TEXAS RENEWABLE ENERGY INDUSTRIES ASSOCIATION

The TREIA Newsletter

Texas Renewable Energy Industries Association April, 1986

SENATORS TOLD RENEWABLES ESSENTIAL TO TEXAS

The following news release was sent to all Texas daily newspapers on April 17.

"The rate shock that will affect most Texans' utility bills in the next several years when the nuclear generating units that are now under construction are added to the rate base will cause a lot of voter unrest," according to testimony of the Texas Renewable Energy Industries Association (TREIA) at hearings of the Senate Committee on Natural Resources in El Paso this week (4/17). "The energy crisis," according to TREIA, "will be back as soon as OPEC can again control the supply of oil based energy. Texas can prepare for the future only if the Legislature provides the environment for other forms of energy to develop."

Mr. B.R. Farris, General Manager of Operations for the Alternative Fuels Division of Valley View Energy Corp., a member of TREIA, told the Senators that "renewable energy resources in Texas have the opportunity to provide reasonable cost electrical power to the citizens of Texas, but additional legislation and our public utilities' support is necessary to encourage the development of many of the projects."

Dr. Andrew Swift, from the Mechanical and Industrial Engineering Department of the University of Texas at El Paso, said, "Legislation must address the issue of renewable resources, or we face the possibility of losing the largest collection of information on renewables ever amassed, as well as the people in the field. We must continue research, determine what is cost effective, and improve technology through pilot projects."

"Our government, as leaders, should set the example of utilizing energy-saving devices by requiring them on all new government-funded construction," said Association member Richard Ortiz of El Paso's Alternative Energy Resources, one of the few privately owned solar manufacturers in the United States.

The hearings, which also addressed issues relating to groundwater, were intended to provide the Committee with insights which will help them determine areas of needed action in the 1987 session of the Legislature. In Austin, TREIA President M.J. Osborne commended Chairman Sen. Tati Santiesteban and the other Natural Resources Committee members for their understanding that "in spite of the current slump being felt in Texas by all domestic energy producers, non-renewable and renewable alike, a strong diversified energy mix is essential to this state's future." Osborne stated further that "in light of our increasing concern about water resources, renewable energy production, which uses little or no water, must be a part of that mix."

NEW RENEWABLE ENERGY PRODUCERS CERTIFICATE AVAILABLE

TREIA members may now order copies of a new "Renewable Energy Producer" certificate. It is designed to be used as a promotional item for giving to clients, or for anyone already using renewable energy. Giving of the certificate may be coupled with a one-year subscription to the TREIA Newsletter. It is hoped that some of the recipients will choose to join TREIA as Associate Members. At the very least, they should feel more involved in the renewable energy effort, and perhaps be better prospects for future purchases of related products.

To order copies of the "Producer" certificate, as well as additional copies of your Membership Certificate or the Code of Ethics Certificate, use the order form in this issue.

THE GREENHOUSE EFFECT

by Michael Osborne

Remember back two or three years ago when Dan Rather came on the 5:30 news and opened his prime-time news show with headlines about the EPA coming out with reports indicating that the "Greenhouse Effect" was indeed, a reality, and that governments should pay

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TREIA'S POSITION ON ENERGY DEVELOPMENT

Written testimony presented to the Senate Committee on Natural Resources hearings, April 17, 1986, in El Paso.

TREIA (Texas Renewable Energy Industries Association) is an organization composed of companies and individuals that are in the business of developing and promoting renewable energy resources. The areas most heavily represented are solar thermal, photovoltaic, wind energy and biomass conversion. Texas is rich with potential to develop solar, wind and biomass energy into electrical power but little has been done to realize this potential. Utility companies have very effectively resisted the establishment of the vast majority of proposed projects. The utilities have no economic incentive to develop new forms of energy themselves since they make a fixed return for their stockholders and therefore do not have any upside potential to offset the risk associated with new energy forms. However, utilities almost without exception have viewed the development of electrical generation capacity by others as direct competition and have used every means at their disposal to prevent such development.

The Public Utility Commission has helped to some extent but generally too little and too late. The PUC's objective is, as it should be, to protect the ratepayer first. Hence, the economic development potential for Texas is too often overlooked or given little consideration.

The State can do little to restore Federal Tax Credits that many of the renewable energy businesses got started on nor can the State increase the price of oil back to $30/bbl. However, several things that the legislature should consider are:

1. Provide the PUC with authority to levy significant fines on utilities which refuse to cooperate with developers of renewable energy products. There is currently no reason a utility has to cooperate. Utilities in California did not embrace private generation until they were fined and it became economically attractive for them to do so.
2. Establish wheeling rights for project developers such that the cost is greatly reduced from the current rule thus encouraging projects to develop in areas where resources are available and to sell their power to utilities that are in need of such power.
3. Provide incentive for utilities to improve efficiencies and increase utilization of renewable energy.
4. Direct appropriate state agencies to update existing policy on renewable energy and expand programs to reduce energy consumption, such as cogeneration and energy efficient building design including the use of solar energy.
5. Continue the funding of research at state universities in the area of renewable energy.
6. Provide for the wheeling of power and energy between facilities owned by the same company.

The rate shock that will affect most Texans' utility bills in the next several years when the nuclear generating units that are now under construction are added to the rate base will cause a lot of voter unrest as can be seen in the Gulf States Utilities service area now. Industrials must be allowed a realistic means to provide their own source of energy to evade these onerous rate increases or many will become unprofitable and will leave the area, thus affecting jobs, as has happened in the Gulf State Utilities service area.

Oil prices will not remain at $10/bbl. The energy crisis will be back as soon as OPEC can again control the supply of oil based energy. Texas can prepare for the future only if the legislature provides the environment for other forms of energy to develop.

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attention to what might well be a catastrophic change in the temperature of our atmosphere?

Just to give you an idea of what these reports say, let me quote from the Executive Summary of one of those reports entitled, "Can We Delay a Greenhouse Warming?" This particular report was written by the strategic study staff of the Office of Policy Planning and Evaluation. It is dated November 1983 and it came to TREIA compliments of Congressman J. J. Pickle, 5th District, Texas. The Executive Summary begins:

> Evidence continues to accumulate that increases in atmospheric carbon dioxide (CO_2) and other "greenhouse" gases will substantially raise global temperature. While considerable uncertainty exists concerning the rate and ultimate magnitude of such a temperature rise, current estimates suggest that a 2°C (3.6°F) increase could occur by the middle of the next century, and a 5°C (9°F) increase by 2100. Such increases in the span of only a few decades represent an unprecedented rate of atmospheric warming.
>
> Temperature increases are likely to be accompanied by dramatic changes in precipitation and storm patterns and a rise in global average sea level. As a result, agricultural conditions will be significantly altered, environmental and economic systems potentially disrupted, and political institutions stressed.

Agricultural conditions will be significantly altered? Environmental and economic systems potentially disrupted?? And political institutions stressed??? What are

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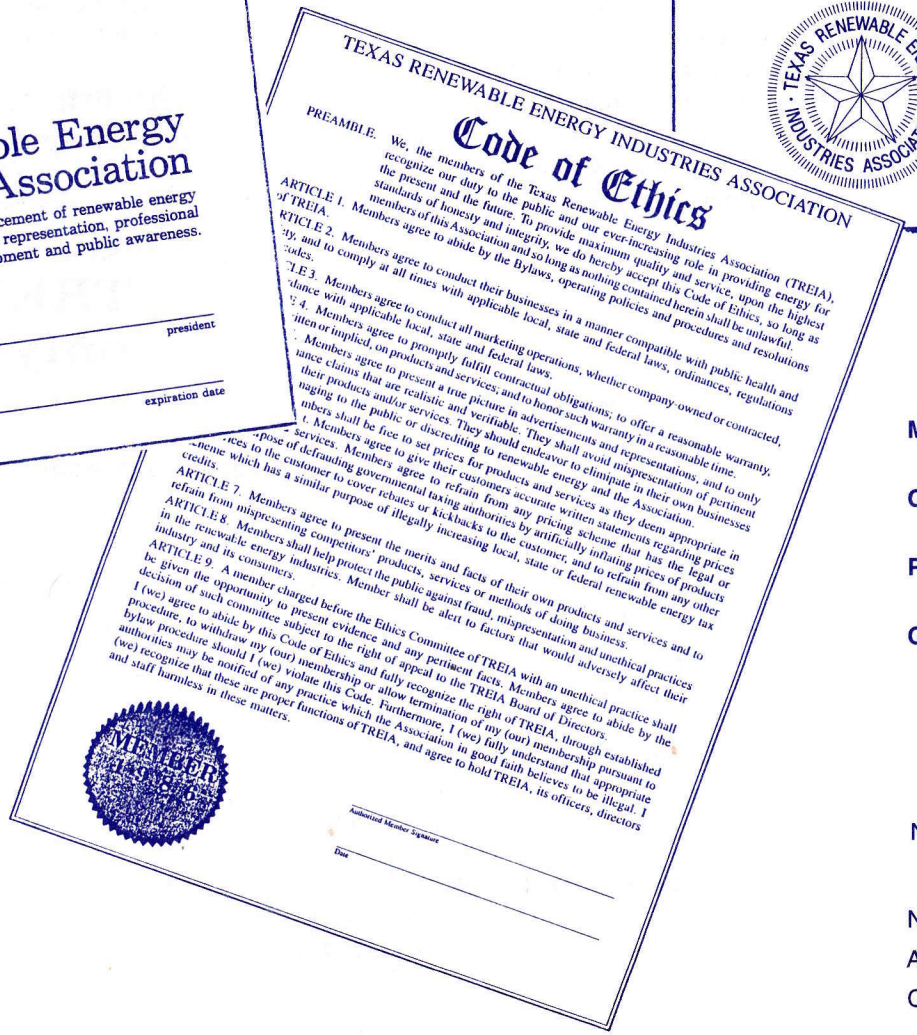

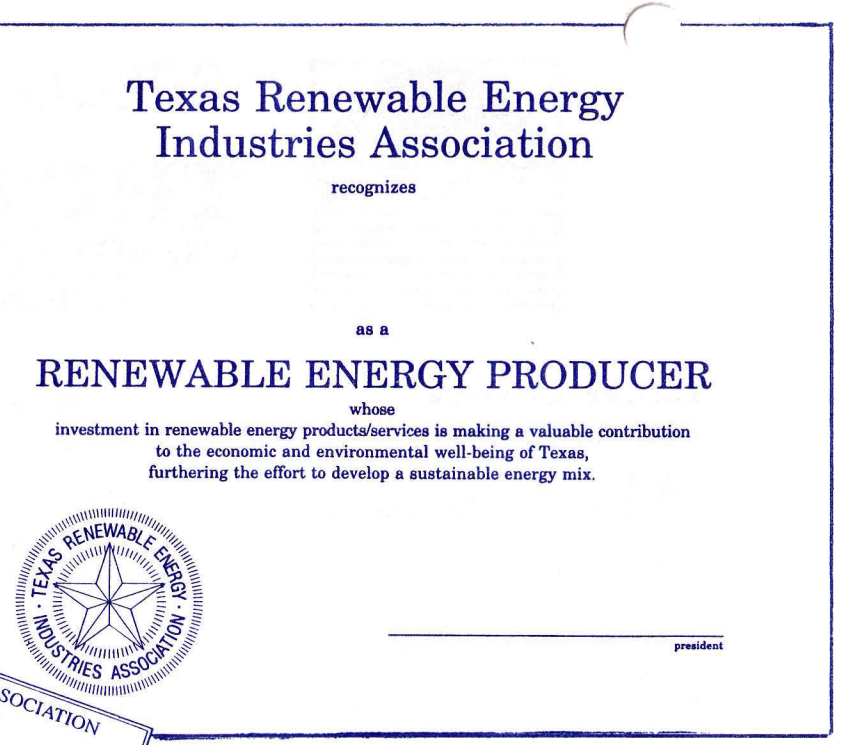

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these "strategic planners" telling us? The Executive Summary continues:

> Responses to the threat of a greenhouse warming are polarized. Many have dismissed it as too speculative or too distant to be of concern. Some assume that technological options will emerge to prevent a warming or, at worst, to ameliorate harmful consequences. Others argue that only an immediate and radical change in the rate of CO_2 emissions can avert worldwide catastrophy. The risks are high in pursuing a "wait and see" attitude on one hand, or in acting impulsively on the other.

And on the next page, under "Focus of Study":

> . . .This study takes a first look at whether specific policies aimed at limiting the use of fossil fuels would prove effective in delaying temperature increases over the next 120 years. Specifically, it examines whether a tax on the use of fossil fuels or a ban on the use of coal, shale oil, or synfuels could be effective in delaying a greenhouse warming. These policies are also evaluated for their economic and political feasibility. To put our findings in perspective, alternative, non-energy approaches to limiting a greenhouse warming are also reviewed.

A tax on fossil fuels? A ban on the use of coal and shale oil and synfuels?? Can you believe the federal government actually has published a report contemplating a 300% tax on coal and other fossil fuels? And that in the analysis, renewable energy was not taxed? I wish we could get that kind of thinking in a rate case at the P.U.C. when we are trying to get avoided cost to a level that can support true renewable development in this state.

Incidentally, I just read the figures on the energy production of the wind farms of California. Last year, 622 million kilowatt hours of electricity were produced, which is roughly equivalent to one million barrels of oil had they been used to make that electricity. 6.2 million pounds of contaminants were not released into the atmosphere, and neither was carbon dioxide.

So, in the "Summary of Findings" the report concludes:

> Worldwide taxes of up to 300% of the cost of fossil fuels (applied proportionately based on CO_2 emissions from each fuel) would delay a 2°C warming only about 5 years beyond 2040.
>
> Only a ban on coal, instituted by 2000, would effectively slow the rate of temperature change and delay a 2°C change until 2055. A ban on both coal and shale oil would delay it an additional 10 years — until 2065.

So, great! We do away with coal and add all of our new electric capacity by erecting wind parks in the wind regimes and solar parks in the solar regimes. Even though windfarms may not have dispatchable capacity, solar farms and P.V.s on roofs will do a nice job of matching the summer peaks of most Texas utilities.

So, does the report conclude that we should go toward a renewable economy? No. Later in the Executive Summary under, "A Ban on Coal Seems Economically and Politically Infeasibile", the reasoning goes like this:

> Though detailed estimates of total costs of a ban on coal were beyond the scope of this study, initial approximations based only on asset losses and increases in prices of alternative fuels suggest that a coal ban is economically infeasible.
>
> A worldwide ban on coal also appears to be politically infeasible. Because the burden would be unevenly distributed (e.g., most of the world's coal is concentrated in only three nations, and use of coal varies dramatically between developed and developing nations), worldwide cooperation required to ban coal is unlikely.

Now, I don't know what they are saying, but I do know that the United States has a lot of coal and I guess if you couldn't burn it, there would be an awful lot of asset loss, at least if you owned coal.

But what kind of asset loss is a third of Louisiana? And what will San Francisco be worth with a San Diego climate? So, instead of studying a renewable energy option, this report studies other non-energy options like capturing ambiant CO_2 through massive reforestation. That didn't sound like too bad of an idea, but they also studied adding more dirt to our environment vis-a-vis 500 or 600 planes flying all day long scattering sulfur dioxide into the atmosphere in order to block out sunlight to balance the carbon dioxide that we put in. Maybe that came from the Pilots' Association.

Maybe they didn't study the cost of implementing a renewable energy economy because no one told them it could be done. Most roofs have to be replaced every 20 or 30 years anyway; might as well make them energy contributors by replacing that roof with some sort of photovoltaic shingle. In 30 years in Texas alone that could provide 120,000 megawatts! And according to Dr. Nelson at West Texas State, there are 100 thousand megawatts of Texas wind power available for fuel and some capacity. And there's the 20,000 megawatts of cogenerators and waste-to-energy plants who could firm that wind power up and balance the nocturnal loads. And then there's the solar thermal boys out in the desert producing and selling their solar power just like it's a crop. And of course all of the houses and buildings that are built have passive solar features and solar thermal systems for their hot water, and they are efficient. And the buildings use solar day lighting instead of coal generated flourescent tubes. And the farmers are happy because they are growing crops that are turned into alcohol which runs the cars. And the

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ANNOUNCEMENTS AND HAPPENINGS

Michael Osborne and Russel Smith have been conducting talks with representatives of the newly-formed Gulf Coast Cogeneration Association, headquartered in Houston. The group has expressed interest in some level of affiliation with TREIA. It appears at this time that GCCA will become a chapter of the new American Cogeneration Association at the national level, and will join TREIA as a Corporate Member at the state level.

* * * *

The TREIA, TX-SES, PUC joint proposal for an exhibit at the State Fair of Texas this Fall comes up for consideration around May 1. We should know shortly thereafter if the exhibit is acceptable and will feature details in upcoming issues of the TREIA Newsletter.

GREENHOUSE

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roughnecks and oil field workers are happy because they are putting up gigantic 500 KW windmills. And the land men are prosperous because they are leasing wind rights like the good old days. And the governor is happy because the budget is balanced.

CALENDAR

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 4-5	Cogeneration Congress, Princeton, NJ. Contact: Association of Energy Engineers, 4025 Pleasantdale Road, Ste. 340, Atlanta, GA 30340. (404)447-5083.
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.
Sept.	WINDPOWER '86, Boston, MA. Contact: American Wind Energy Association, 1017-A King St., Alexandria, VA 22314. (703) 684-5196.

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