



# The TREIA Newsletter

Texas Renewable Energy Industries Association

February, 1986

## CROSBYTON PROJECT DESIGNS NEW SOLAR BOWLS

By Don Williams

Workers at the **Crosbyton Solar Power Project** (CSPP) are designing two new types of solar power receivers that would be more cost efficient than the original version of CSPP solar bowl.

A solar bowl is used to collect solar rays and convert them into usable energy.

"What's being tested out there right now, specifically, are two different approaches to making the concentrator — the spherical reflective surface," said Texas Tech electrical engineering professor Ed O'Hair, director of CSPP.

"The methods we're looking at now for the concen-

## REMEMBER WHEN?

It was Spring, 1982. The first issue of the new magazine, **SPECTRA** (the official publication of the Texas Solar Energy Society for the next year and a half), was hot off the press. The opening article by Railroad Commission Chairman Mack Wallace included the following statements.

"A glut of oil? I think not. This so-called glut could become a shortage in a matter of days, brought about by some rebel coup or some invasion in a far away nation or some embargo by any number of several foreign countries clearly antagonistic toward us. The free world's supply lines remain extremely vulnerable.

"An even more distinct possibility is the imposition of what I have termed the **Arab Yo-Yo Doctrine**. That doctrine holds that the Organization of Petroleum Exporting Countries (OPEC) will attempt to manipulate our ability to produce energy by lowering prices and production . . . The Saudi's ability to fluctuate millions of barrels of oil production per day and the raising and lowering of prices is manipulative - plain and simple.

"The energy debate of the 70's must give way, not to a complacency in the 80's, but to a commitment to reasonably produce and develop all of this nation's vast and precious energy resources. If we push and push hard, solar and other renewables can play a most vital role in the total energy mix."

trator significantly reduce the price. They don't produce quite as much energy, but on a bowl-by-bowl basis, it reduces the price to one-third the original cost."

The original solar bowl built by CSPP used one-square-meter mirror panels on a bowl-shaped support structure.

"One of (the new designs) is just on what we call a stretch membrane, which is a great big tambourine that we evacuate the air out of, and atmospheric pressure pushes it down into a spherical shape," O'Hair said.

The stretch membrane type of concentrator uses four-inch metal pipe to form a ring 65 feet in diameter, about six feet off the ground. Cloth is stretched over the hoop, and aluminum foil is placed over that. After the structure is made airtight, a vacuum pump is placed underneath, O'Hair said.

"Rather than inflating something and keeping a positive pressure inside of it, what we're going to do is create a negative pressure inside of it," he said. "Then atmospheric pressure pushes it down into a spherical surface.

*From Texas Tech University Daily, January 20, 1986.*

## TREIA SPURS POSITIVE P.R. IN THE HOUSTON AREA

A special committee of the TREIA is completing its involvement with, and will soon sign off on, a new solar brochure. Being developed with Houston Lighting & Power Co., it includes general information designed to reassure HL&P customers of the continued confidence the company has in solar, and a consumer advisory which provides tips on "playing it safe with contracts," particularly in home solar purchases. Thanks to TREIA input, the brochure is more positive in tone than it otherwise would have been.

This activity was initiated by Rick Brand, before his departure to California. Continuing the effort and bringing it to fruition are TREIA members Robert Batho, Renee Yachabach and Kevin Conlin.



# CITY OF AUSTIN SUBDIVISION DESIGN COMPETITION AWARDS

The City of Austin Resource Management Department and the Resource Management Commission announced the winners of the Austin Subdivision Design Competition.

The competition award winners were honored for their outstanding achievements in promoting energy and water conservation through creative design.

The purpose of the Austin Subdivision Design Competition is to encourage resource efficient and innovative designs for Austin residential subdivisions.

The winning awards are:

*Outstanding Award* for the Shavano Woods project, submitted by Randy Morine Developments and Espey, Huston and Associates, Inc.

*Outstanding Award* for the Senna Hills project, submitted by Richardson Verdoorn, Inc.

## SOLAR BUSINESS ADVISORY NOW AVAILABLE

The recently issued "Attorney General's Business Advisory to the Solar Industry" is now available from the A.G.'s Consumer Protection Division.

Also being prepared is a 4-page consumer document centered on the "Business Advisory," which will be mass produced and promoted. TREIA has not been asked to participate or advise on it, as it was on the "Business Advisory" earlier. Also, due to TREIA commentary, the already-existing A.G.'s general information solar brochure is being revised to correct some confusion and misinformation.

To request a copy of the "Business Advisory" (which contains guidelines the A.G. intends to use when filing suit against solar companies), write:

Attorney General of Texas  
Consumer Protection Division  
P.O. Box 12548  
Austin, TX 78711

**Solar Documents**

## CITY OF AUSTIN INCREASES SOLAR REBATE

Jerry Lawson, Director of the City of Austin's Resource Management Department, has announced that the amount of a City rebate for the purchase of an individual solar system will be increased by \$100. Beginning March 1, the new maximum cash payment will be \$350. Resource Management staff continues to meet with local solar firm representatives and TREIA's Executive Director to explore other ways to improve the solar market in Austin. An extensive promotional effort to increase awareness of the benefits of solar water heating and of the City's rebate program is being planned.

*Honorable Mention* for the Barton Creek West project, submitted by Richardson Verdoorn, Inc. and Doyle Wilson & Bee Caves Development Co.

*Honorable Mention* for the Westview subdivision, submitted as a Jon-Roy Joint Venture.

*Recognition* for the Schneider Cove subdivision, submitted by Watkins and Associates.

*For further information on these projects and on future competitions, contact: Gilberto Rivera, City of Austin, Resource Management Department, 441-9240.*

## MAGAZINE PROGRAM REDUCED BY TWO

Since the beginning of the year, two out of the four magazines which were part of the TREIA complimentary magazine program have ceased publication. **Solar Engineering & Contracting** and **Renewable Energy News** have met their demise. From this point forward, all \$100 (D) and \$250 (C) category members will automatically receive **Solar Age**; and all \$500 (B) and \$1000 (A) category members will receive **Solar Age** and **Alternative Sources of Energy** magazines.

## TREIA REPS, ELECTRIC COOPS MEET

Russel Smith has announced that the Government Affairs staff of The Association of Texas Electric Cooperatives, Inc. (TEC) has agreed to a meeting with representatives of the TREIA Board of Directors. TREIA requested the meeting after learning of the TEC's intention to file suit in Federal District Court to block implementation of the "net energy billing" section of Substantive Rule §23.66, recently adopted by the Texas Public Utility Commission. There are several objectives which surfaced during planning sessions at the TREIA Annual Meeting in December, and in Board priorities for 1986, which relate to electric cooperatives as well.

The meeting, currently scheduled for March 14 at TEC headquarters in Austin, offers an opportunity for seeking common ground between our industries, educating TEC leadership on the positive aspects of renewable energy, identifying the major reasons for skepticism about our industries on the part of most of the TEC membership, and planning ways to overcome the barriers to a positive relationship with this state's electric cooperatives.

The Board of Directors will receive the report on the conference at its meeting the following day (March 15). Look for further details on this dialogue in our next newsletter.



# PRESIDENT'S MESSAGE: THE LOW YO-YO

by Michael Osborne

It's an interesting economy when farm prices are down, oil prices have plummeted, and the stock market is breaking records daily. The combination of all of these factors plus the growing reality that the tax credits might truly be gone for good makes for an interesting stew of discontent for renewable energy people. But let's go back and remember why we are here, why we are in the business we are in, and why we should continue to be so.

Ten years ago when I got involved in solar energy, it was after I had retired as an ad man. I retired as an ad man because I grew weary of the glopity glop, daily harangues that one goes through as he deals with the marketing world. I retired as an ad man because I was tired and frustrated in dealing with people and products that may or may not have any genuine basis for existence, but instead may only be a delusion or a dream or a wish. But more importantly, I retired from that profession so that I could put 100% of my time into solar energy.

It was so exciting then. I recall when Anna Fay Friedlander began publishing *Solar Engineering*. I remember how a friend of mine and I were so excited the day that we saw a real copy of a real solar magazine done in four colors with pretty separations and a decent logo. And then when you opened it up, lo and behold, there was an entire solar industry. There were these people out there who actually manufactured collectors, who actually made pumps, who actually made "delta T's" and other necessary components. There was a whole wealth of people out there already in the business. I suppose the date would be around 1976. But oh, how wonderful it was to see that a solar industry was beginning to grow and beginning to develop. We jumped into the field by going and visiting a man who promptly extracted several thousand dollars out of my friend just so that he could prepare a computer-generated proposal to get one of the famous grants that was going in those days. I managed to get out of the meeting relatively unscathed. And in fact, I learned a great deal. I saw some collectors first hand, I got to talk to a man who had actually designed solar systems and sold solar systems. I told him that I had marketing experience and later we even worked together in developing some media tools. Thus, my solar career was officially initiated, working with this gentleman, producing brochures for a NESCA seminar to train contractors so that they could be capable of receiving the Energy Research and Development Administration (ERDA) grants, that were available during that early period of the birth and growth of the solar industry itself.

From there, I managed to build some passive solar homes, work and consult with people who were building

underground homes, halfway-underground homes, bermed-up homes. I sold wood stoves. I sold toilet dams. I sold other efficiency measures such as water conserving shower heads and water conserving aerators. We sold opening windows & skylights that were well flashed and well designed to keep out cold air, rain, etc. We sold chimney toppers to keep the birds from going in and the cold air-conditioning air from going out in the summertime. I even have a diploma from American Solar King.

Then, in 1979 as part of the windfall profits package, Jimmy Carter's Congress passed the tax credits. With these tax credits, new things began to happen in the solar industry. With the implementation of the Public Utility Regulatory Policy Act of 1978, which did not really get implemented in the State of Texas until 1981, we went into the wind farm business, putting the state's first grid connected wind farm on line just north of Pampa, Texas. Of course, in the years to follow, literally thousands of such windmills have been installed in California. But to my unhappiness, even though the environmental winds were proper, the political winds were not, and the favorable rate structures did not exist. We did not see the kind of wind development in the Panhandle which is so prevalent in the three major wind development passes in California.

It was with this PURPA legislation that this idea of people becoming producers became popular and began to get bandied around a bit. It was in these early 80's that solar probably never looked so good. In fact, solar looked good, but by then was beginning to sound bad, so we decided it would be a good thing if we embraced the phrase "renewable energy". It seemed to taste better in the mouths of not only the consumers, but also the promoters.

And indeed renewable energy is good. It's good for the country. It's good for our children's children. Hell, it's good for us all. Maybe we should review why it is good. One, renewable energy is generally non-polluting. Two, renewable energy is not a capital resource but an income resource. As in Bucky Fuller's model of energy, our fossil fuels (coal, oil, gas etc.), are capital resources. They are our bank account, that is, the money we have in the bank. Currently our civilization is primarily spending our bank account and leaving our income check at the post office. Only by exploiting our vast wealth of renewable resources, can we begin to pick up this check at the post office and begin living off of our daily income rather than our savings account which is dwindling even though there is a "glut". Three, renewable resources are by nature indigenous and therefore some portion of the money will generally be returned to the local economy. That money in turn can be fed back into the

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banking and economic system providing some multiplier effect which will in fact make that local economy wealthier.

Studies in El Paso have shown that each dollar spent on renewable energy and efficiency will produce jobs in the economy whereas each dollar spent on imported gas, coal or oil will actually take jobs away for the economy.

I have tried to remember the beginnings of my renewable energy heritage in hopes that you too will look back at your heritage and the reasons why you joined this industry, be they philosophical or economic. The last 10 to 15 years have produced a lot of professionals out there who know a great deal about a resource and a technology that was known only esoterically 20 years ago. Those of us in the photovoltaics business realize that our market is not particularly tax credit-sensitive and that if we are careful and prudent in our money management, we should be able to survive in this glut economy. Those of you in solar thermal, I'm sure have your own ideas, but it is important to say and to note that a great deal of the solar hot water heaters installed in this country do contribute to the energy mix of this country, and that brings me to the final point.

Renewable energy sources and efficiency tend to reduce the need for fossil fuels. That's part of their good side. But the paradox and the bad side of this is that as we reduce that need then we will tend to cause these gluts which will tend to reduce prices which will tend to make the need for our products even less. So as we succeed, rather than things getting easier, they get harder. Don't feel that this is just an anomaly for now. I believe that this anomaly in our business will live on into the future. Those of us who insist on trying to make a living in this chaotic business, this world of energy, must accept that as we take a larger and larger market share of the energy mix, we may force prices down, which will make our products less attractive. Hence, the popular sales pitch which includes ever' increasing oil and energy prices may or may not be accurate.

This will be a tough year for this Association. As your President, it is my place to ask you to hang tough, stay in there, don't forget your dues to this organization, and remember that this glut is temporary. These prices are temporary. There are nuclear reactors that have yet to come on line. There is rate shock yet to be seen in this state and there is still a great, bright future for renewable energy producers and cogenerators.



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# CARTER REPORTS RECORD SALES, PROFIT

Carter Wind Systems, Inc., of Burkburnett, TX, set company records for sales and profits in 1985, according to President Jay Carter, Jr.

Carter expressed optimism about prospects for 1986, saying his firm's 300-kW unit is the only machine on the market designed to be integrated into existing windfarms without competing for winds at lower turbine heights, thereby permitting greater density and revenue per acre.

Carter also provided energy output figures for the six Carter 250-kW units in San Geronio Pass that were operating throughout most of 1985. For 48 weeks (February through December), he said, they produced an average of 408,777 kWh, with a high of 434,580 kWh for the most productive unit and a low of 342,860 kWh for the least, and achieved a capacity factor greater than that of the average wind system on the Southern California Edison grid by "a factor of better than two to one."

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Yachabach	713/499-4787

# ANNOUNCEMENTS AND HAPPENINGS

Testimony was given on behalf of TREIA by Mike Osborne at the January 17 meeting of the Joint Special Committee on Cogeneration. Mike argued for the consideration of all renewables, and read related recommendations from the 1985 TREIA/TDA report, "Renewable Energy for Texas: Needs Assessment and Policy Recommendations for the Texas Renewable Energy Industries."

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**Alternate Energy Resources, Inc.** has announced the availability of a new low cost solar water heater, the SOLARUS 2000™. The light-weight thermosiphon unit is designed to be bought in a retail outlet and installed by the homeowner. It will retail for under \$1,000, and carries a 10 year limited warranty. In order to meet demand for their new product, AER is moving its El Paso manufacturing operation and corporate headquarters into larger new facilities in May.

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TREIA President Mike Osborne has been named to the Public Utility Commission's Small Power Production Advisory Committee. The Committee's main job will be to develop a Small Power Producer's Handbook that clearly outlines the legal, technical and economic issues

## CODE OF ETHICS MUST BE SIGNED

All members of TREIA have been sent copies of the Association's Code of Ethics for signature and return. Those who have not yet done so, or who have lost or didn't receive a copy, are asked to please take appropriate action. Having this signed copy on file at the TREIA office is required.

Code of Ethics certificates, suitable for framing (9"x12"), are being printed at this time and will be sent to all who have their signed copy on file.

associated with utility interconnection. The group will meet for the first time on March 18, in Austin.

## CALENDAR

- March 4-6** Photovoltaics Annual Systems Symposium, Exhibition and Tour. Orlando, FL. Contact: M. Lujan, Div. 6224, Sandia National Laboratories, P.O. Box 5800, Albuquerque, NM 87185.
- March 5-6** 1986 West Coast Energy Mgmt. Congress. Airport Hilton, Los Angeles, CA. Contact: Assoc. of Energy Engineers, 4025 Pleasantdale Rd., Ste. 340, Atlanta, GA 30340.
- April 14-17** ASME Solar Energy Div. Conf., Anaheim, CA. Contact: Dr. Dan Turner, Dept of Mech. Engineering, Texas A&M Univ., College Station, TX 77843.
- May 13-15** 7th Review Meeting of the Photovoltaic Advanced Research and Development Proj. Denver, CO. Contact: SERI Conf. Coord. Section, 1617 Cole Blvd., Golden, CO 80401.
- June 3-5** RETSIE '86. Anaheim, CA. Contact: TMAC, 680 Beach Street, Suite 428, San Francisco, CA 94109. Tel 415/474-3000.
- June 8-14** ASES '86. Boulder, CO. Contact: American Solar Energy Society, 2030 17th Street, Boulder, CO 80302. Tel 303/443-3130.
- June 17-19** 8th Industrial Energy Technology Conf. and Exhibition. Houston, TX. Contact: Milton A. Williams, P.E., Conf. Dir., P.O. Box 26530, Austin, TX 78555-0530.

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