



Perspectives On the 40-year History of NMSEA

By Gary Vaughn, NMSEA Vice-President

Ecology, Sustainability, Alternative Energy and All That

Far too few of today's "ecologists" and "alternative lifestyle pioneers" have the slightest inkling of what the low-energy, self-sufficient society of the future will really have to be like if the planet is to have any chance of surviving.

Fortunately for us all, a handful of thoughtful philosophers and thinkers and doers do have a reasoned concept of the tremendous - and necessary - changes in living patterns which we must all make if Earth is to endure. Peter van Dresser is one of those philosophers and thinkers and doers . . . and many more of today's citizens especially those who fancy themselves "environmental pioneers" of one stripe or another would do well to study the man's work.

Solar energy, wind power, humanitarian, ecology, alternative lifestyle and related freaks . . . please take note: You didn't - as you sometimes seem to believe - invent all those groovy fields of interest overnight all by yourselves alone. Other - and occasionally better - men and women were trying to "put it all together" a long time before it became fashionable (or even possible) to do so.

One of those who've gone ahead is Peter van Dresser, a man with a lifelong interest in technology and its applications within the framework of an ecological consciousness. At various times in his life, Mr. van Dresser has been - among other things - a writer of science fiction, a professional regional and urban planner, a member of the Decentralist movement of the 1930s, a pioneer in the development of rocket engines and a near-total dropout from our military-industrial society.

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NMSEA's 40th Anniversary Celebration!

Janet Bridgers, NMSEA Board Member

On Sunday, December 9, 2012, the New Mexico Solar Energy Association will celebrate its 40th anniversary!! (We don't look a day over 39!)

The big event will take place in Albuquerque at the South Broadway Cultural Center, 1025 Broadway S.E. Festivities will begin right at noon with the Annual NMSEA Membership meeting, followed by a celebratory toast and light snacks.

The highlight of the afternoon will be the premier of NMSEA's *Renewable New Mexico* TV series in the Center's spacious 300-seat auditorium. The TV show marks a new phase of NMSEA's ongoing mission to educate about renewable energy issues. It features interviews with many of New Mexico's most prominent solar energy pioneers, educators, and entrepreneurs. The episode showings will begin at 2 p.m. and will run until 5 p.m. See page 4 for Community Access cable TV showings starting November 9.

The first *Renewable New Mexico* episode begins with Santa Fe passive solar architect Mark Chalom's

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The NMSEA SunPaper

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Preference is given to articles on solar energy topics (PV, passive, technology, performance histories, incentives, cost benefits, etc.), but we will also consider other renewable energy subjects as space allows.

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 format. Ad copy must be e-mailed by December 15 for the Jan/Feb SunPaper. Circulation is typically 400 copies. Size requirements and prices for individual ads are as follows (call 505-292-4375 for multi-issue discounts):

		<u>Jan/Feb</u>
Full Page:	9½" H X 7" W	\$122.00
Half Page:	4½" H X 7" W	\$66.00
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40 Years Promoting Solar, What's Next?

In New Mexico we are fortunate to be in an area of the world that has enchanting beauty and a healthy atmosphere (except for the 4-Corners coal plants) with the multi-gigawatts of sun and wind available to potentially provide all of the energy we need. With solar renewable energy in our mission statement, we just need to make the best use of what we have by continuing to "walk our talk" through example, education, collaboration, and advocacy.

For forty years NMSEA members and associates have been at the forefront of "walking the talk" through living with solar, educating youth and adults on the advantages of RE, starting up and growing RE businesses, and advocating for RE. This rich history by pioneers and solar soldiers needs to be recognized for their commitments, and we can learn much from their successes and disappointments. There have been some great success stories from this forty-year movement, including people that used the pen, paper, and wrench with creative imagination and hours of toil to provide information and prove by example that solar really works.

I believe we have found a way to showcase our valuable information from the past, bringing it forward for review and adding new digital content for the current and next generations. Now we have an interactive format that can be accessed via the Internet using social media. We were able to produce an interesting, entertaining, professionally done 13-episode series titled "Renewable New Mexico," thanks to Janet Bridgers, Gary Vaughn, our Board, our wonderful guest stars, our director Toby Younis, host Sean Wells, and the rest of Toby's crew.

As we begin showing and distributing the first series of RNM, we can start focusing on the next series. This first series is a preview of personal interest stories by some of the pioneers in renewable energy and NMSEA from the early 70's, right up through new people who are taking the cause forward. We have "set the stage" for the next series, which might be to combine a short dialogue with an originator in the RE subject field and highlight how this subject evolved to today's applications with a glimpse into future possibilities. These would probably be 30-minute episodes that could include a few technical factoids and a couple of practical application takeaways. An episode of this format would not only be entertaining and informative for a general audience, but could also be of value as supplementary educational material for teachers and students.

This step into digital education may be perfectly timed, because FCC chairman Genachowski and Secretary of Education Duncan recently announced the goal of

transitioning from “traditional textbook and desktop computer lab” to just a “new digital textbook” for each student in virtually all schools by 2015.

Of course we have to figure out how to support transition into the digital visual world. This can be done through sponsorships and advertising, grants, crowd sourcing (i.e., “Kickstarter”), and download fees from Internet distribution. And if we are going to have our website as a go-to point, it’s going to need some more work.

Events for change

On September 22nd and 23rd NMSEA joined the New Mexico Electric Vehicle Association, Positive Energy, Sacred Power, and the Sierra Club and collaborated with the group sponsoring the RE:MIKE event in Santa Fe. On the 23rd we had an EV parade and car show for National Plug-in Day. Thanks to Skip Dunn, Karen Paramandam, and Odes Castor for providing his portable PV power/EV charging station and to Gary Vaughn for bringing up and running the big solar oven and the NMSEA booth.

On Oct. 28th Affordable Solar held a public event called “Driving on Sunshine” - ways to charge your EV on PV. Thanks to Paul Lusk for representing us and to another six self-built EVs and a couple of new EVs that attracted about a 100 interested people on a Sunday afternoon.

A Solar Fiesta at Santa Fe Community College is in preliminary planning with a scheduled date of April 27th and 28th.

And to punctuate change, the worst super storm on record hit the east coast causing untold damage, which should be a wakeup call. So, besides educating about more RE and less fossil fuel use to slow climate change, we have to get more people to change their ecologically destructive lifestyle and change our misguided political system, or mother nature will force serious change on all of us! This change has to be much faster than the past 40 years.

Sincerely,

Monte Ogdahl

NMSEA President



NMSEA Board Meeting, November 10

The next meeting of the NMSEA Board of Directors will be on Saturday, November 10, in the conference room at the office at 1009 Bradbury Dr. SE, Albuquerque, 87106, from noon to 3:00 with a potluck before at 11:30AM. Members welcome. Call 505-246-0400 by November 6, if you have an item for the agenda.

NMSEA Chapter Leaders and Contact Information

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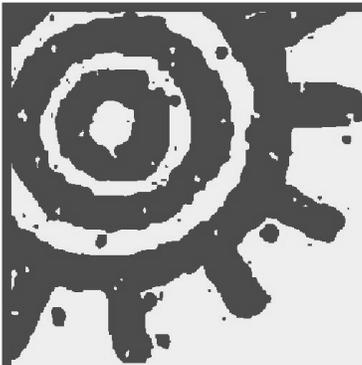
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The New Mexico Solar Energy Association

is proud to announce its

40th Anniversary Celebration!

Sunday, December 9, 2012

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1025 Broadway Blvd. SE, Albuquerque, NM

Screening the Premier of NMSEA's *Renewable NM* Television Series

Annual Membership Meeting 12:00 Noon – 1:00 p.m.
 Champagne Toast 1:00 p.m.
 Lite Brunch Served 1:00 p.m. – 3:00 p.m.
 Renewable NM screenings 2:00 p.m. – 5:00 p.m.
 Attire: Black Tie / Solar Cowboy / Vintage NMSEA T-shirts all welcome
 Space is limited. Reserve early by emailing: info@nmsea.org



A Free Event for Current NMSEA Members
Renew your membership or JOIN TODAY!

Individual/Family Membership	\$35.
Student/Teacher/Senior Membership	\$10.
Business Membership	\$75.

Promoting Renewable Energy and Sustainability Since 1972 Complete event details and membership benefits information are available at www.nmsea.org.

The *Renewable NM* TV series will repeat on the following cable TV channels and days, starting on Friday November 9 with a new episode each week for 13 weeks:

Channel 26 - Saturdays 3pm and Mondays 5pm

Channel 27 - Fridays 11am and Sundays 5pm



(NMSEA's 40th, continued from page 1)

review of the history of the organization. "Mark has been a part of NMSEA since its beginning," said NMSEA President Monte Ogdahl. "As the 2012 recipient of the American Solar Energy Society's Passive Solar Pioneer Award, Mark embodies our remarkable history and the determination we all share to bring the world the hows and whys of renewable energy use. Both in person and on screen, Mark will be reminiscing about many of the astounding people who have been part of our organization."

The NMSEA *Renewable New Mexico* TV series' guest list includes:

- **Solar pioneers and innovators** Steve and Holly Baer; Mark Chalom; and Bristol Stickney;
- **Educators** Olga Lavrova, Ph.D, UNM College of Engineering; Paul Lusk, Professor Emeritus, UNM College of Architecture; Monte Ogdahl, President NMSEA; Lisa Silva, Environmental Educator; and Diane Burke, Dean at CNM;
- **Entrepreneurs** Odes Armijo-Caster (Sacred Power); Chuck Marken (AAA Solar); David Hughes (Affordable Solar); Windy Dankoff (Dankoff Solar); Allan Sindelar (Positive Energy); Kevin Basselleck (Consolidated Solar Technologies); Larry Mapes

(Valverde Energy); and Ragan Matteson (biofuels cooperative);

- **Enthusiasts and activists** Don Miller; Lloyd Goding, Ph.D.; Wayne Evelo; Amy Bunting; and Karen Paramanandam;
- **Plus** APS Energy Efficiency "Czar" Ron Rioux; City of Santa Fe Energy Specialist Nick Schiavo; and ex-Schott Solar Site Director Rolf Nitsche.

"In addition to the opportunity to renew friendships and look back at our past, the 40th anniversary celebration will give us a look into our future," Ogdahl said. "We're forging ahead into the digital age with a high quality TV series that will soon be showing on public access stations throughout the state and the nation, as well as worldwide via the Web. We're finding attractive and affordable ways to spread our message much further."

The celebration is free to NMSEA members. Guests are welcome. Please help us to recruit new members and like-minded solar fanatics! Plenty of parking is available at the Center and on nearby streets. Black tie, vintage NMSEA T-shirts, and solar cowboy attire are all appropriate. To facilitate planning, reservations are requested, but are not required. Please email info@nmsea.org and include the number in your party. We look forward to seeing you on December 9.



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Peter van Dresser at first solar heated residence in Santa Fe, 1972.

(Perspectives, continued from page 1)

In 1949, van Dresser moved to El Rito, a small village in the mountains of northern New Mexico. There he opened a little restaurant, designed and built solar-and wind-powered houses and began working in earnest for the development of decentralized, self-sufficient communities which "make use of sophisticated technology to produce a high standard of living, yet exist harmoniously with the natural world around them".

*Peter van Dresser's vision of the community of the future may sound utopian to some . . . but it's based on pure common sense and a lifetime of experience. Peter's ideas stated in detail in his book, **Landscape for Humans**, have had a profound influence on a whole generation of counterculture experimenters and designers.*

Sounds very contemporary doesn't it? A-la Taos/Santa Fe 2012? Well, take a moment to consider that the above is an excerpt from an article published in the Sept/Oct 1975 issue of Mother Earth News!! You can read the entire article at <http://www.motherearthnews.com/nature-community/peter-van-dresser-zmaz75sozgoe.aspx#ixzz29fdW60CH>.

Zomes and Baers, Oh My!

During the late 60s, a group of "dirty hippies" - as they were then known - dropped out of consumerist America's mainstream and began settling in the arid reaches of this country's Southwest. There, they usually eked out a living by raising organic gardens, doing odd jobs, selling craft products ... and just plain scrounging.

Well, undoubtedly, some of those dropouts really were the ne'er-do-wells that their parents thought they were. But others in the crowd were genuine visionaries, philosophers, social critics and Renaissance men ... and

women. Steve and Holly Baer certainly fit into the second category.

The Baers, as so many of us have done since the mid-50s, did some rambling from one school and occupation to another and saw a little of the world before they came to rest near Albuquerque, New Mexico in the last half of the 60s. Steve was especially restless. He was capable enough to make a way for himself and his family wherever he went ... but he couldn't seem to convince himself that he belonged in any of our culture's neat little pigeonholes.

The answer, of course, was simple (whether the Baers knew it at the time or not) ... they'd just have to start building a new culture. Which they, and some others, proceeded to do.

*The Baers - in alliance with a few of the Southwest's young communes - began by showing the world that very inexpensive dome housing could be fabricated from the tops of junked automobiles (Steve's out-of-print manual, *Dome Cookbook*, is still the classic reference on the subject).*

Steve then moved on to develop zomes (open, airy buildings that offer much greater structural flexibility than domes). At almost the same time, he plunged deeply into make-it-work-on-a-practical-basis solar energy research. Eventually, with two friends, Steve founded Zomeworks, a company that designs and manufactures zomes, solar water heaters and other imaginative hardware that springs from the fertile brains of Baer and the young innovators that are drawn to him.

Holly has stood close beside Steve during his struggle to develop his ideas. She has made many meaningful contributions to his work and done much valuable work of her own. Together, they make an impressive team.

The above is an excerpt from a July/August 1973 article in Mother Earth News on Steve and Holly Baer. You can read the entire article at: <http://www.motherearthnews.com/nature-community/steve-baer-holly-baer-dome-home-zmaz73jazraw.aspx>.



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In 1972, just before the first Arab oil embargo triggered the first US "energy crisis", Peter van Dresser and Steve Baer and Keith Haggard founded an organization called the New Mexico Solar Energy Association, and hosted the very first "Life Technics" Conference. The "Proceedings" from that conference became one of NMSEA's first "official" publications. See cover at right, along with a 1976 version of the newsletter, the "Bulletin" with its characteristic logo showing New Mexico on the earth globe with incoming solar energy.

Design, Build, Test and Educate

About 70 miles north of Santa Fe - set amongst the rugged sandstone cliffs of northern New Mexico - is the Ghost Ranch, an adult study center owned and operated by the United Presbyterian Church. But Ghost Ranch is far more than a church retreat . . . it's also the site of one of the most important passive solar heating experiments in the U.S. today: the Sun-dwellings Project.

This program was born roughly three years ago, when a representative of the Four Corners Regional Commission (a federally funded agency administered by the governors of New Mexico, Arizona, Colorado, and Utah) asked New Mexico solar energy pioneer Peter van Dresser (see The Plowboy Interview, MOTHER NO. 35) if he would be interested in receiving grant money for the purpose of designing a solar heating unit that could be retrofitted to mobile homes.

Mr. van Dresser came up with a better idea: "Rather than try to solarize house trailers," he suggested, "why not spend the money to develop inexpensive, owner-built solar homes appropriate to the human ecology of the local area?" Surprisingly, the Regional Commission spokesman encouraged van Dresser to write up a proposal and told him that - once submitted - his paper would be given a "sympathetic reading".

To make a long story short, the Four Corners Regional Commission liked what van Dresser had to say and came up with a \$34,000 grant calling for Peter to head up a team of architects, engineers, and solar experimenters. Their job: design and supervise the construction of a variety of low-technology solar-heated dwellings made entirely of indigenous materials. (Additional funding - to make the construction phase of the project into a manpower training program - came from the state of New Mexico . . . bringing the total amount of "allocated monies" to \$102,000.)

The very first thing the Sun-dwellings design team (which initially included architects William Lumpkins and David Wright, engineers Francis Wessling and B.T. Rogers, and New Mexico Solar Energy Association Executive Director Keith Haggard) did - even before sharpening their pencils - was to ask the local people

(Continued on page 10)

LIFE SUPPORT TECHNICS

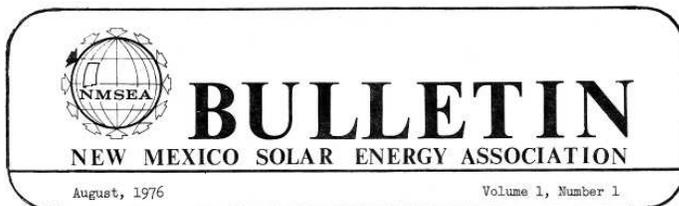
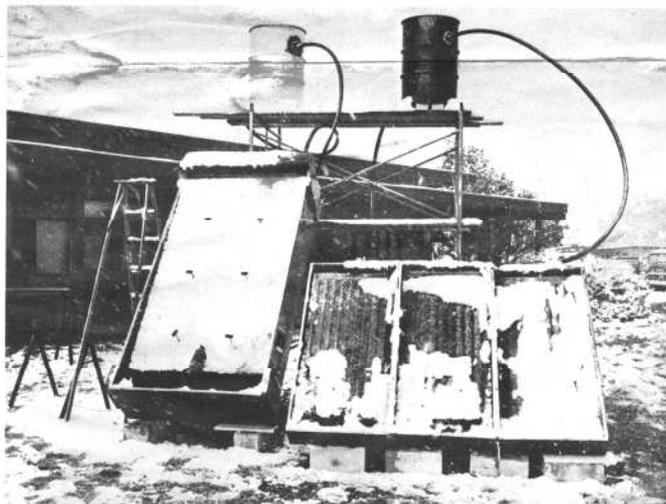
Conference Proceedings

GHOST RANCH — ABIQUI, N.M. HALLOWEEN 1972

Conservation of the environment and the restoration of ecologic balance have become within the last few years a matter of general concern and discussion in New Mexico. A number of organizations and dedicated individuals have devoted much time, energy and talent to the amassing and publicizing of information about the amounts, kinds and causes of pollution and degradation of air, water, land, flora, fauna and the "quality of life" in this portion of the Southwest. The association between this pattern of deterioration and contemporary trends in urban-industrial "progress" has been abundantly pointed out, and the need for alternative modes of technologic and economic improvement, and for lifestyles less exploitive and destructive of natural resources, considerably discussed.

We therefore suggest that the time may be ripe for focusing systematic thought on specific means for realizing such alternatives. We believe a most important source of such thought is the accumulated experience of people directly involved in grassroots efforts towards personal and community survival and improvement, towards non-exploitive techniques in agriculture, land use, habitation, life-supporting industry and energy-generation.

We accordingly propose an initial gathering of people to undertake discussion of the concept.



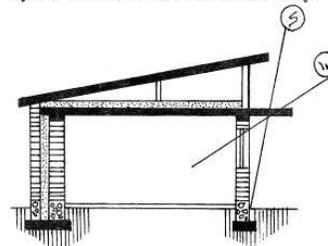
Sundwellings Demonstration Center Nears Completion

The Sundwellings Demonstration Center at the Ghost Ranch Conference Center in Abiquiu—thought to be the first such facility in the world—is nearing completion. It consists of four similar adobe duplexes. All the buildings are identical in size (20 by 40 feet), construction and compass orientation. However, three are solar buildings—each incorporating a different system. The fourth duplex, energy conserving, but displaying no specifically solar features, will serve as a control unit.

The completion of Phase One of the project was marked by ceremonies at Ghost Ranch on July 10th, honoring 16 trainees-graduates of the Solar Housing Construction Training Program. The graduates successfully completed an intensive 16 week training program in design principles and construction techniques of passive, low-cost solar buildings. During this time the trainees constructed two of the projected four test units that will comprise the Sundwellings Demonstration Center. The students were presented with certificates designating them as Solar Construction Technician/Craftsmen. According to project manager Quentin Wilson, "These graduates are qualified to do planning and construction work on new solar housing and in the retrofitting of existing buildings."

Public funds sponsored the project, demonstrating that public agencies can,

indeed, relate to grass roots needs. Training funds were provided by the Governor's Office of Employment and Training; materials costs were provided by the Four Corners Regional Commission and photo documentation was done by personnel of the Governor's Office of Human Resource Development. Instruments and monitoring equipment were provided by the Los Alamos Scientific Laboratory.



Sundwellings Control Unit

The training/demonstration program was a development of the Ghost Ranch Sundwellings Design Team of Peter van Dresser, B.T. Rogers, Bill Lumpkin, Dr. Francis (continued on page 2)

Free Photovoltaic Installation and Solar Heating Installation Courses for Those Who Qualify

The CNM Workforce Training Center's Solar Center of Excellence will be holding classes in January in Farmington and Santa Fe. Classes on Photovoltaic Installation will be held in Farmington. Individuals with prior electrical knowledge in the Farmington area are encouraged to attend. Classes on Solar Heating Installation will be held in Santa Fe. Individuals with prior plumbing knowledge in the Santa Fe area are encouraged to attend.

PLEASE CALL 505-224-5243 OR EMAIL MSISNEROSWICHM@CNM.EDU TO LEARN HOW TO QUALIFY.

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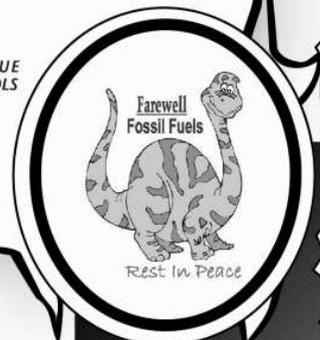
www.APSEnergyConservation.org

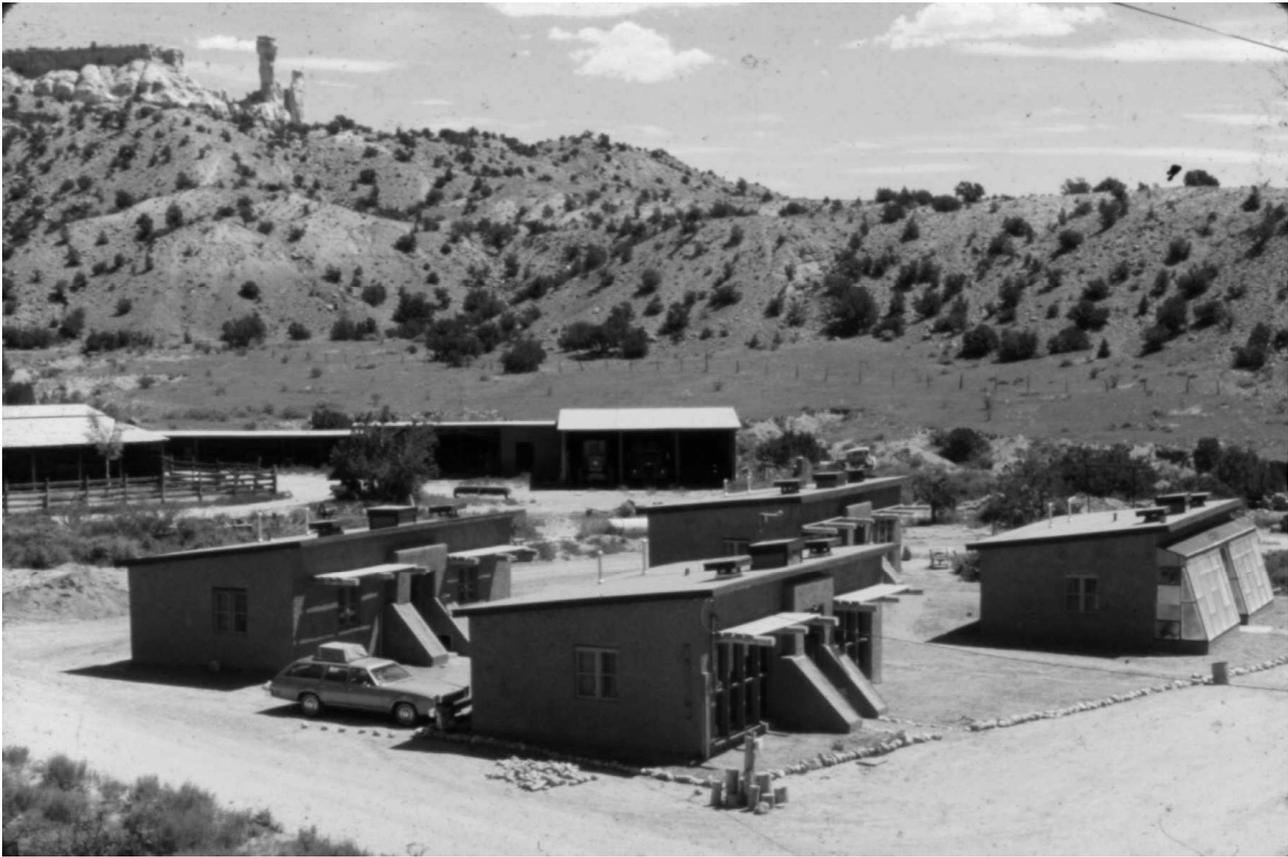


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Four Sun-dwellings passive solar test units at Ghost Ranch, late 1970s.

(Perspectives, continued from page 7)

what their needs and desires were in a dwelling . . . what they required in terms of food storage areas, tool-sheds, harvest rooms, etc. This, of course, made the Sun-dwellings Project unconventional from the start. (Other federally funded housing projects in New Mexico have seen fit to plunk California tract-type houses down in the middle of Indian reservations, without the slightest regard for the traditions of the people or the ecology of the area.)

What the Sun-dwellings team found - not unexpectedly - was that the individuals who live in the 400-year-old pueblos and villages of northern New Mexico tend to be conservative and prefer their traditional (some would say "primitive") way of life to the keep-up-with-the-Joneses style of living so prevalent in other parts of the U.S.

This meant two things: First, the design team would have to work in the classically beautiful Southwestern architectural motif (which uses adobe brick walls, flagstone floors, peeled pine roof beams, and so on) . . . no far-out domes, zomes, or plastic bubbles. Second, all the pumps, fans, and other high-technology geeble-fetzers usually found in solar heating setups would have to go. Whatever kind(s) of solar heating equipment the design team decided on would have to be - above all - simple and reliable.

Ultimately, it became apparent to the Sun-dwellings designers that they could get the most information per dollar spent if they were to build - and carefully monitor the performance of - four separate dwellings: one featuring a lean-to greenhouse, a second utilizing a Trombe wall collector, a third unit employing the "direct gain" concept, and a fourth structure (similar in construction to the other three, but having no special "solar" features) to serve as a control.

Construction of the four 20' X 40' test units began early in 1976. Mark Chalom, Aubrey Owen, and Quentin Wilson—three highly creative (and enthusiastic) solar energy experimenters from the northern New Mexico area - served as on-site construction foremen for the project. (As part of their duties, these three men provided workers with two hours of instruction each day on solar energy fundamentals and basic building techniques.)

The 16 trainee-workers who participated in the project - all men from the surrounding pueblos and villages - did their own millwork, quarried flagstones, cut timber, and made all the adobe bricks for each "Sun-dwelling". (Virtually all the materials used in the four buildings came from the immediate area.) [See photo above.]

The above is an excerpt from an article published in the July/Aug 1977 issue of Mother Earth News. You can

read the entire article at <http://www.motherearthnews.com/Nature-Community/1977-07-01/Passive-Solar-Cabins.aspx>

In the early 70s, a newly minted nuclear engineering PhD from MIT named Doug Balcomb accepted a job at Los Alamos National Lab to work on nuclear powered spacecraft. When that program lost its funding, he followed his growing interest in another nuclear related energy source - the sun. Dr. Balcomb pioneered some of the early research in quantifying passive solar design performance, including analyzing data from the Ghost Ranch Sun-dwellings. He is considered to be the “father” of the Energy-10 modeling software that revolutionized passive and active solar architecture design methods. After serving a stint as President of NMSEA, Dr. Balcomb accepted a far less prestigious position - as the very first Director of the newly created US National Renewable Energy Lab (NREL).

From 1977 to 1982, NMSEA had an executive director and dozens of paid staff engaged in what was at the time the cutting edge of “alternative architecture”, sustainable community building, and passive solar research, applications and education. NMSEA’s annual “Life Technics” Conference at Ghost Ranch was attended by people from all over the world, and each conference resulted in the publication of a thick volume of conference proceedings. One of the regular attendees was a young outside-of-the-box thinker, a scientist named Amory Lovins.

Passive Solar Architecture

The state of passive solar heating, though built on timeless principles, has changed over the past several decades. Some 36 years ago, in the summer between my junior and senior years of college, I dipped my feet into the world of renewable energy. About 20 students from Ithaca College and Cornell University spent the summer trying to determine whether a farm outside Ithaca could become energy self-sufficient. This was three years after the 1973 oil crisis, and like a lot of people, we wanted to figure out how to wean ourselves from fossil fuels. The National Science Foundation supported the project.

In 1976 solar heating usually referred to complex, active-solar systems. Experimenters and back-yard inventors were putting solar collectors on their roofs and pumping solar-heated air through rock-beds to store the heat, or they were pumping antifreeze through roof-mounted flat-plate collectors to charge large insulated water tanks.

We experimented with some of those systems in our quest for energy independence, but we were also hearing about these low-tech, passive-solar designs being developed in the Southwest - especially northern New

(Continued on page 12)

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ABQ Chapter Meetings

Be a part of the change toward a more sustainable future and join us at our monthly Albuquerque Chapter meetings. Our chapter leader is Jim DesJardins, a local solar business owner. Meetings are usually held on the fourth Tuesday of each month from 6-8 PM at the REI store, 1550 Mercantile Ave NE, 87107.

Tuesday, November 27, we will have 2 presentations at REI. The first one will be a short presentation covering the different types of solar systems, how they work, what the major components are, how much a system costs, and what incentives are available. The second presentation will be about the New Energy and Industrial Technology Development Organization (NEDO) and two of their research projects at Los Alamos. The first project is a one megawatt solar array on a landfill with battery backup, and the second is a Smart House employing remotely controlled lighting, appliances, and other devices.

There will be no chapter meeting in December, due to the holiday, but be sure to attend NMSEA’s 40th Anniversary Celebration on December 9.



(Perspectives, continued from page 11)

Mexico. We liked what we saw and put on our tool belts to build some of these passive systems we were reading about, including south-facing attached solar greenhouses (sunspaces).

Intrigued, I headed to Santa Fe, New Mexico not long after graduating to work for the New Mexico Solar Energy Association (NMSEA). When I arrived in 1978, the organization was leading tours of passive solar buildings, conducting hands-on workshops to teach people about attached solar greenhouses, and promoting such systems as Trombe walls and convective air collectors.

Those were heady times. We were at the leading edge of the future of energy design. We imagined, in our youthful idealism, that within ten years all new houses would be oriented on East-West axes and rely on south-facing windows and thermal mass for heating. We were hungry for information and worshipping at the feet of such innovators as Peter Van Dresser, Steve Baer, Doug Balcomb, Jeffrey Cook, Wayne and Susan Nichols, and Ed Mazria.

For the better part of three years I worked for NMSEA, first running the Workshop Program (in which we traveled around the state leading construction workshops), then getting more involved in research and writing. My first real publication was the Thermal Storage Wall Design Manual, published in 1979. At national conferences I became inspired by the burgeoning interest in passive solar design, and at one of those conferences I met John Hayes, a professor at Marlboro College and chair of the Passive Division of the American Solar Energy Society, who would convince me to move to Vermont and become executive director of the New England Solar Energy Association (now the Northeast Sustainable Energy Association).

The above is an excerpt from an article titled “The End of the Line for Passive Solar?” posted on July 02, 2012 by Alex Wilson, who is founder and executive editor of BuildingGreen, Inc., and coeditor of GreenSpec. You can read the entire article at: <http://www.buildinggreen.com/blogs/end-line-passive-solar>.

The sunny days of enthusiastic support for solar energy came to an abrupt end in 1983 with the election of Ronald Reagan, who gutted federal support for all of these types of programs. 1983 also saw the loss of Peter van Dresser, one of the founding members of the organization. NMSEA’s paid staff plummeted to zero, and the organization soon lacked the funds to publish even a modest newsletter. Dr. Bill Gross, then Dean of the College of Engineering at the University of New Mexico, hosted NMSEA board of directors meetings in his living room - and there were still some empty seats.

However, the annual NMSEA Life Technics Conference continued and even expanded to include a co-conference - the Peter van Dresser Workshop on Village Development.

Slowly but surely the organization rebuilt itself. In 1994, NMSEA published the first edition of “The New SunPaper.” In the late 90s, Karlis Viceps launched the NMSEA “SunChaser” Program, named after a solar energy demonstration trailer that was built with modest grant funding and lots of volunteer labor. The SunChaser trailer, in various incarnations, roamed the roads of New Mexico for years, delivering hands-on solar energy related educational content to thousands of New Mexican students.

In 2000, Rose Kern organized the very first NMSEA Solar Fiesta, which was held at the Bernalillo High School campus. A combination of a “solar trade show” and an educational forum, the NMSEA Solar Fiesta became an annual event, one which has introduced thousands of New Mexicans to a wide variety of solar energy products, ideas and possibilities.

In the late 90s and early 2000s, LANL physicist Ben Luce expanded NMSEA’s educational reach with an expansive website and many hundreds of pages of high quality educational documents and informative handouts. He also encouraged NMSEA to become more involved in renewable energy policy advocacy.

In the past 10 years, NMSEA has sponsored, organized and conducted numerous “professional quality” educational workshops devoted to photovoltaic design and installation, solar hot water system design and installation, biofuels, electric vehicle conversions, and home energy efficiency upgrades.

Although its namesake “SunChaser” trailer has retired to Taos, NMSEA’s SunChaser Program is very much alive today. In 2011, SunChaser instructors around the state made 56 mostly full-day school visits, and delivered high quality hands-on educational content to almost 6,000 students. In addition, NMSEA volunteers manned information tables and waved the solar flag at 28 community events such as energy fairs and Earth Day Celebrations.

In the past few years, NMSEA members have become more active in “advocacy” and “empowerment” issues in addition to their usual energy education outreach work. NMSEA has participated in public hearings on energy efficiency and clean energy initiatives, written op-eds, and authored articles specifically focused on topics related to renewable energy generation and regulated utility initiatives.

And what about the fourth pillar of NMSEA’s mission statement - collaboration? It’s obvious even from the brief history related above that NMSEA has always been all about genuine grass-roots collaboration. There is no organization in this state nor, indeed, in this county,

that can point to a longer and broader and deeper record of collaborative efforts than NMSEA. Even in culturally diverse New Mexico, it is rare to see Los Alamos Labs nuclear PhDs working together with “hippies”, research engineers working together with garage-shop inventors, professors working together with high school dropouts. NMSEA’s membership is eclectic, eccentric, highly creative, and often politically incorrect. Animated “discussions” are the norm. What is it, exactly, that we all have in common? We’re crazy -- about sunshine!

Forty years of “front-line” service in the battle to promote clean, renewable energy and sustainability in New Mexico through education, empowerment, collaboration and advocacy - that is a legacy that we can all be proud of! Please join us in celebrating this milestone on Dec 9 at the South Broadway Cultural Center in Albuquerque. We can promise you an event that you won’t soon forget.

The Next 40 Years

So, where should NMSEA go from here? What will the next 40 years look like? The future will be different from the past - we can almost certainly count on that. So, NMSEA will have to change too.

Passive and active solar designs and products are relatively commonplace today, although much to our dismay, even here in New Mexico they’re still far from the norm. New Mexico now has a wide range of successful PV and solar thermal companies who are advertising, conducting free educational workshops, offering free consultations, showing up at community events, and even hosting their own mini-solar-fiestas.

New Mexico’s community colleges are now offering a broad selection of solar and RE-related programs and classes – including, while the money lasts, free training programs for qualified students paid for with federal stimulus funds. Santa Fe Community College has a brand new, very well-equipped mobile “energy education trailer”.

Photovoltaic systems are now mature and sophisticated products, most often grid-tied, and usually operated at voltages and power levels far above those that were common just a few years ago. Most new PV and solar hot water systems are “connected” to the Internet. The era of simple “do-it-yourself” PV and solar thermal system installations is quickly coming to an end. “Easy” home energy efficiency “tips” are readily available on-line and at every bookstore and home improvement center. More ambitious home energy efficiency upgrades require detailed knowledge of exactly how a home is constructed, as well as a wide range of building skills and experience.

New Mexico’s classic passive solar adobe architecture works amazingly well, just like it always has, but a combination of market forces, new “standardized” energy

efficiency building codes, and national building efficiency rating systems are pushing homebuyers away. A range of new building materials and techniques are readily available and in most cases, far more familiar to the average architect and home builder. Natural gas prices have plummeted, making it easier than ever to ignore the benefits of proper building orientation, south-facing windows, strategic shading and thermal mass. Solar hot water systems are facing fierce competition from relatively inexpensive, but very efficient, natural gas-fired systems.

On the encouraging side, the US military has committed to renewable energy and energy efficiency upgrades on a huge scale. Major corporations, including Wal-Mart, are reworking their buildings and their fleets. Architects and cities all over the world are signing on to Ed Mazria’s “Architecture 2030 Challenge.”

Clean, renewable, sustainable, “green” energy-related organizations are everywhere - the Green Chamber of Commerce and the US Green Building Council (USGBC) are just two of many major examples. The more “green” the better, but how many people can tell one shade of green from another?

In the educational arena, the Internet has revolutionized the access and delivery of educational content. School systems now emphasize state standards,

(Continued on page 14)

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(Perspectives, continued from page 13)

standardized testing, and strict teacher qualifications. The available classroom hours and budgets are already fully allocated – leaving teachers few options and no \$\$ for inviting outside presenters. There are many many choices for renewable energy related educational content, including an array of web-based curricula. Several national organizations offer “teacher approved” classroom kits and lesson plans, developed with the assistance of PhD-laden educational consultants and generous financial support from major US corporations.

In 2011, even the famous Rocky Mountain Institute saw a fall-off in financial support. NMSEA runs on a very modest bare-bones budget even in the best of times – and these aren’t the best of times. (But hey, if running an organization made up of solar energy gurus and fanatics in the poorest state in the country was easy, then anybody could do it!!)

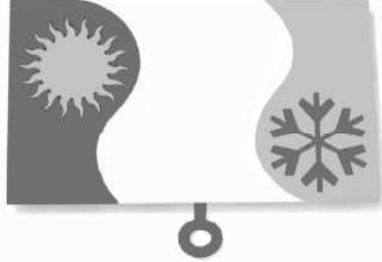
Please join us on December 9 for the NMSEA Annual Membership meeting to discuss these challenges, and to get a taste of what we already have “in the works” for the future. And as a bonus, you’ll get to enjoy the NMSEA 40th Anniversary Solar-Palooza at the same time!! ☀

Editor’s Notes:

Gary Vaughn, the author/compiler of the above article, has been the coordinator for the SunChaser program since 2006 and an avid electric utility watchdog for several years. Also, I was fortunate to get to do some adobe wall solar heat transfer computer modeling as a graduate student under Fran Wessling at UNM in 1977. My paper on the subject was published in the 5th Passive Solar Conference proceedings in 1982. Contact me at 505-292-4375 for the results of that study, if you are interested. RH



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Energy Investments

Closing share prices compared to the DOW index:

<u>10/24/12</u>	<u>8/29/12</u>	<u>10/24/11</u>
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First Solar (FSLR):

\$23.36	\$24.20	\$57.95
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Market Vectors, Solar Energy ETF (KWT):

\$32.16	\$38.95	\$75.60
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(reverse split July 1, 1sh/15sh)

Dow Jones Industrial Average (\$INDU)

13,077	13,107	11,914
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Crude Oil//barrel (NYMEX futures)

\$85.73	\$95.49	\$91.27
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Natural Gas/mmBtu

\$3.45	\$2.63	\$3.60
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Gasoline/gal

\$2.60	\$3.10	\$2.69
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NG and gasoline are national averages.

Selected prices provided for relative information, only; NMSEA does not recommend specific investments. All investments involve risk; invest cautiously.



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.

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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 | \$35 |
| <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:

<u>Affiliation</u>	<u>Donation</u>
<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.

Check category if you want to renew/subscribe to ASES with your NMSEA membership. Fill in total below:

- | | | | |
|---|------|--|--------|
| <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

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|---|---|
| <input type="checkbox"/> Do not rent my name | <input type="checkbox"/> I do not wish to receive the Sunbeam on-line newsletter |
| <input type="checkbox"/> I do not wish to receive Solar Action Network Alerts | <input type="checkbox"/> I do not wish to be listed in the on-line Membership Directory |

NMSEA Dues \$ _____ + ASES dues \$ _____ + Donation \$ _____ = Total \$ _____

Payment options: Check or money order enclosed Visa MasterCard

Credit Card # _____ Exp. Date: _____ Signature _____

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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

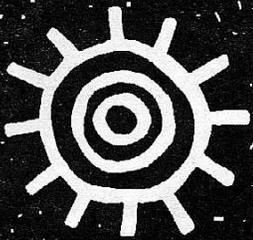
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Mission Statement

We promote clean, renewable energy and sustainability in New Mexico through education, empowerment, collaboration and advocacy.

Please consider investing your time and/or money toward solar energy education through NMSEA.

Vision Statement

We envision a thriving, bio-diverse earth, with civilization powered by clean, renewable and sustainable energy from the sun.

Coming Events

- November 7 **USGBC Green Luncheon.** Topic: "New Urbanism." 11:30am-1pm at the Indian Pueblo Cultural Center, 2401 12th St NW in Albuquerque, 87104. Cost: \$25 USGBCNM Members; \$30 Non-members; \$18 Emerging Green Builders; \$5.00 additional fee after 11/2.
- November 10 **Board of Directors Meeting,** Saturday, NMSEA office, 1009 Bradbury Dr. SE, Albuquerque, 87106. Members welcome. Meeting Noon to 3:00PM, potluck lunch starting at 11:30AM.
- November 27 **Albuquerque Chapter Meetings** at REI, 1550 Mercantile NE, 6:00 to 8:00 p.m. No meeting in December.
- December 9 **40th Anniversary Celebration,** South Broadway Cultural Center, 1025 Broadway SE, Albuquerque, beginning at 12:00 Noon Sunday running until 5:00PM. (See p. 1 article for details.)