
"The media is the message" . . . especially true when trying to work within the framework of a community where you want to involve the community as well as inform it. This handbook is written with the philosophy that all media, commercial TV and radio included, are adaptable to a more appropriate, community scale.

"Most librarians and media personnel are trained according to a school of administration that puts expert opinion and the convenience of the institution ahead of the community or the customer." Hopefully, if the community being served actually operates the media center, this attitude will not develop.

The book is, as stated, a handbook, and it covers a very broad field of topics related to information transfer and communication—from simple slide show and lecture presentation to video and film technique. For anyone with a message to get out, this would be as good a place as any to start developing an effective plan of action—and who knows?—street theater or a good slide show may be more appropriate than an expensive and complicated TV broadcast.

The point is that when it comes to communication we don’t have to hire professionals to do it for us. (At $15.00, however, I would suggest recommending it to your local library as a good resource/reference book.) —Kiko Denzer


This is a handy guide to audio-visual materials that should be useful to conference organizers, community groups and teachers. Slide programs, filmstrips and documentaries on a wide range of issues are listed by subject, with complete information on length, date, rental or sale fee, and distributor addresses. Categories include nuclear and alternative energy, labor and liberation struggles, multinationals and militarism. —MR

The Conserver Society: An Annotated Resource Guide, 80 pp., 1979, $3.00 from: Saskatoon Public Library 311 23rd Street East Saskatoon, Saskatchewan S7K 0J6 Canada

A few years ago the Science Council of Canada, in an attempt to deal with the impending problems of limited resources and economic disparity facing Canadians, proposed the concept of the "conserver society." Though based primarily on energy conservation, the "conserver society" concept embraces all facets of life and advocates a complete reassessment of our present way of living. This annotated bibliography lists and describes books, films and periodicals concerned with energy conservation and renewable energy technology, all of which are available at the Saskatoon Public Library.

Outside of Saskatchewan, however, the booklet's value is somewhat limited since, with the exception of a list of public and private organizations involved with conserver society projects, the only access provided to the materials described is their card catalog number in the Saskatoon Public Library! Still, it's a good example of a wide-ranging bibliography with lots of good listings. Perhaps more significant is the fact that it is being distributed in conjunction with the opening of the Saskatoon Energy Conservation Information Center—an inspiration for folks starting energy info centers in their own communities! —MR


This is a useful publication for anyone thinking of starting up an energy information center, describing what it's like and how to go about it in great detail. It was written for ODOE by the Mid-Willamette Valley Energy Information Center, and includes an appendix on their own experience as well as reference materials on specific energy technologies, how to plan a workshop (on solar greenhouses or solar water heaters), and fundraising. —MR
Indeed, the manufacturers, whatever their personal beliefs on the subject, found it in their best interests to encourage women to look upon themselves as capable and self-reliant. Women were employed to demonstrate and teach the operation of the Singer machines, and Singer advertising pointed out both the benefits of added leisure time for childrearing and the opportunities for independent income which could be realized from taking in sewing. If the initial cost of the machine was a problem, the Singer Company was ready with yet another revolutionary idea: easy monthly installment payments!

Unfortunately, this fascinating glimpse at the sewing machine’s impact on women’s lives and attitudes is overshadowed by author Ruth Brandon’s greater concern with the technical development of the machine and with the R-rated details of I.M. Singer’s private life. The book provides enjoyable reading throughout, but it is hoped that Brandon or some other writer will soon give the “women and technology” angle of her story the kind of detailed attention which it deserves. — JF

A Capitalist Romance: Singer and the Sewing Machine, Ruth Brandon, 1977, $10.95 from:
J.B. Lippincott Company
E. Washington Square
Philadelphia, PA 19105

Isaac Merritt Singer could hardly be called a conscious advocate of the women’s suffrage movement. During the Civil War, the nation was shocked to discover that he was maintaining a number of “wives” simultaneously, and he no doubt would have been equally shocked had he discovered that any of these ladies was a follower of Susan B. Anthony or Elizabeth Cady Stanton. Yet, ironically, Singer and his fellow sewing machine manufacturers may have had as much to do with improving the status of women in nineteenth century America as the suffragettes did.

The challenge facing Singer and his competitors was a formidable one: to convince millions of women (and their husbands) to purchase a piece of machinery which was not only expensive, but which actually threatened to provide the ladies with a small measure of leisure time. That the devil frequently found work for idle hands was well known, but for the men of America, an even more sobering prospect loomed: a cartoon of the time showed a sewing machine salesman exclaiming how the machine was so efficient that “there’s nothing left for the ladies to do now but to Improve their Intellects!”

A Design and Construction Handbook for Energy-Saving Houses, Alex Wade, 1980, $12.95 from:
Rodale Press
Organic Park
Emmaus, PA 18049

When Alex Wade wrote 30 Energy-Efficient Houses... You Can Build in 1978 it seemed as though he'd written the definitive solar house book—with one reservation: not all of the 30 houses had been built and/or tested.

All of the houses in his new book are under construction and/or completed. The methods he describes have been tried—and they work. This book provides the kind of nitty-gritty information needed to build your house. His resource lists steer you in the direction of high quality and efficient materials, tools, designers, contractors and even appliances. To top it off, it includes a set of working drawings for a basic saltbox house with greenhouse, and the detailed materials lists and specifications to facilitate construction.

But the book is not oriented towards construction of “Alex Wade” homes as much as it is focused on design and construction attitude and style. “As an initial step in planning an energy-efficient home, you should examine your entire lifestyle for areas in which you waste energy.” Bravo! This book ranks (with the Mazda Passive Solar Energy Book and Bruce Anderson’s The Solar Home Book) among the best in the field, and is a perfect follow-up to his 30 Energy-Efficient Houses. The well-stocked bookshelf should include both books. — CC
One of the basic goals in the appropriate technology movement is a more democratically energized society. Energy for all, we proclaim, regardless of ability to pay, but we have a long way to go before we attain that goal. Among those hit hardest by this year’s energy crisis will be the elderly, as most of them are on fixed incomes and cannot keep up. Pathetic tales have been told of elderly persons who have their electricity or gas turned off by a utility due to inability to pay for the ever-increasing fuel bill. Fourteen percent of an elderly person’s total cost of living goes towards energy payments, and for the elderly poor it is 30% (as compared to the average American family, which spends about 4%). This economic impact affects the elderly person’s total standard of living. The increasing price of energy (which cannot be offset by a salary increase since most elderly citizens have retired) forces them to cut back on the necessities (not luxuries) of life. Problems such as eviction, foreclosure, inability to pay for mortgages and the great danger of utility shut-off faces the elderly renter or homeowner.

Although there is much truth in the saying “a cooler room is better for the circulatory system,” the elderly do not find this exhilaration in the briskness of their bedroom or parlor. More common among the elderly is hypothermia—a condition in which the person’s body temperature drops to a subnormal level (often without the person’s awareness). Hypothermia and other medical complications resulting from a thermostat set below a comfortable level, endangers the health and survival of many elderly citizens. This winter, as in past winters, people will die because of this problem.

Elderly persons also face a dramatic change in their social/recreational realm as energy prices escalate. Seniors eat less as weekly grocery trips are cut back—a result of prohibitively expensive gasoline and insufficient mass transit. Recreational and social activities at community points are painfully overlooked also, due to that inflated gallon, leading to the isolation of the elderly in their not so warm and cozy dwelling places.

So what is being done to help alleviate this condition? Some energy related programs at the local, state and federal levels do exist for the elderly of our nation in the form of tax credits, exemptions, rebates and food stamps. Unfortunately, the forms to apply for these assistance programs are usually so bureaucratically complicated that many people are unable to comprehend them and therefore refrain from applying. Clearly, not enough is being done and not enough attention being given to the seniors of our country in this crunch. Why is it that modern medicine searches feverishly for the “Methuselah enzyme” when the oldest of our society are discarded and treated with such disrespect? Once again, the energy situation gives us the opportunity to examine our values concerning the importance and dignity of all life.

—Debra Whitelaw
For more info, and to find out what exists in your area with the elderly and energy, contact:
Citizen Labor Energy Coalition
International Union of Machinists
1300 Connecticut Ave. N.W.
Washington, DC 20036
202/857-5200
Massachusetts Fair Share
304 Boylston Street
Boston, MA 02116
617/266-7505
New York Statewide Senior Action Council, Inc.
349 Broadway, Room 217
New York, NY 10013
212/925-0762
Citizen’s Action League
814 Mission Street
San Francisco, CA 94103
415/543-4101

Last October The Energy Consumer carried excerpts from the testimony of Ruth Toothaker, age 65, from Maine, where she lives alone. Ruth testified before the Senate Labor and Human Resources Committee, adding a special perspective on the conditions Debra speaks of above. “... Old people in this country are proud. They don’t like to tell their personal business—most of us have gotten by all these years by going without to make ends meet and don’t want to change now... The thought of asking to get help... makes my stomach feel sick. I’m just not used to asking for a handout and I don’t want to start now, although with the price of oil it looks like this winter I might have to eat my pride.”

The Office of Consumer Affairs at DOE is still our best advocate on the inside. Tina Hobson, its director, has been in many of our communities personally listening to complaints and responding to them with as much positive action as their budget allows. The Energy Consumer is the conduit for feedback and the best source of information regarding federal energy programs available, and it’s FREE! Write to be put on their mailing list. —CC

The Energy Consumer, free from:
Department of Energy
Office of Consumer Affairs
Washington, DC 20585

SOLAR

Solar Education Directories (by states), 1979, free from:
National Solar Heating & Cooling
Information Hotline
1-800/523-2929
800/462-4963 in PA
800/523-4700 in Hawaii & Alaska

SERI writes us that the National Solar Education Directory is going into its second printing with no copies left of its first. They did, however, send us the Solar Education Directories for Idaho-Montana-Wyoming and Oregon-Washington. The directories include information on colleges, universities, junior colleges and vocational-technical colleges in each region which offer courses and/or programs relating to energy. They seem to be fairly inclusive and are a good place to start looking for solar training from that sector.—CC

WIND

Wind Power: Recent Developments, edited by D.J. De Renzo, 1979, $36.00 from:
Noyes Data Corporation
Mill Road at Grand Avenue
Park Ridge, NJ 07656

The Noyes Data Energy Technology Review Series taken as a whole have a few drawbacks, not the least of which are their prices. Beyond the price constraint, there are two other tendencies they have that you should be aware of before running out and buying them. These books make certain assumptions about the technical background of their readers. That is to say, they’re not for beginners. By the same token, even engineers and others with extensive background might prefer books which start more generally and work their way to more specific information.

These books are, for the most part, non-judgemental reviews of the latest material passing through the U.S. patent offices. Keep that in mind—they’re good references for that kind of information.

The Wind Power book covers much of the technical research going on at Lockheed and Boeing having to do with structural stress factors, and work being done for these two corporations at MIT and Georgia Tech. It’s from that perspective that the economics of wind are explored, but there’s also a chapter on rural self-sufficiency and the economics of that scale. Probably the best info in the book covers the wind characteristics for different regions and the two chapters on rotor design and blade specs for into the wind and vertical blade systems.

—Gail Katz
Gail Katz has a background in carpentry and is an engineer with a double degree in electrical and mechanical engineering.

COMMUNITY

Communities
Here are two guides for residents beginning to equip their arsenal against threatening neighborhood developments. Deanna Nord

Rebel Residents: How They Fight Developers, by Carolyn R. Logan, 76 pp., $4.95 plus $.59 postage from:
Western Search Inc.
P.O. Box 334
Seahurst, WA 98062

This book vividly illustrates the important fact that anger and self-righteousness are no match for the money and expertise of an unwanted developer. Outlining political subtleties and describing various strategies, this guide portrays the effectiveness of thoroughly examining an issue. You should know who you’re fighting as well as who and what can help you. While focusing on the firsthand experience of Kings County, Washington, organization, this knowledge can certainly be applied to the problem in any area.—DN

Insurance Redlining: A Guide for Action, 14 pp., free from:
U.S. Department of Housing and Urban Development
Washington, DC 20410

Imagine a red line drawn around your neighborhood, banks and insurance companies who never cross that line. That’s redlining. Insurance redlining is a crucial issue for our cities. This is particularly true for “older neighborhoods which contain a diversity of people and property” and areas that are integrated and transitional. These neighborhoods are labeled “high risk.” However, many consumers are not versed in the types of insurance coverage available, the relative costs, insurance terms, and rate systems—all of which this short handbook explains. The book also outlines the basic strategies of investigation and confrontation of insurance redlining and points out that “there have been indications that lenders’ decisions to redline a neighborhood are sometimes based on signals they receive from the insurance industry.” A useful handbook for any group fighting this industry bias against our urban neighborhoods.—DN
A Conversation with Winona LaDuke

Last July some 2000 of us participated in the National Gathering of the People, in an attempt to help protect the Black Hills of South Dakota from coal and uranium strip-mining. The Black Hills, site of one of the oldest geological formations in the U.S., is also a sacred place for many Native Americans. One of the speakers at the Gathering, Winona LaDuke, is a founder of Women of All Red Nations (WARN). When Winona was in Portland in December we arranged the following discussion at Rainhouse. —MR

RAIN: Maybe you could start by telling us a little about the history of WARN (Women of All Red Nations), how and why it got started.

WLD: OK. Traditionally the men and women in our nations each had roles. Women are considered to be the backbones of Indian nations because the responsibility for future generations belongs to the women. Now, through history we've had a problem called "colonization" where everything got really messed up over time. And it got to the point where in the past four or five generations the women have become really colonized and are trying to fall into roles that aren't traditional. Also, there's a really high rate now on the reservations of alcoholism, of poverty, of Indian men getting put in prison.

So the American Indian Movement (AIM), which was founded in 1968, realized that there was a direct need to have a core group of women that were working with AIM as part of AIM. That's what the Women of All Red Nations is, but in a way so as to bring back the traditional role of women in the Indian nations and in the leadership and guidance of AIM, and to combat this colonization.

WARN was founded last year (1978), in September, in Rapid City, S.D., by about 200 women. Since that time we've grown a lot and have a few thousand people in both South and North America that are involved in WARN now.

RAIN: I just want to clarify one thing you said. You said that the goal of WARN is to restore the traditional position of Indian women in Indian culture?

WLD: Well, that's part of it. One of the major things that's happened to us is the way the family structure and the relationships in the family have been broken down. So that's where we start out as WARN, right there with the families, and fighting what happens to women especially, like the sterilization of Indian women. One out of every four Native American women has been sterilized. That's not traditional, but we aren't talking about just traditional things, we're talking about our survival as a people as a whole.

In addition to this, and aside from fighting against the exploitation of uranium which affects women first (the radiation), we are forced to understand the link between repression of the people and theft of the resources. The government targets the men, like Leonard Peltier, and puts them into prison. They create distractions while stealing our resources. Leonard Peltier is a prisoner of the national energy policy.

So that's what the women are fighting. And to insure that the women are getting stronger and stronger inside AIM, inside our liberation struggle, that's what WARN is about.

RAIN: I'm wondering what kind of response you get from non-Indian feminists in this country.

WLD: That's exactly true. An important distinction between us and many people in the women's movement is that we view ourselves as an integral part, almost a representation, of the earth. The earth is our mother—a woman. As women are exploited, so is our mother. And we must fight both battles simultaneously.

So we get into disagreements about those kinds of things and what the role of women inside a movement is. And we don't separate ourselves from our men because we can't afford to.

RAIN: Has WARN had much contact with the women's health movement?

WLD: One of our major concerns now is radiation. This is a really big problem for Indians, a really big problem. On Pine Ridge reservation in September of this year five women were buried and they all had either breast or uterine cancer. Our belief is that if we're not sterilized by the Indian Health Service we're sterilized by the radiation.

RAIN: Can you give a little background on the uranium mining? Are you talking about right on the reservation or on federal land lying next to the reservation?

WLD: Well, historically speaking, it seems like they always found uranium on the reservation.

RAIN: Well, did the federal government have mineral rights written into the treaty? Or did they make an agreement with the tribal structure?
"The Navajo nation has exercised its right by deciding to literally give away all its water to the energy companies!"

WLD: By the treaties we had the right to have our own government, like we always had. But in 1934 they established governments on the reservation under the Indian Reorganization Act. They were subject to the approval of the Department of Interior, and those are the guys that sign the mineral leases for Indian reservations. Well, at that time they didn’t have the technology to exploit uranium—they didn’t know what it was—but they were into gold and oil and natural gas and things like that. And they found those on the reservation so they got the tribal councils to sign the leases for that, ’cause the people were poor, and they thought it would be a good idea at that time. There was a lot of that kind of development. You could see that in Oklahoma, specifically, where the Indian land base is totally eroded because of the Oklahoma oil rush. That’s where the oil companies started.

Well, in the atomic age the first place they found the uranium was Great Bear Lake in Canada, which is the land of the Dene nation—that means “people” in their language—then the U.S. decided it would “go domestic” for uranium, atoms for peace, etc. They came down here, and the Atomic Energy Commission contracted out about 25 some projects, uranium mining, at that time. There were some like at Edgemont, S.D., which are the legal lands of the Lakota, or Sioux nation, and some in southern Oregon and near Spokane. Colorado had a lot of them—there’s a lot of Union Carbide operations there. Then of course there’s the Southwest. So they started all these mining operations then, and I would say about half of them were on the reservations. Now, what happened is that a lot of them closed down and a lot of them expanded. So, we found out that in the Southwest is where the biggest expansion was, in what’s called the Grants Mineral Belt. The Southwest, in the area where those four states cross, the Four Corners area, 350,000 Indian people live there. It’s the biggest concentration of Indian people in the Northern Hemisphere.

That’s where they found all the resources. Somehow, when it started out they were mining just on the reservation, the Navajo (Diné) reservation, and at Laguna Pueblo just due east of Navajo. There Anaconda opened up a “small” uranium strip-mine operation in ’51 and now they’ve got the largest uranium strip mine in the world. (In the free world, actually. Its only competition is in Namibia.) Though there’s uranium in other places, they chose to operate it on the reservations. For example, in ’74,100% of all fed-

photos by Carlotta Collette
“In ’74, 100% of all federally controlled uranium production came from Indian reservations.”

erally controlled uranium production came from Indian reservations. Since they’ve gone kind of crazy in Wyoming, one could say. There’s a lot of mining there in Wyoming, but still, for the most part, we predict that about 80% of federal uranium production comes from Indian lands now. And since the U.S. is the major producer of uranium, what it looks like on a world scale is that Indians are the No. 4 producers of uranium in the world (that’s combined U.S. and Canadian Indians).

RAIN: What do they get out of it, financially?

WLO: As of ’75, Indians were being paid $.60/lb. for uranium which was going for $30/lb. on the market. That’s because the federal government’s Bureau of Indian Affairs (BIA) negotiates these things. Now the price has gone up and Indians are getting still, I think, $.60/lb. for uranium, ‘cause most of the contracts haven’t been renegotiated — the BIA has the right to authorize renegotiation or not. In the Southwest we have a situation where there’s the most corruption of any Indian reservation, on the Navajo reservation. On the Hopi reservation also. Peter MacDonald is called the shah of Navajo! Between him and the Hopi Tribal Chairman (Mar-

tain Sekaquaptewa) they sold out the whole reservation. I know that they’re energy resource rich, but we can see that they’re victims of the system as well.

RAIN: Well, some of the more northern tribes are being very wary about coal rights, aren’t they?

WLO: Right, like Northern Cheyenne. If Indian tribes in the western U.S., not including the west coast area, exercise jurisdiction to their water rights, for example, there wouldn’t be any water in those states, ‘cause legally all the water belongs to Indian tribes. Now that’s not a bad thing to say, and it’s not like Indians are gonna steal it all, but under the foremost doctrine of water rights, the ‘Winters Doctrine,’ Indians have the rights to that. Now in the Southwest in particular, the Navajo nation has exercised its right by deciding to give away its water, literally give away all its water, to people like New Mexico Public Utilities. Kenecott Copper, Kerr-McGee, Exxon; that’s where all the water in the Southwest is going to, to the energy companies! If Indian tribes wanted to exercise jurisdiction, they have the legal rights to exercise that jurisdiction, under international law and under national law.

RAIN: What you’re saying, then, is that if the Indians wanted to they could stop the whole synfuels program, right, ‘cause that takes tremendous amounts of water.

WLO: If the Indian Tribal Councils could be pushed into looking reasonably at the situation they could stop a lot of energy development, just because of the water rights. But because people like Peter MacDonald are in there, there are now in the area of the Navajo reservation 36 operating uranium mines, 6 operating uranium mills, 4 coal strip mines averaging between 22 and 40,000 acres, and 5 coal-fired power plants. And on-line are up to 6 coal gasification plants. They could stand that if they wanted to.

RAIN: And Peter MacDonald gets written up in all the major national magazines as the great Horatio Alger story of the Indians!

WLO: That’s right. He just got appointed to the National Petroleum Council. He’s like . . . he’s the biggest man in the Indian country. But the only way he’s got his power is because he leases out his land, and there’s a lot of local opposition to him because, if you’re living in the area that Peabody Coal wants to strip mine, and you have to move, then you get really angry. It’s like the older women — that’s where you see this stuff about WARN — you know, the older women are the ones that are leading the struggle down there in the Southwest. The women are the traditional leaders at Navajo. In September of this year Katherine Smith, a 65-year-old Navajo woman, was arrested for shooting over the head of a fencing crew. The fencing crew wanted to force her to relocate off her land. That’s what provides the guidance for the younger people in a lot of places, it’s these older women — those are the people that are resisting MacDonald.

access

“In ’74, 100% of all federally controlled uranium production came from Indian reservations.”


The MFS Third National Conference last December in Louisville, KY (“Survival in the ’80s—Building a Unified Movement”), produced an ambitious timeline of actions and outreach for the coming year, with these major foci:


April 26-Fall: NUCLEAR DISARMA-
MNT SUMMER — Grass-roots campaign to highlight disarmament during the election period.

July 18-26: BLACK HILLS SURVIVAL GATHERING, South Dakota (see box).

—MR

The Trilateral Connection (poster), 1979, $3.50 from:
Black Hills Alliance
P.O. Box 2508
Rapid City, SD 57701

Winona LaDuke calls them “the supreme Wasichu.” The Black Hills Alliance considers them its Number One enemy. Just what is the Trilateral Commission? Lynn Lahr and others in the Black Hills Alliance spent hours poring through Moody’s Cor-

porate Index, Standard & Poor’s Register, Who’s Who and a number of other sources to find out. What they came up with is an indispensable resource illustrating the links between U.S. Trilateral Commission members, the federal government, and multinational corporations, foundations, banks, industrials, transportation and energy companies.

The Trilateral Commission formed in 1973 and meets on the average of every nine months in one of the Trilateral Commission countries, which represent North America, Western Europe and Japan — the industrial nations. David Rockefeller and Zbigniew Brzesinski were the commission’s founders. The stated purpose of the organization is ‘world economic order.’

—MR
The thing about Navajo is, you look at every other reservation and the land base has been eroded. They always steal land from Indians. But Navajo's the only reservation where they ever gave it back—consistently! Like, every ten years they'd give back more land, and that's why it's the biggest reservation. That's because they put in such effective puppet government. It was established by Standard Oil in 1922. That's how they got the Tribal Council started. So they didn't even have to take it away! They could just give 'em more, they did such a good job! So that's a lot of what has to be fought.

RAIN: Do you feel the relationship of WARN and other Native American groups with anti-nuke groups is really solid? Or is it more like "I'll do you a favor if you do me one?"

WLD: I think that there's a lot of potential there, but I think it's going to require that both parts do some learning. I think we understand a lot about America and the way American people are, 'cause we spend a lot of time looking at it! But Americans have never been forced to look at themselves—they're always moving, they never have to look back. What we see with the American no-nukes is... Americans are always responding to a crisis situation, like the Vietnam War, and now we get to no-nukes. All of a sudden they decided that nuclear power and weapons are a bad idea, and it's not like coal and nuclear power weren't going on before, but everybody just got scared about it. So they start looking around for allies and all of a sudden they figure out—lo and behold!—Indians got the uranium, let's start talking to them!

So they talk to us, and it's starting to grow, but still, what I feel like when I go to a no-nukes demonstration is I get treated like a minority—it's like they're doing me a favor to let me talk! Am I supposed to offer a "minority viewpoint" on behalf of all the brown and black people who aren't there?

We understand that there's been a war going on for 400 years. Although there are few of us and we are oppressed, our power comes from a balance between our spiritual center and its manifestation in the way we fight the war. We have to be respected from that basis, respected from understanding our spirituality, the things that are part of our nations, that make us distinct. Also, in evaluating their still token acceptance of us inside the anti-nuclear movement they have to look at the whole way that they treat other people in the movement, like blacks, or Chicano, and women!

Have you ever heard of this word Wasichu? No? I'll tell you this little story. The first time a Lakota person, a Sioux, ever saw a white guy it was a starving pioneer who looked like a ghost. He was running across the prairie and he snuck into their camp in the middle of the night to steal some food 'cause he was hungry. This makes sense, right? So he snuck in there and what he stole was, he didn't steal any meat, he stole the fat! Well this Lakota was rather alarmed! He couldn't understand this! So the word Wasichu, it means "he who eats the fat." Now since that time it's been adapted, and it doesn't refer to a color. It refers to a state of mind. And that's who we have historically identified as the enemy, is the Wasichu.

Pete MacDonald, like some others, has been made into an honorary Wasichu. It's the same thing. And those are the crazies that run things, those guys.

These people like no-nukes or environmentalists, a lot of times they look at a symptom. A nuclear power plant is a symptom, is what it is. Weapons bases and all those things are symptoms... y'know, none of that stuff is gonna hurt you unless it's got uranium, and that's where it's got to be stopped. That's what feeds multinational corporations, is resources. And that's why, when you're talking about New Mexico, it's the No. 1 uranium-producing state in the country—and the Navajos are the ones that produce it. You're talking about coal, you're talking about copper, silver, all this stuff that feeds those companies comes from those places, and that's what has to be stopped if you want to stop this monster. You gotta stop what it's feedin' it. They can invest millions of dollars in a nuclear power plant, but if they can't feed it, it's just a museum piece.

"Wasichu (wó see schu), it means 'he who eats the fat.' It refers to a state of mind."
Dear RAIN,

There are a couple of points that were raised in the last issue to which I would like to respond. Your comments in "Rainsdrops" about the importance of thinking hard about what kind of movement appropriate technology should become reminded me of a David Morris article that has bothered me ever since I read it in a recent Solar Age. David argued that we ought to get serious about energy conservation by beginning to legislate “energy quotas.” He argued that energy waste ought to be recognized as anti-social behavior and treated as such. An attractive idea in a way — but, gosh, does it ever fly in the face of the notion of decentralizing energy decisions. It seems to me that the solution that David is proposing does not grow from the philosophical underpinnings of what I take the movement to be. But, is there really anything approximating a commonly held philosophical position that binds people involved in appropriate or community technologies together? If not, we’re not as strong as we’d like to think. RAIN has always been the journal where these matters of philosophy are discussed. I hope we see even more of this discussion.

Your review of The Sun Betrayed was a dandy, and relates to the problem of philosophy, strength, and direction. And it was able to tell me why I always end up depressed and disoriented after reading through an issue of Solar Engineering. I won’t do it any more.

On to other things. Tom Bender, in his review of Why Trade It In?, contributes to the notion that the automobile repair business is fundamentally a “scam.” As someone who has spent a lot of time working as a mechanic, I’d like to take issue with his contention that flat rate manuals are set up as a way of putting something over on people. When used properly, flat rate times provide a reasonably good guess as to what a job will take. It is also true that many garages, particularly dealerships, use the books unfairly, charging, for example, for the time to replace a pinion bearing, which operation already includes replacing the seal. But that is a function of the nature of dealerships, where the shop foreman answers to the owner, and the mechanic “just work there.” Go to a little, one- or two-man shop, where the mechanic is the foreman is the owner is the guy who deals with you. And don’t give him hell just because he uses a flat-rate book. Chances are that he’ll be charging you enough to meet expenses and take a little bit home, not by any means getting rich, and if he arrives at that amount by using time estimates from a manual, so be it. If you are driving an old car that you are keeping alive, despite the fact that every bolt is rusted solid, getting away with paying the flat rate will often be to your advantage.

Then Tom and Lane teamed up to write an interesting article on population. Which contains a sentence that bothers me: “Centeredness can be found in meditation as well as in huge tracts of preserved wilderness.” The implication is that one can view the importance of preserving wilderness in the face of pressures created by increased population in terms of how necessary wilderness is to man, and to his psychological well-being. Boy, is that anthropocentric! The notion has its roots way back in the book of Genesis, where God gave man dominion over the earth. Do Tom and Lane really mean to say that? I’m more inclined to think of wilderness not as something that was put here for my use, but as something also used by Grizzlies, Canada Jays, Trout, and lots of others I like almost as much as I like kids.

Finally, where has Tom been buying his Ivory soap and having to pay $3 a pound? The other day I bought three 4½-ounce bars of Ivory for $.79, which comes out to $1.94 per pound. Or has Proctor and Gamble taken me in too?

Good news from Oklahoma. Our Department of Energy has hired someone to look after the solar programs who has had experience with hands-on workshops and who has, in the past, shown a commitment to low-tech, decentralized applications. His name is Ron Marlett. A nice change from Tom and Lane in their April issue.

Any magazine that can provoke so much comment on a single issue is doing its job.

Keep up the good work.

Bill Zoellick
Sunspace, Inc.
P.O. Box 1792
Ada, OK 74820

"Is Population a Problem?" (January RAIN) by Tom Bender and Lane deMoll, elicited more response than any single article we’ve published in recent months. We’ll be printing some of those and a reply from Tom and Lane in the April issue.
Folks,
When I read in your November issue that you’d netted only $622 in donations over a year’s time I asked myself, “Is that all?” Since then I’ve been trying to come up with something. When I read 10 minutes ago that you needed a typewriter . . . well, here it is.
I bought it six months ago for reasons I won’t go into, but in any event haven’t been able to justify owning it. Especially now that I know of a good use to which it can be put.
Keep up the good work . . .
Regards,
Bruce Campbell
Seattle, WA

New typewriters do not in the mail everyday come—we’re still a little overwhelmed. We’ve been using it steadily since it first waltzed in the door with our mailman. It’s hard to believe we got along with our one old one up until now!
A million thanks from all of us!
RAIN

Dear Rain Staff,
I was pleased to learn that you had decided that the best way to introduce Mark Roseland to your readers was to sneak him by. While he was here in the College of Science in Society we generally tried to keep him hidden, too, so as not to give the wrong impression about our program.

As for his being a “new face from the east,” I wish to assure you that not all faces in the east are like his. But then perhaps you were merely suggesting that he needed one.
My sympathies,
Jeffrey J. W. Baker
Wesleyan University/CSIS
Middletown, CT

A Harder Look

Dear RAIN,
I think Lloyd Kahn’s comments are very typical of the comments made by people who have not seen well-designed earth-sheltered houses in terms of the desirability as places to live. As for the psychological effects, most earth-sheltered houses have at least as much window area as normal houses although this may be grouped on one window wall (as in any passive solar house or typical apartment or condominium). Only the blank areas are covered with earth.
His points on do-it-yourself earth-sheltered houses are well taken. This can be a dangerous area for the non-professional since earth loads are heavy and waterproofing must be given careful attention.
Nevertheless, it is possible to build earth-sheltered houses which are dry, quiet, comfortable, blend in with the environment, have very low energy con-
sumptions (1.0-1.5 BTU/sq. ft./Heating Degree Day for well-designed houses) and have a high thermal mass which works well with interruptible sources of energy such as passive and active solar. This energy performance is natural and will continue for the life of the structure. Such structures have very low maintenance requirements and are relatively immune from normal natural hazards such as tornadoes, hail damage, etc. This results in reduced insurance costs often being available.

Our center presently has temperature monitoring equipment in an empty earth-sheltered house in Minnesota. This house has only a refrigerator turned on in a 2400-square-foot house. After the house had been empty for over a week in sub-zero temperatures the house ranged in temperature from 50°F to 56°F at approximately midday. The previous three days had also been cloudy. I believe this kind of performance without any supplied heat in the northern climate changes the question of the availability of heating fuel from a question of survival to a question of comfort.

Earth sheltered housing is not without its problems, but to dismiss it in the fashion of Lloyd Kahn’s comments does not do the concept (nor his perceptions) justice.

Ray Sterling
Director,
The Underground Space Center
11 Mines & Metallurgy
221 Church St. S.E.
Minneapolis, MN 55455

This letter is in response to Lloyd Kahn’s article “A Hard Look at How-To.” Some years ago I visited the domes he helped build, that launched his Domebook windfall, and it was evident that he should have taken a harder look at how-to.

It was a rather bizarre experience to be sitting in our home (which is a 24’ diameter 3/4 geodesic dome) reading about how domes were found to be unacceptable. We have experienced winds in excess of 110 mph without a budge, winters with more than 100 inches of rain and snow without a leak. We’ve stayed warm on the coldest nights and relatively cool when summer days were above 110°. But this is what you’d expect of a well-designed, well-built home, whatever its type. The dome skin went together quickly and allowed us to get in and finish it when we had the time and materials. It was a difficult structure to shingle, flash, fenestrate and finish, but that’s not surprising since it’s round. It forms a beautiful, secure, warm and enlightening space that is certainly worth all the hard work that went into it.

We have a small orchard, vineyard and garden which supply most all of our needs, year-round, and our strawberry patch (remember the strawberries) produced as much as 40 qts. at a good picking.

This food is raised organically on remote, hilly land, fertilized with manure from our poultry and livestock. We have two milk cows, some sheep and beef cattle and raise meat for ourselves, some relatives, and sell the rest to pay for land taxes, feed, etc. By growing a broad variety of fruits, vegetables, meat, milk and eggs, there is always a good crop of some things and often a poor crop of others. This year, for example, no pears or peaches, but loads of grapes, apples, plums, almonds and berries. Water is tight, so we learned from Israeli ways of stretching it using drip irrigation techniques; we developed our own springs to supply it powered only by gravity. In the summer when the grasshopper plague was devouring our plants and trees, we achieved a balance by turning loose 100 baby chickens and ducklings to feed on them. I don’t know, there’s nothing new about this, for us it’s what a farm is all about: self-sufficiency through hard work and harmony with natural forces.

We produce our own hot water with a coil in our woodstove and a solar panel, both systems driven by thermosiphon. We drain the panel when the nights get frosty. We forgot one night, and popped a small hole in it. Copper is easy to solder.

In summer a solar oven which we built produces 415°F and bakes our food outdoors. We live in a remote mountain area and have provided our own electricity for 7½ years with a wind-driven generator. We have a good site for wind power and, like building a home or a garden, it takes active participation, in other words, hard work and for some, like me, mastery of the fear of being atop high towers. But our experience is that windmills are an awesome, inspiring and beautiful source of power, in the proper context. Batteries store our power and motors with brushes, in AC-DC. Tools and appliances use it directly, as do lights. An inverter is only used with our record player. Our wind-driven generator has supplied us with most of the power to do cabinetry, paneling, flooring, etc. in our dome, as most of our power tools are AC-DC. It has lit our home these many years and provided the light for my drawing board.

Quality, enduring construction takes good design, good detailing, good materials and good execution. It always has. There are no universal answers, each problem generates its own solution. And “it’s the singer, not the song.”
Jonathan and O’Malley Stoumen
Miranda, CA

The author notes that he is an organic architect. His projects include barns and residences in New England, the Northwest and Hawaii. He received two design awards in the 1978 passive solar awards competition from the Department of Energy and from Housing and Urban Development.
At the risk of beating the "corporate control of everything" issue to death (small risk), I'd like to say a few things about that frighteningly fast-fading American institution, the family farm. Small farms in this country seem (like the foods they produce) to be taken for granted. Not too many of us worry about farmers or farm policies although they affect the price and quality of the foods we eat as well as the economy as a whole. With the current trend away from small farms and towards fewer, larger farms, the control of the food market becomes more and more concentrated. The potential for monopolistic food pricing grows as corporations such as Cargill and Del Monte own not only more of the land but more of the total food production and distribution industry. These giant corporations also manage to collect more than their share of government policy benefits for their efforts. Minnesota Congressman Richard Nolan, in his address before Congress Feb. 2, 1978, stated, "Good-sized efficient family farmers are leaving our small communities by the tens of thousands because government land policy, government price policy, government tax policy, government marketing policy, and government extension policies are designed to enhance large corporate farmers, speculators and middlemen." Congressman Nolan's statement served to introduce the Family Farm Development Act of 1978, which has been rewritten and reintroduced as the Family Farm Development Act (FFDA) of 1980.

Briefly stated, the FFDA will establish within the U.S. Department of Agriculture (USDA) a Family Farm Development Service to "focus attention on the family farmer's problems." This service would research and implement land, price, tax, marketing and extension policies which will "enhance" smaller scale farm operations. Research will include the "whys" of declining farm numbers while farm sizes increase, as well as the "hows" of reversing this trend.

Other emphasis for study will be on developing energy efficiency and alternative technologies, such as ways to improve and maintain soil productivity bio-agriculturally rather than depending on petro-chemicals.

But research is only one aspect of this bill. There are other changes incorporated in the plan that will have very significant effects on rural America. There are programs to provide training to small farmers in financial as well as horticultural management of their business. There will be loan incentives for sustainable agriculture farming, integrated pest management strategies, and the utilization of other appropriate farm technologies. Even tax code amendments to "help prevent non-farm corporations and outside investors from using losses or expenses from farming to offset profits earned off the farm."

The high cost of land makes starting new farm operations prohibitive. Farmers wryly joke about being millionaires — they refer to their debts, not their worth. The FFDS will provide grants administered by the Farmers Home Administration to "county or city governments or local community development organizations" so that farmland can be purchased for resale through a revolving loan fund.

There's more to this bill than I've mentioned, much more. Your congresspeople can send you a summary, or the entire bill if you request it.

Another good sign from Washington for the small farmer is the recent USDA redefinition of the "small farm" itself. It used to be that gross sales and acreage were the basic factors considered in separating big from small. That policy gave businesses with other non-farm incomes an advantage while excluding farmers whose gross sales might be above the $20,000 limit but whose net family income placed them well below the poverty level. The new definition considers three factors:

1. The farm family provides most of the labor and management of the farm.

2. Total farm income from all sources is below the median non-metropolitan family income in the state.

3. The farm family depends on farming for a significant portion of its income.
This new definition relates the land farmed and its produce back to the family, and the family’s role in the rural community. A question comes up in that third factor however. Just what is “a significant portion” of a farm family’s income? Since the USDA has in the past urged small farmers to seek outside work for supplementing their incomes it could appear that these farmers have been effectively “set up” to now be defined out of their small farm status. An article published by the USDA recommends that “10% of family income earned from farming would be ‘significant’ since this is the farm share of all income earned in rural areas.” This particular line of demarcation reduces the percent of farm families included in the new definition from 52% to 38%—still a significant number of the total farm population.

Combine this new definition and the new USDA Family Farm Development Service with some concerted advocacy from constituents and you get what someone keeps calling an “enlightened” food policy. But don’t think it happens by magic. The Family Farm Development Bill will take all the lobbying it can get. Much of that is coming from the National Family Farm Education Project, 918 F Street, N.W., 2nd Floor, Washington, DC 20004. 202/639-6848 (see RUSH). They’ve been instrumental in writing the bill and nursing it along so far. They urge all of us to write to our congresspeople to ask them to co-sponsor the bill. They would also like feedback from us as to which areas of the bill our congresspeople are most interested in so that they can promote hearings on that issue.

The project is also creating a number of “Fact sheets” on American food policy which RAIN will “access” as they appear.

Another organization instrumental in the struggle for an equitable farm policy is the Center for Rural Affairs, P.O. Box 405, Walthill, NE 68067, 402/846-5428. Thanks to Gene Severson for sending us their newsletter, The Small Farm Advocate. This paper supplies a great deal of information on various issues regarding the small farm. It’s packed. A must for rural community activists. The center is also the home of The Small Farm Energy Project, whose first two years experimenting with alternative energy technologies in rural Nebraska are reviewed in their report The First Two Years: Small Farm Energy Project (see below).

And one more: The Conference on Alternative State and Local Policies, Agriculture Project, 2000 Florida Ave. N.W., Washington, DC 20009, 202/387-6030. Always a good source of information. They sponsored a conference on “Supporting Beginning Farmers: Innovative State Programs,” in Minnesota this fall and have a booklet describing the programs they covered. Write them for a copy.

—CC
Small Farms Access

Recent Seed Company Purchases

<table>
<thead>
<tr>
<th>SEED COMPANY</th>
<th>NEW OWNER</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cepril, Inc.</td>
<td>Celanese</td>
<td></td>
</tr>
<tr>
<td>Moran Seeds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harris Seeds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O.M. Scott &amp; Sons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burpee Seeds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gurney Seeds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmers’ Hybrid Co.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced Seeds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ferry Morse Seeds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hulting Hybrids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National-NK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northrup-King</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rogers Brothers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keystone Seed Co.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jacques Seeds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amchem Products</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ITT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Garden Products</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Monsanto</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Purex</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sandoz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Union Carbide</td>
<td></td>
</tr>
</tbody>
</table>

"Seeds of the Earth" Seed Supplement, January 1980 issue of Tilth: Biological Agriculture in the Northwest, $8/yr. from:
Rt. 2, Box 190-A
Arlington, WA 98223

For those of us who spend December ordering seed catalogs, January ordering seeds, and February and March germinating our future crops in sunny windows without a political twinge, Barbara Snyder’s “Seeds of the Earth” bears the reminder “everything is political.” Before you dive into your favorite seed catalog, take a look at the list of new owners and get your hands on this article. Mega-corporations are interested in breeding for YUP (yield, uniformity and processing). “YUP bias” is generally supported by government policy (see “Family Farms—How We Gonna Keep ‘Em”). The latest evidences of this tendency are Senate Bill S-23 and House Bill HR-999, proposed amendments to the 1970 Plant Variety Protection Act. In her analysis of these amendments, Snyder says, “the proposed amendments standardize patent coverage (of plant varieties) with European laws.” The effects in Europe of this kind of legislation are pretty dire. “Small seed companies whose main trade was in traditional varieties are being forced out of business, and gardeners can be fined . . . for even growing certain plants. People working in the field of patent rights fear the system will wipe out three quarters of Europe’s vegetable varieties by 1991.” The questions are very complex and Snyder suggests several references (including copies of the bills themselves—ask your congressional representative to send them) to fill out the picture. —CC

Agricultural Soft Path Strategies?
And what about soft energy path studies for farmland and rural areas? One criticism that we’ve received concerning the generally excellent organizing tool County Energy Plan Guidebook (RAIN May, August/September 1979) is its noticeable lack of an agricultural component in its energy sector analysis guidelines. In a recent conversation Guidebook co-author Jim Benson acknowledged this gap, and suggested that he would be interested in communicating with people at work on agricultural soft path strategies for counties and localities. Perhaps there is some way in which their work could be integrated into the Guidebook strategy.

That strategy, by the way, seems to be rolling right along. By late autumn, at least 3,000 copies of the Guidebook had been distributed; over 100 local studies initiated; and plans that covered several entire states—Missouri, Vermont and New Hampshire—were looking to be completed by early spring. All you “progressive” states—let’s get going. Jim also mentioned that copies of the Guidebook are being distributed to every local community action program in the country—a very important tie-in for local soft path strategists to take note of. —Stev Ams

For further information/feedback contact:
Jim Benson
Institute for Ecological Studies
9208 Christopher St.
Fairfax, VA 22031
703/691-1271
Agriculture's chronic dependence on the fossil fuel glut of the last decades is infamous. Something has to be done soon to reverse that situation, particularly if small, diversified farming operations are to survive. In northeast Nebraska—the testing grounds of the Small Farm Energy Project—the statistics on energy costs are hair-raising. In 1977, purchased energy inputs accounted for 13 percent of average gross farm sales of $35,600. This outlay exceeded the net income (profit) of $3,700 per farm. Yet, Department of Energy calculations indicate that energy expenses for conventional fuel sources to these operations will double by 1984, easily wiping out the equivalent of all profits currently earned by these small operations.

For this reason alone, the Small Farm Energy Project's two-year experiment in linking rural-based renewable energy systems to small farm operations in order to see what positive results can be achieved is vitally important. With the first phase of their study completed, the project has some critical and encouraging data to share with us in its preliminary report. —Steve Ames

Food & Agriculture Catalog, 1979, 24 pp., $0.50 ppd., from:
Food for Thought Books, Desk R
325 Main Street
Amherst, MA 01002
413/253-5432

Collectively run and anti-profit, Food for Thought is one of my favorite east coast book distributors. I've seen them at innumerable conferences, rallies and other events in New England, and they are always a welcome sight. If organizers ask them well in advance, they will travel and set up an excellent selection of titles culled from their extensive inventory. Their first mail-order catalog was on Social Change literature; future catalogs will focus on Sexual Politics, Appropriate Technology & Nuclear Power, Education/Children's Books, Healing/Personal Growth and so on.

The Food & Agriculture catalog includes reviews of over 200 titles, including books, pamphlets, periodicals, and bumper stickers. The result is a collection of some of the best available resources on topics of nutrition, agriculture and land use, cookbooks, food politics and world hunger, health, etc. Food for Thought will also send you for free, on request, their three-page list of Appropriate Technology titles. —MR

Mary grew up on a 350-acre farm in southwest Colorado. She has reviewed books on solar energy and related topics for Library Journal.
KEEPING TENANTS TOASTY

Rental Weatherization

by Don Corsin and Sam Sadler

Conservation is finally receiving its due attention, if little action. The persuasive arguments for energy efficiency, most elegantly advanced by Amory Lovins, are now being adopted as gospel; even the Harvard Business School and the present administration are echoing the theme. Most acknowledge the advantages of conservation over new energy development: low capital costs, minimal environmental impacts, stimulation of employment, simplicity, and effectiveness. However, significant institutional stumbling blocks lie in the road to increased energy efficiency, and one of the largest is the issue of weatherization in rental housing.

The Problem of Rental Housing

It is often assumed that the economical, rational homeowner will assure a transition to a conserving future. Even if this were so, this view neglects the fact that 35% of the country's homes are occupied by tenants, not homeowners, and this is the stumbling block. The economic issue for homeowners is straightforward: those who pay for conservation measures benefit in decreased energy bills—they have incentive to conserve. In contrast, tenants present a case of split incentives: property owners who would pay for conservation measures often don't directly benefit, and the tenants who would directly benefit are too transitory to put money into a landlord's property.

When tenants purchase energy, the situation is easy to understand. With conservation, tenants benefit from lowered utility bills and increased living comfort. However, tenants seldom control their length or conditions of occupancy. It is unrealistic to expect tenants to invest in improvements to another's property when they cannot be assured that they will occupy it long enough to recover their costs. No incentive program for renters short of a grant overcomes this problem.

Less well understood is the situation in which the landlord pays the utility bills. These owners have an incentive to conserve, but the incentive is much less than it first appears. Much rental property is held for tax and investment purposes, not for income. Owners of investment property generally attempt to minimize their out-of-pocket expenses, and avoid outlays which yield a low return. In addition, a landlord's income from rental property is treated as business income for tax purposes, and energy purchases are regarded as business expenses that can be deducted.

Due to rapid depreciation, most rental property is sold every five years. In practice, the payback periods for many conservation measures are longer than the average length of ownership of the property. These factors mean that few conservation measures will appear economically attractive to landlords, even for those who pay the energy bills. Incentives alone cannot be expected to have a significant effect on rental weatherization; market forces will bypass energy efficiency in rental properties.
We need to become an effective conservation constituency—advocates of smallness, simplicity, and capital cheapness.

How can the situation be changed? We need to become an effective conservation constituency—advocates of the approach that emphasizes E.F. Schumacher's smallness, simplicity and capital cheapness. And we need to be particularly active in helping tenants with energy efficiency, because tenants are the ones most likely to be left out in the cold by current programs.

Nationally, about 55% of all tenants earn a low income. On the average, the poor pay a higher percentage of their income for the energy they use. Also, renters are less able to absorb rising energy costs, since they earn less than two-thirds the income of homeowners. But energy efficiency is more than an economic consideration. It is also an issue of public health and welfare; tenants have a fundamental right to housing which they can afford to heat comfortably.

Mandatory Conservation

The fact that this discussion is limited to rental housing does not diminish the importance of developing a comprehensive program. Mandatory rental weatherization should be part of a comprehensive (residential, commercial, industrial) program to be equitable. Mandatory conservation is the only effective option available; it is comprehensive, and it is fair.

By mandating conservation, the important task of improving the energy efficiency of buildings is accomplished. And by requiring that all dwellings be energy efficient, the costs and benefits are more equally and justly distributed. When people conserve on their own initiative, they still must pay the rising costs created by the increased demand of others. But if everyone conserves, then everyone benefits from lower energy bills and a slower increase in energy costs.

There are precedents for mandating energy efficiency. Davis, California, adopted a residential energy efficiency retrofit ordinance in November, 1979. Minnesota has a statewide mandatory residential retrofit law. Portland, Oregon, adopted an energy policy which includes mandatory measures for owner-occupied and rental housing, commercial buildings, and industrial structures. Seattle, Washington, is considering a mandatory residential program of lesser scope, with the intention of developing a more inclusive program later.

Many concerns must be balanced in designing a mandatory weatherization program of any scale. It is necessary to consider standards, exemptions, implementation, impact on supply of affordable housing, inspection and compliance methods, administrative costs, and public information. The balance is achieved through the local political process, so it is not possible to say that there is one 'best' program which is generally applicable.

Standards

There are basically three ways to set standards. The program proposed for Seattle relies on prescriptive standards specifying measures which must be taken for each residence. This technique was chosen because it is simple for people to understand what is required of them, and it is easiest to administer. The standards are based upon reasonable measures which will bring about significant energy savings. Exemptions are allowed where certain lesser levels of insulation are already in place, or where the structure of the building would reasonably prevent installation of the required measures.

Another approach to setting standards, used by Portland, Oregon, and the state of Minnesota, is to rely on cost-effective measures determined through an energy audit of each structure. Usually a payback time of 5 to 10 years is specified. While this is a more refined approach than prescriptive standards, it is more costly to
A mandatory program must not increase the burden on low income residents, who are already hard-pressed to maintain affordable housing.

Implementation
There are several possible implementation schemes. The Seattle Energy Office has proposed a date after which all structures covered by the ordinance must be retrofitted. After a three-year grace period there will be a systematic program of inspection of all affected units over the following two-year period. Minnesota has also set a date after which all structures must be in compliance.

Portland, Oregon, has proposed blocking the transfer of title after an initial five-year grace period. Since the transfer of title is controlled by another jurisdiction, state law will have to be changed to give Portland this authority. Seattle faced the same problem and chose not to try for implementation through transfer of title. In addition to jurisdictional problems, this method also fails to cover properly the refinement they offer would be worth the administrative costs.

Inspection
There are two reasons for inspection: compliance and quality of work. Seattle is proposing to incorporate its Home Conservation Requirement (HCR) into the Seattle Housing Code. Inspection would be conducted by city employees specifically trained as weatherization inspectors to inspect for HCR compliance only. In order to avoid the problem of tying weatherization into a more extensive enforcement of the entire Housing Code, the inspectors will not be 'competent' to take note of other Housing Code violations. Seattle estimates enforcement will cost $4.3 million in a program requiring $55.4 million in retrofits and providing benefits of $98.8 million in savings.

Portland's approach is self-certification. It relies on the assumption that most people will obey the law. Its advantages are that there is no extra cost for enforcement and individuals do not have their privacy invaded by government inspectors.

Minnesota requires a pre-sale inspection to ascertain compliance with the mandatory standards, but this inspection is not tied to enforcement or to penalties for non-compliance. There will be random inspections for enforcement. It can also be argued that weatherization work should be inspected to ensure proper installment, since improperly installed insulation can significantly reduce its effectiveness. Consumers would know they were receiving the benefits for which they were paying, while energy suppliers would know the conservation for which they were planning would be achieved.

Financing
A key issue in developing any mandatory weatherization program is the financing mechanism. Even though a program is designed so that the costs are offset by the energy savings, many people would find it difficult to cover the front-end costs of weatherization. These costs could range from $500 to $1200 per dwelling.

Many financing mechanisms already exist. Some states, such as Oregon, subsidize weatherization loans so they can be offered at low interest rates. Some utilities offer low interest or no interest deferred payment loans. Federal grants for weatherization are available to low income homeowners. These can be extended to rental units, as has been done in Minneapolis, Minnesota, and Lane County, Oregon. Community development block grant money can be used to offset the costs of weatherization. And some individuals will pay for the work without borrowing.

Portland is setting up a new, non-profit corporation to provide for financing and implementation of its program. The City of Seattle is considering providing low interest loans to complement other financing programs.

Since 70% of the residences in Eugene, Oregon, are heated electrically, citizens there are advocating a financing scheme which includes placing costs for conservation measures in the rate base of the municipal electric utility. Non-residential heating customers would be included in the weatherization requirement to the extent they are covered by the other available financing programs.

Other Considerations
A mandatory program must not increase the burden on low income residents, who are already hard pressed to maintain affordable housing. When a loan program is mandated, there is a need to ensure that property owners do not pass on unjustified rent increases and blame them on the weatherization program. Property owners should be required to make available to their tenants a Weatherization Cost Disclosure Form to show the cost of weatherization per dwelling. The impact of the weatherization program will be significant relative to probable market-based increases, and the program must not take the blame for causing rents to be raised.

There is also a myriad of federal regulations to implement the National Energy Conservation Policy Act of 1978. Weatherization programs will have to take these into account. For example, if the program is to rely on a new utility financing program, a waiver from certain prohibitions in the regulations must be obtained.

Conclusion
So far, most governmental conservation programs have relied on incentives. We feel that incentives are not adequate to bring about the weatherization of rental housing. If weatherization of this segment of our residential structures is a goal, it can only be achieved through mandatory programs. However, we must be careful that we do not create programs which have greater burden than benefit. With adequate financing, we feel communities can design their own local programs which will be equitable and reasonable.

Access
In developing the Seattle Home Conservation Requirement, a mandatory program covering owner-occupied and rental property up to fourplex structures, Marta Metcalf of the Seattle Energy Office has written an excellent discussion paper covering the various issues. While one might arrive at different conclusions regarding the specific recommendations, the paper provides concise arguments about the choices which must be made. Contact:
Marta Metcalf
Seattle Energy Office
920 Arctic Building
Seattle, WA 98104
206/625-3835

Don Corson and Sam Sadler are coordinators of the Whiteaker Neighborhood Energy Project in Eugene, Oregon. The project, funded by the National Center for Appropriate Technology, is working to have a mandatory weatherization ordinance adopted by the City of Eugene. Contact:
Don Corson and Sam Sadler
Oregon Appropriate Technology
P.O. Box 1525
Eugene, Oregon 97440
503/683-1613
Plagued by funding delays, revoked permits, and rising costs, SUEDE workers question the Uniform Plumbing Code.

SUEDE (Solar Utilization for Economic Development and Employment) was a project designed to train CETA employees to build and install solar water heaters and greenhouses in the homes of low-income people. Ecotope Group joined with the Mid-Willamette Valley Community Action Agency Energy Program last year for a project to build and install nearly 70 solar water heaters in Salem, Oregon. The project, one of 15 funded nationwide by a consortium of the Department of Energy, the Department of Labor, and the Community Services Administration, was plagued by funding delays, revoked permits, and rising costs. After delays totaling about four and a half months, the project ended with only 12 systems installed—at a cost twice that projected with the original design. At the center of all these problems is the Uniform Plumbing Code.

The chief concern of the Plumbing and Water Quality officials was cross-connection—that is, a tie between the potable water system and another system that might result in pollution of the potable water. This pollution usually occurs when there is a pressure drop in the potable system that sucks the fluid from the other system in through the cross-connection. Everyone agrees that cross-connection should be avoided.

The conflict is over what the Uniform Plumbing Code (UPC) requires for protection. Our interpretation is that the UPC requires only a Watts®900 backflow preventer for a system in which only a possibility of cross-connection exists, and where the fluid in the other system is an FDA-approved substance. The City of Seattle (WA) and King County agree with this position. The State of Oregon Code Division, on the other hand, has now determined that if a double-wall heat exchanger is not used, then a cross-connection will be assumed. It will also be assumed that the FDA-approved substance will at some time be replaced with a toxic substance. After making these assumptions, they then require that one Watts®900 valve be placed at the water meter and another between the solar heater and the rest of the house system.

A Watts®900 costs about $30, is easy to install, and needs no maintenance. A Watts®900 costs about $250 and must be installed by a licensed plumber and serviced once a year at a cost of $30. The Oregon Code Division has added $600 to $1,000 to the cost of the system (depending on installation fees) in order to enforce a very shaky code interpretation.

After the Code Division indicated it would require the same backflow protection even if the tank-in-tank system was set up as a drainback, filled with water and pumped, the Energy Program decided to go with a full-scale active system using commercial components. After an unfortunate and costly attempt to fabricate a double-wall heat exchanger from Solar Roll® in the hope of maintaining the goal of lower-cost, owner-built technology, the Energy Program threw in the towel and bought heat exchange tanks from Mor Flo® at four times the cost of the tank-in-tank exchanger. Not only were the active systems more difficult than the thermosiphons to set up (because of their increased complexity), but they also turned out to be much more expensive—at a cost twice the $600 average cost that appeared realistic for the thermosiphons.

Other issues raised by the code people were 1) you can’t have someone else assemble a collector with solder connections to be used in an open-loop system unless that person is a licensed plumber (owner-builders are exempt from this); 2) the need for permanent access to any tank more than 4 feet above the ground; and 3) the requirement for over-bracing of roofs on which collectors and storage tanks are placed. (The question here is not whether the roof should be braced, but whether it is being braced for an elephant or a 1400 lb. water heater.)

All of this has a chilling impact on the development and implementation of low-cost solar water heating. It has hamstrung those agencies that would deliver these systems to the poor, and has severely limited the options of the owner-builder. The ambiguity created by an unclear code that allows for capricious interpretation and long delays is a threat not only to low-income service agencies but also to solar businesses as well. If all the edicts of the State Code Division were consistently enforced, many commercial solar systems would be called into question. And if large-scale solarization plans (a key component of Oregon Energy Task Force thinking) are ever attempted, the whole effort could be inhibited by unclear codes, unreasonable interpretations, and uninformed local building officials.

These problems can be solved, though, by the adoption of codes and standards addressing the issues of solar water heating. These codes, which should be established legislatively, should be performance-oriented and not prescriptive; allowing for development of new solutions rather than forced adoption of the present commercial technology.
"A plutonium economy will ensure that 1984 arrives right on time."

"Bridging the Gap: Labor & Anti-Nuclear Cooperation?"

Over 200 labor and anti-nuclear activists joined forces in January for a conference on "Labor and the Nuclear Issue" in Oakland, CA. Organized by the Abalone Alliance Labor Task Force and the Bay Area Rank and File Coalition, and co-sponsored by AFSCME 1695, SEIU 535, and the Office and Professional Employees Local 29, the conference aimed at "bridging the gap" between the labor and anti-nuclear movements and exploring areas of common interest. The gathering was marked by the diversity of participants—though few minority people attended—and by the wide range of unions represented.

Following Barry Commoner's keynote address, fifty people, mostly rank and file union activists, joined the largest workshop, "Organized Labor and the Anti-Nuclear Movement." The labor people came from such unions as United Auto Workers, SEIU, postal workers, hospital workers, steamfitters, construction workers, public employees, and International Brotherhood of Electrical Workers, which represents most nuclear plant employees in California.

The fertility of ideas in this workshop was impressive. Labor activists made it clear that though they opposed nuclear power they were unable to give much energy to anti-nuclear battles since their main priority is to defend their unions against attack and to preserve hard-won gains. Some advocated the formation of a labor party. A woman from the American Federation of Teachers urged labor and environmental movements to join forces around a common economic strategy for the 1980s.

Labor and anti-nuclear activists found that though they have different short-term priorities, there are overlapping areas of common interest in which to work together in the future, especially around the economics of energy. The success of the conference may be an indication of growing cooperation between diverse grass-roots movements in the 1980s. —Stewart Burns

Stewart is a writer and anti-nuclear activist in the Bay Area.

The Conscience of the International Scientific Community

The Bulletin clock is a symbolic warning of the lateness of the hour as mankind confronts (or fails to confront) the urgent problems of our times. The minute hand, never far from midnight, has moved nine times since the founding of the magazine at the end of World War II.

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1947</td>
<td>The Bulletin clock makes its first appearance on the Bulletin cover as a symbol of nuclear doomsday.</td>
</tr>
<tr>
<td>1949</td>
<td>The Soviet Union explodes its first atomic bomb.</td>
</tr>
<tr>
<td>1953</td>
<td>Development of the hydrogen bomb by the United States and the Soviet Union.</td>
</tr>
<tr>
<td>1960</td>
<td>Signing of the Partial Test Ban Treaty.</td>
</tr>
<tr>
<td>1963</td>
<td>The Cold War begins to thaw.</td>
</tr>
</tbody>
</table>

Codes should acknowledge the place of thermosiphon systems, the legitimate need for low-cost, owner-built options, and a class of skilled solar installers who do not have to be plumbers. Formation of such a performance code should be done through the joint work of plumbers, solar businesses, code officials, the Oregon Department of Energy, low-cost solar designers, and engineers.

As part of this attempt to establish a pragmatic code process, the state or region should establish a test lab that works with these people to avoid the high costs of the national testing labs. This would also make the process more relevant to the new state code. Until a lab is set up, as part of a long-term field test plan, the local author-
Edward Teller is nothing if not optimistic. Asked whether he is sorry that he worked on the development of nuclear weapons he responds that he certainly is not. "I had the chance to help put powerful tools in the hands of my fellow citizens," he says. "I feel confident that on the whole, these tools will be used properly." One such proper use, in his view, would be a nuclear explosion to loosen up additional supplies of natural gas trapped in tight rock formations. The main problem in implementing this technique, he believes, "is psychological."

Teller also sees psychological problems (and scientific ignorance) impeding the development of nuclear generating capacity. If only people could overcome their unreasonable fears! As the man who, in 1945, decided for all of us that exploding the first nuclear bomb would be all right in spite of the warnings of some scientists that it might blow up the world, Teller himself is certainly not prone to nervousness about the unknown, and he is quick to assure his readers about the "vigilance" of the Nuclear Regulatory Commission, the multiple safeguards built into each nuclear plant, and the reliability of the "meticulously" prepared Rasmussen Report on reactor safety. As for waste disposal, he says, several good, inexpensive methods already exist, and all that remains for us is to choose among them and work out some details.

For anti-nuclear activists, this book provides a valuable (and chilling) look into the thought processes of a main opposition leader. — JF


Accidents Will Happen offers an anthology of mild articles that serve as an introduction and overview of the nuclear power issue. They cover the history and development of the nuclear industry and federal regulating agencies, technical information on the nuclear cycle and design, decommissioning of plants, waste transportation and disposal, civil rights issues, economic factors, nuclear and jobs, the benefits of conservation, and appropriate sources of energy. The book lacks a coherent political analysis which leaves several holes in its presentation of nuclear power. Though it examines some of the economic reasons nukes are so essential to government and industry, it fails to examine the nuclear industry's role in the military-industrial power base. Some attention is given to nuclear proliferation, but an analysis of nuclear power's part in determining foreign policy is missing.

Accidents Will Happen calls for a grassroots anti-nuke movement without identifying the forces behind nuclear power. This is somewhat analogous to asking people to attack the tip of an iceberg when it is the base that is currently running them aground. — KS

No Nukes: Everyone's Guide to Nuclear Power, Anna Gyorgy & Friends, 1979, 478 pp., $8.00 (paperback) from: South End Press Box 68, Astor Station Boston, MA 02123

No Nukes is an excellent reference book which summarizes from hundreds of sources the basic principles of nuclear technology and the myriad problems surrounding it.

Extensive research by expert volunteer writers gives a comprehensive view of issues, ranging from the history of nuclear power to health and safety questions, to the economics and politics of nukes, and to the grass-roots movement for social change and alternative energy sources. No Nukes can answer most, if not all, questions one might have about nuclear power and how to stop it. It is extensively footnoted and contains a detailed index and bibliography of resources. As such it is an unparalleled organizing manual for new or experienced anti-nuke activists — everyone's guide to nuclear power. — Elaine Hebel

Elaine Hebel is a member of Forelaws on Board and a co-founder of Greenpeace, Oregon.

Paul Sansone was director of the Mid-Willamette Valley Community Action Agency Energy Program during the period of the SUEDE project. Currently he is working as a trainer for the Washington County (Oregon) Community Action Program on their solarization program.

Ken Eklund is training coordinator and executive officer of Ecotone Group, a non-profit research, education and development organization specializing in energy conservation and alternative energy resources. Ecotone Group is located at 2332 E. Madison, Seattle, WA 98112, 206/322-3753.
A number of environmental, labor and religious organizations, concerned about the plight of persons exposed to radiation during military service, on the job, or as a result of residing near nuclear facilities, will sponsor National Citizens Hearings for Radiation Victims, April 11-14, in Washington, DC. Contact the National Council of Churches of Christ, 475 Riverside Drive, New York, NY 10027.

The Committee for a National Recycling Policy will host the first National Recycling Conference, April 21-24, in Fresno, CA. For more information, contact Hal Cooklin, P.O. Drawer P-P, Santa Barbara, CA 93102, 805/962-2210.

"Regulatory Controversy: the Case of Health and Safety" is the title of a conference to be held March 7-8 in Washington, DC. The event, to be co-sponsored by the Progressive Alliance, the National Center for Policy Alternatives, and the Environmental Law Institute, will examine the controversy surrounding the cost and effectiveness of government health and safety regulation. For more information, contact the NCPA at 2000 Florida Ave. N.W., Washington, DC 20009, 202/387-6030.

A conference entitled "Strategies for Stopping Shopping Centers" will be held in New York City, March 17-18. For information, contact Mary Dalessandro, Downtown Research & Development Center, 270 Madison Avenue, New York, NY 10016, 212/889-5666.

Press conferences, rallies, and other events will be staged nationwide in late March to mark the first anniversary of the Three Mile Island incident. For more information contact Coalition for a Non-Nuclear World, 236 Massachusetts Ave. N.E., #506, Washington, DC 20002.

The AIAA/SERI Wind Energy Conference will be held in Boulder, CO, April 9-11. The event will provide an in-depth forum for dissemination of results of current activities in wind energy development. For further information contact Kenneth H. Speiser, Gramman Energy Systems, 4175 Veterans Memorial Highway, Ronkonkoma, NY 11779, 516/737-3710.

Three training programs in the "French-intensive/bio-dynamic" method of gardening will be offered by the Santa Barbara Center for Bio-Intensive Agriculture, March 30 - May 9; June 23 - August 29; and October 6 - November 14. Write to the center c/o Community Environment Council, 924 Ana­capa Street, Suite 84, Santa Barbara, CA 93101.

Help Wanted

Earthwork Center for Rural Studies, an education and organizing center for food and land issues, is looking for a person with administrative experience, basic understanding of agricultural issues, and knowledge of labor and community organizing, to serve as a program coordinator. Salary is $10,000 a year. For details, write to Director, Center for Rural Studies, 3410 19th St., San Francisco, CA 94110.

The Farallones Institute Rural Center needs a new office manager. The position requires a knowledge of appropriate technology and environmental education. Duties will include typing, poster layout, coordination of publications and visitors' center, response to letters and phone inquiries, and some bookkeeping. A small salary plus room and board will be provided. Send resumes to Reny Slay, Farallones Institute, 15200 Coleman Valley Rd., Occidental, CA 95465.

A person to design and construct alcohol production units is sought by the National Center for Appropriate Technology. Position is for one year at a salary of $20,000, and requires a B.S. degree and at least one year of experience with alcohol fuels. Contact NCAT Personnel Office, P.O. Box 3838, Butte, MT 59701.

The Amity Foundation, a non-profit group working in appropriate technology research and education, is seeking new associates. They are prepared to provide both experience and sponsorship to qualified individuals in developing new projects and sources of funding. No direct positions are presently available; all proposals must be initiated by applicants. For more information, contact Amity Foundation, P.O. Box 7066, Eugene, OR 97401, or call 503/484-7171.

The National Family Farm Coalition, a membership organization interested in changing federal agricultural policy in order to encourage small and moderate-sized family farms, is looking for an experienced lobbyist, familiar with agricultural policies, committed to grass-roots organizing, and skilled in speaking and writing. Non-hierarchical work environment. If interested, send resume and personal letter to: National Family Farm Coalition, 918 F Street N.W., 2nd Floor, Washington, DC 20004.

RAIN needs a new staff member! We're looking for a creative, experienced person to take responsibility in some areas where we currently feel a special need: circulation, promotion and business administration. Persons applying should be at least acquainted with appropriate technology and willing to work with consensus decision-making. Position is full-time, equal in status and salary ($500/mo.) with other staff members. Send letter, resume and references ASAP to RAIN, 2270 NW Irving, Portland, OR 97210.
Owners of Stepping Stones will have in one volume such classics as Schumacher's 'Buddhist Economics,' ... Amory Lovins' 'The Road Not Taken,' Ivan Illich on 'Radical Monopoly,' essays or extracts from Stewart Brand, Wilson Clark, Lappe and Collins. . . ."—MANAS

"Makes you feel good just to open RAINBOOK anywhere and snoop around."—Co-Evolution Quarterly

"Together, RAINBOOK and Stepping Stones constitute an invaluable resource guide to developing an alternative to our present society." —The Self-Determination Journal

ORDER FORM

RAIN: Journal of Appropriate Technology Subscription
2 years/20 issues, $25.00
1 year/10 issues, $15.00
1 year/10 issues, living lightly rate (income under $5,000), $7.50
Foreign surface mail, add $2.80 per year (require-for air rates)
Sample copy, $1.00

RAIN Publications (indicate quantity)
Please add 20% for postage & handling
Stepping Stones, $7.95
RAINbook, $7.95
Stepping Stones Poster, $3.00
Urban Ectopia Poster, $3.00
Suburban Ectopia Poster, $3.00
Living Lightly, $2.00
Raindrops, $4.00
RAIN back issues
40% discount on orders of 5 copies or more except on books from Schenken (Stepping Stones, RAINbook and Environmental Design Primer).

Donation (tax deductible) $ __________
Total Enclosed (all orders must be prepaid in U.S. dollars) $ __________
(For those who require an invoice, billing fee is $5.00.)

Back issues of RAIN: currently available: Vol. I, No. 7, 8, 9; Vol. III, all 10 issues; Vol. IV, all 10 issues, $1.00 each. Vol. V and on, $1.50 each. For a list of what's inside each back issue of RAIN through Vol. IV, send us a SASE or see the center section of Raindrop.
Louis I. Kahn, more than any other modern architect, learned to go back to the roots of the institutions we house and the materials and techniques we build with. His thoughts and buildings are an important lesson, showing why each of us needs personally to touch the beginnings of things and what we gain by doing so. This book is a beautifully done introduction to Kahn and his work. — Tom Bender

**Form and Design**

With the sense of Wonder comes Realization. Realization is born out of the intuitive. Something must be just so, and it has a definite existence though you cannot see it. You strive because that existence makes you think of what you want to express. In this drive to express, you make a distinction between existence and presence. When you give something presence, you have to consult nature, and that is where Design begins.