW MEXICO!



- Zero out your electric bill with GREEN power!
- Receive monthly checks from PNM!
- 40% of system cost paid for by Fed & State tax Credits
- Return on investment in as few as 10 years!
- Turn-key systems installed by professionals

**Grid-Tie Photovoltaic Systems
The Most Competitive Prices
in New Mexico
Call for a Complimentary Site
Analysis & Consultation**

Licensed #82747. Bonded, Insured, NABCEP certified. Serving New Mexico since 1993.



Greenbuild Phoenix

New Mexico was very well represented at the Greenbuild conference in Phoenix, AZ, this year. This included major speakers, participants and vendors at the Trade Expo. Al Gore, keynote speaker, gave a very positive talk on how we can solve the climate crisis. This was truly a global event. Mark Chalom, Mark Goldman, Scott Evans and Karlis Viceps (L-R above) joined 28,000 other participants for this event.



PNM Filing Still Pending

By Ron Herman

Apparently there were, or will be, additional negotiations between PNM, solar industry businesses, and the Public Regulation Commission (PRC) on the changes PNM proposed in July, 2009. However, participants are restricted from commenting at this stage.

Concerning third-party arrangements for power generation to PNM customers, the Albuquerque Journal reported in an article on October 24, 2009, that a hearing examiner explained that private contracts for third-party generation are probably allowed under current state law. In that case, “developers provide ‘a green alternative’ with systems that offset rather than replace the customer’s use of grid electricity.” However, the examiner said that if the third party system is not on the customer’s property and supplies more than one customer over distribution lines, then it might be considered a public utility, illegally infringing on PNM’s exclusive franchise rights. That interpretation is still subject to approval by the PRC. The headline in the Journal said “Solar Advocates Cheer Initial Ruling,” but it is not clear that this would help the industry, if it stands. Randy Sadewic, NMSEA Vice-President, reports that PNM’s Power Procurement Plan and Power Purchase Agreement may be resolved in early 2010. Watch local news articles and programs and the SunPaper for further developments.





Join the
**New Mexico Solar
Energy Association!**

Be a part of a creative, innovative organization dedicated to bringing renewable energy and sustainable building to New Mexico!

Keep informed of what's happening through our bi-monthly newsletter, the SunPaper! Actively support education for kids and adults and learn of workshops and classes where you can learn about photovoltaics, hot water, green building, solar rights and all the wide range of sustainable living and building practices.

Name: _____

Company or
Affiliation: _____

Address: _____

City, State,
ZIP Code: _____

Phones: _____ (W) _____

Email: _____

Any special solar interests? _____

How did you hear about us? _____

Yes, I would like to volunteer on occasion!

NMSEA Membership Dues

<input type="checkbox"/> Individual and Family, 1 year	\$30
<input type="checkbox"/> Business, 1 year	\$75
<input type="checkbox"/> Individual Lifetime	\$250
<input type="checkbox"/> Business Lifetime	\$400
<input type="checkbox"/> Teacher/Student/Senior (62 & up) w/copy of ID (circle one)	\$10

NMSEA Chapter Options

All NMSEA members are invited to participate in our local chapters around the state. When you register, you will be placed in the chapter nearest to you geographically, or you may contact the office to change your chapter, if you desire. (Note: members are not limited to the chapter in their area and are welcome to visit other chapter events.)

Check if you would like to be affiliated with and/or donate an additional amount to any of the following chapters or to the main office general fund:

Affiliation	Donation
<input type="checkbox"/> Alamogordo Chapter	\$ _____
<input type="checkbox"/> Albuquerque Chapter	\$ _____
<input type="checkbox"/> Las Cruces Chapter	\$ _____
<input type="checkbox"/> Las Vegas, Sustainable Las Vegas	\$ _____
<input type="checkbox"/> Los Alamos Chapter (LASE)	\$ _____
<input type="checkbox"/> Santa Fe Chapter	\$ _____
<input type="checkbox"/> Taos Chapter	\$ _____
<input type="checkbox"/> Silver City Chapter	\$ _____
<input type="checkbox"/> Main Office / General Fund	\$ _____

ASES Membership

NMSEA is a chapter of the American Solar Energy Society, and we encourage our members to join ASES as well. ASES members receive SOLAR TODAY magazine, Solar Action Network (SAN) alerts, the Sunbeam e-newsletter, discounts on publications, and more! Five percent of your ASES dues are dedicated to special outreach programs including ASES Legacy Schools, library gift subscriptions and the purchase of Green Tags.

For more information and for ASES business membership categories, please visit www.ases.org.

If you join or renew ASES at the Professional level *and* join or renew NMSEA, deduct \$10 from your ASES dues (as indicated below). If you join or renew ASES at the Basic level and join or renew NMSEA, deduct \$5 from your ASES dues.

<input type="checkbox"/> Professional	\$89	<input type="checkbox"/> Supporting	\$125
<input type="checkbox"/> Senior Professional (proof required)	\$45	<input type="checkbox"/> Contributing	\$250
<input type="checkbox"/> Basic	\$39	<input type="checkbox"/> Lifetime	\$1200
<input type="checkbox"/> Student (proof required)	\$35	<input type="checkbox"/> SOLAR TODAY Subscriber only	\$29

ASES Options

Do not rent my name
 I do not wish to receive Solar Action Network Alerts

I do not wish to receive the Sunbeam on-line newsletter
 I do not wish to be listed in the on-line Membership Directory

NMSEA Dues \$ _____ + ASES Dues \$ _____ (- discount \$ _____) + Donation \$ _____ = Total \$ _____

Payment options: Check or money order enclosed Visa MasterCard

Credit Card # _____ Exp. Date: _____ Signature: _____

Credit Card Billing Address (if different from above) _____

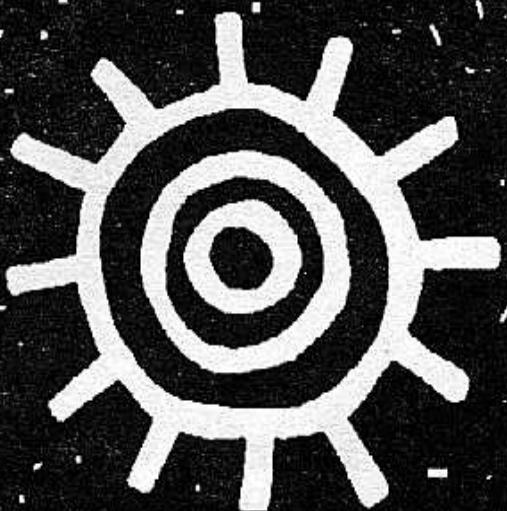
Mail this form with payment to: NMSEA, 1009 Bradbury Dr. SE #35, Albuquerque, NM 87106.

For more information, please call 505-246-0400 or 888-886-6765 or visit www.nmsea.org.

The SunPaper
New Mexico Solar Energy Association
1009 Bradbury Dr. SE
Albuquerque, NM, 87106
www.nmsea.org

Non-Profit Organization
U.S. Postage
Paid
Albuquerque, NM
Permit No. 846

Return Service Requested



NMSEA Mission Statement

As a chapter of the American Solar Energy Society (ASES), NMSEA is working to further solar and related arts, sciences and technologies with concern for the ecological, social and economic fabric of the region. NMSEA serves to educate individuals, public institutions and governmental bodies and seeks to raise the level of public awareness of the organization's purposes. Anyone who shares these aims may become a member.

Your tax-deductible donation is urgently needed to continue our work benefiting the citizens of New Mexico.

NMSEA Vision Statement

We envision a future and believe in the possibility of a civilization based on clean, renewable energy, where future generations will be able to peacefully enjoy the Earth's natural abundance and biodiversity, and where all people have access to affordable, renewable energy.

Coming Events

- Jan. 16 Board of Directors Meeting, Saturday, NMSEA office, 1009 Bradbury Dr. SE, Albuquerque, 87106. Members welcome. Call 505-246-0400 by Jan. 11, if you have an item for the agenda. 12:00 noon to 3:00PM; potluck before at 11:30AM.
- Jan. 23 Home tours in Las Vegas, NM, sponsored by Sustainable Las Vegas, 11:00am - 4:00pm; weatherization demo at 10:00am.
- Jan. 26 Albuquerque Chapter Meeting, 6:30 pm, at REI Recreational Equipment store at 1550 Mercantile NE, 87107. Speaker: Jeffrey Granger on home energy management audits.