

The Environmental Bi-Weekly

High Country News



Vol. 7 No. 14 35¢

Lander, Wyoming

Friday, July 4, 1975

Energy conservation



Belt-tightening, leak-plugging, new technology

Photo courtesy of North Dakota Travel Division

ENERGY CONSERVATION. An interesting example is pictured above, but we need not necessarily return to ways of the past to make a huge dent in our consumption of energy. The Ford Foundation Energy Policy Project says we could cut our needs in the year 2000 by 45% and still keep our TVs, our automobiles, our jobs, and our growing GNP.

Ford Foundation study has a better idea

Slowing energy growth gives us time to choose

by Joan Nice

Can you imagine a U.S. energy future which doesn't require immediate and massive commitments to western coal and oil shale development, nuclear power, offshore oil, or foreign imports? A future which wouldn't immerse us in the problems surrounding these alternatives for the next 10 years, but which would allow America to keep her TVs, her automobiles, her jobs, and her growing GNP? Such a future is possible, according to the Ford Foundation's Energy Policy Project. The project outlines

the way in its 1974 publication, *A Time to Choose: America's Energy Future*.

The key is our sloppy national energy habits. Shape up, and we could get more out of every Btu we produce and avoid certain environmental, economic, social, and international crises.

Needless to say, it's an appealing picture. All it takes, says the Energy Policy Project, is a firm commitment to energy efficiency. No deprivation, no abstinence. Just a

careful tune-up—an aggressive national campaign waste.

45% WASTE

How sloppy are we? We could cut our projected energy needs for the year 2000 by about 45%, the Ford project shows, without any drastic changes in the quality of our lives.

(Continued on page 4)

Dear Friends,

This hasn't been an ordinary two weeks here at **High Country News**. Mary Margaret Davis, who has worked here for six years—since the day the paper began—wasn't around last week.

It was impossible to get used to. She's been a key part of the struggle on every issue we've ever put out. She handles the business end of things, the typesetting, and contributes to a smooth operation in ways we had never properly appreciated before.

She was absent for good reason, of course. She was afflicted with a typesetter's nightmare—a wrist operation. Four days in the hospital. Surgery.

After it was all over we marched up to her room to give her our best. We found her smiling, filling out the **High Country News** postal form in bed.

She is mending well, apparently. She came in this week to take a look at the chaos that had crept into the office in her absence. One look at our condition, and she sat down and typed part of the copy for this issue with one finger and her good wrist.

She was relieved by an innocent bystander, Evonne Agnello, a former publisher of the **Seward County Independent** newspaper, who had chosen the wrong time to drive out from Nebraska and pay Marjane a visit. Evonne's husband, John, also a publisher, was recruited for proofreading. Several kind people at the **Wyoming State Journal** went out of their way to help us meet our deadline despite near-impossible odds and we thank them, too.

* * *

We have focused on energy conservation in this issue. The moderate approach to the problem is put forth in a review of *A Time to Choose; America's Energy Future*, a book based on the findings of the Energy Policy Project of the Ford Foundation. We need not brace ourselves for pain and bite the bullet to reduce energy consumption. We need not give up the fruits of energy, the Policy Project shows. What is urgent is to plug the energy leaks in all of our activities, if we are to be able to gracefully handle future demands for energy.

The more flamboyant approach to conservation is embraced by John Mionczynski, the subject of our back page feature. He, and a growing number of other people in this country, find a radical departure from the modern American way of life the only personally satisfying alternative.

Most every observer of our energy plight sees some kind of storm ahead. The transition from fossil fuels to other sources will not be effortless.

Some observers are confident that the storm will be very brief, however. They believe that the breeder reactor, MHD, fusion, coal gasification, oil shale, solar electric power, ocean thermal power, large scale wind power, and other new sources are nearly ready to go. In the meantime, they say, we can depend on offshore oil, strip mined coal, and other fossil fuels.

Other observers see cloudy questions surrounding all of the new technologies and some of the old ones. Some will be environmentally unacceptable. Some will cost too much. Some will not be ready in time to supply the voracious American appetite.

We are not sure how long the storm will last—whether we're due for chaos and cutbacks by the end of the century or a clearing, thanks to technology, and continued prosperity.

We are sure of the necessary response to our uncertain future, however. As a nation, we must become more energy efficient. We must develop "energy consciousness," as Dick Crowther says.

Granted, the active approach—"Generate sun power!"—seems more fascinating than the passive—"Insulate your attic." But the attic comes first. And it could make a difference in our country's future.

—the editors

P.S. You will find enclosed an insert containing legal notices for insurance companies doing business in Wyoming. These legal notices will be sent to you in six issues of the HCN. We debated accepting the advertising but decided that since we would be able to use a supplement rather than precious HCN space, it would be worth it to us. We believe it will be worth it to you, too, since the added income will help us continue sending you the environmental news of the high country.

~~~~~



"I'M SO GLAD TO HEAR YOU'RE ENERGY CONSCIOUS LIKE ME... THERE WILL BE BUNDLING, BATHS TOGETHER..."

## Letters

### SOLAR TOYS FOR RICH & POWERFUL?

Dear HCN,

Attached, for your information, is a copy of a letter I have sent to the Administrator of the new U.S. Energy Research and Development Administration (ERDA) asking that citizen and consumer leaders be involved in the planning and deployment of solar technology. I urge you to join me in pressing for some measure of public participation in the development of solar energy technology by the federal government.

(We are printing an edited version of the letter below — Eds.)

Robert Seamans  
U.S. Energy Research and  
Development Administration  
Washington, D.C. 20545

Dear Mr. Seamans,

As you know, Section 10 of the Solar Energy Research, Development and Demonstration Act of 1974 (P.L. 93-473) establishes a Solar Energy Research Institute. I understand that the responsibility for creating and managing this new institute is yours now that ERDA has been established. Further, I hear that you are about to appoint a committee, composed of persons outside government, to plan and organize the institute.

We are writing to urge you to appoint persons to your committee who can help voice the many important social values implicit in technological innovation and assessment. The introduction of solar energy into the society, depending on the forms it takes, may either destroy or create jobs for American workers. It may either concentrate or redistribute income and wealth. It may either centralize or decentralize human settlements. It may degrade or enhance the environment. And so on. But however it develops, **the effects of the technology will not be neutral.**

Our point is simply this: if the solar researchers finally conclude that the technology is only appropriate for suburban homes costing \$80,000 to \$100,000, then the appeal of solar energy for many of us will be greatly diminished and its place on the nation's agenda will be (I hope) ac-

cordingly reduced. The researchers must understand that there is a strong social value in having the technology evolve in such a way that it serves other compatible goals such as social justice, economic equity, and environmental protection.

Such goals must pervade the plans and the work of the Solar Energy Research Institute.

In the past, technological innovations have frequently been introduced as toys for the rich — the automobile, television sets — or as tools to help those in power retain or obtain more power — the computer. Solar energy offers us a chance to do it right: to introduce needed technological change with a minimum of disruption and with sensitivity for related human needs.

Byron Kennard, Chairman  
National Council for the Public  
Assessment of Technology  
1714 Massachusetts Ave. NW  
Washington, D.C. 20036

### DECAY AND FESTER

Dear Editors,

Thanks for your invitation to subscribe to your paper. After reading your paper, however, I find you are many other of the self-styled ecologists, who repeat clichés which no one dare dispute. It would be like being opposed to motherhood.

Your promotion of wilderness areas is just one example. I have studied one wilderness area for 30 years and can tell you that what was once a beautiful forest with towering spruce and fir trees, with many birds and ground squirrels, is now a dank moldy mess which the birds and animals have deserted. Supervised and proper use of the area could have saved it.

Nature in the raw is seldom mild and just jumping on the band wagon with no knowledge or experience will not necessarily keep the country in its best state. How many citizens who really own this land, whether they live in Chicago or New York, can benefit from these areas, and who would want to see them after they decay and fester?

Sincerely,  
Don Fischer  
Aspen, Colo.

# Editorials



The answer: lower consumption

## In search of a high standard of living

"Do Americans have the right to mine raw materials needed to maintain our present standard of living?" a recent survey taken in Wyoming asked. Over 65% of the Wyomingites surveyed said we had such a right. Perhaps the majority of the people in this country would give the same response, which could be extremely depressing to those of us who believe the right to mine is not one of those inalienable rights guaranteed by God and the Constitution.

Yet maybe the problem is in the interpretation of the question. Must we assume that lower consumption of energy and of material goods is, by definition, a lower standard of living?

By listening to our national leaders (who tell us to "bite the bullet" for just a few months longer) and by reading the country's headlines ("Sacrifice Necessary to Ease Nation's Woes"), one would think so.

Yet surveys of other countries don't indicate that this is true. Several Western European countries, with living standards equal to ours, consume half the energy per capita than we do.

John Mionczynski (see back page) and Tom Bell and others like them don't think so. They believe that with

each step toward greater self-sufficiency, they are raising their own personal standard of living.

There are examples of people across the country—many of them our readers—who are changing their style of living in little ways in response to the nation's crisis of energy and resources, a crisis which they realize is the only possible culmination of two centuries of an orientation toward growth.

There's Dorris Marxhausen of Seward, Neb., who joined her 18 year old son on a recent hitchhiking trip to Missouri, leaving her car at home. She's already known in her community as the one who sits at city council meetings sewing together bits of things she found at farm auctions to create new clothing.

There's Dick Crowther of Denver, Colo., and others who have found that investments in added home insulation pay off on fuel bills. And Jim and Roseva Guest of Lander, Wyo., who have added a wood-burning stove and a fireplace to their home to supplement their heat.

All around us there are people who have put away their downhill skis and their trail bikes, their aluminum foil and their paper towels, and have, with a little imagination, come up with alternatives.

At first, the changes are sometimes difficult. Later we find the advantages, as Kenneth Bohlig of Wisdom, Mont., describes to us in a letter in the Feb. 28, 1975, HCN. Bohlig and his wife have started what they call "The George O'Connor Hour." To honor the retirement of the president of Montana Power, George O'Connor, the couple uses no electricity for an hour each day. He says, "Somewhat fearfully we have begun to converse with each other in the absence of the 'boob tube.' By the light of our oil lamps, we have been writing to our distant relatives and friends... We have rediscovered silence, books, and—once or twice—each other."

Mr. and Mrs. Bohlig are discovering what scientist-author Rene Dubos tells us: "In any kind of society, the healthiest, happiest, and most creative persons are likely to be found among those who consume least." He quotes studies that show that the greater the energy consumption, the larger the percentages of divorces and suicides.

He explains his theory: "We have made it a universal practice to inject industrial energy into human and natural systems as a substitute for the adaptive responses that these systems would make if allowed to function naturally."

Thus we prefabricate houses that can be installed anywhere rather than designing each home to fit its own environment. We produce endless rolls of paper towels and napkins instead of taking the time to create an embroidery design on squares of cloth. We fill our supermarkets with aluminum-encased, no-fuss meals from corporate farms.

And with each step toward a more energy-intensive society, we get further from the labor-intensive way of life that keeps more people working.

Dubos continues: "As a consequence of the overuse of energy there are fewer and fewer occasions for the body

and the mind to make creative responses to environmental challenges; architecture and planning have become duller because there is less need for ingenuity in coping with climatic and topographic constraints; the biological forces that used to contribute to soil fertility have no chance to operate.

"In other words, overuse of energy tends to interfere with the adaptive and creative mechanisms of response that are inherent in human nature and in external nature."

Lifestyles centering on conservation will not solve the crisis in themselves. Industries, utilities, and governments must make some major changes, too. Yet our efforts, while making a dent in the overall problem, will make crucial differences for us as individuals. —MJA

## Andrus deserves our applause

Idaho's Gov. Cecil Andrus is one of the few politicians we know who regularly stands up and fights for environmental causes that he feels are just—even when the timing seems most inappropriate. Most recently Andrus was dedicating a Corps of Engineers' dam on the Lower Snake River and broke the air of celebration to criticize the dam builders for blocking migratory fish runs.

Speaking at the Lower Granite Dam dedication ceremony, Andrus said, "Before I accept this structure... I want to point out that the costs of this system have been horrendous both in dollars and in costs to our natural resources." Andrus said the public had been led to believe that the migratory fish would be saved by the installation of fish ladders. "We wanted to believe that, so we did. It hasn't turned out exactly that way."

This year the Idaho Fish and Game Commission had to ban all sport fishing for chinook salmon on the Snake River and its tributaries. Dams on the Snake and Columbia rivers are a key reason for a seriously depleted spring fish run which led to the ban.

Andrus' prepared text generally lauded Lower Granite Dam, according to an Associated Press story. But he departed from the text to tell the audience, "We have some problems that are indeed solvable, not something that we should wring our hands about, but something we should do something about. But we will not settle for other than a full solution to this problem."

Part of the solution that Andrus is working for is the establishment of a Hells Canyon National Recreation Area along the Snake that would ban dams from that reach of the river.

It takes guts to tell the Corps and the dam defenders on their day of celebration that their pride and joy is a less than satisfactory project. We appreciate the governor's honesty and courage. —BH



### BLM NEEDS AUTHORITY

Dear Friends,

Your June 6th issue was probably the best put together I've seen. Keep it up. Every article was excellent—hard hitting with facts!!

Out West we get a full dose of BLM which others never see. The problem as I see it is that the BLM doesn't have an "Organic Act" which gives it autonomy and teeth as well as direction—like the Park and Forest services. I wish that would happen in D.C.

Dave Brook  
Logan, Utah

### WHO PAYS THE BILL

High Country:

Just read the letter in the June 20 issue of *High Country News* written by Robert Mackey of Gillette, Wyo. He seems to have the feeling that the farmers and ranchers have been the sole support of the public lands in the West. Does he mean their grazing fees? Property taxes? Income taxes? Or some type of contribution? How have they been supporting these public lands? As for the game and wildlife—how can he take credit for that. Didn't he ever hear about hunting licenses and sporting goods excise taxes? Doesn't he know that it is the sportsmen alone who is responsible for the increase in game and wildlife we have experienced in some areas?

He went into a business that contains hazards—so did you and so did I. He wants the government to bail him out by removing the predators and "hammer-headed broom-tails" from lands that are not and never were his. He knew the coyotes were there when he applied for the grazing permit.

What has the government, either local or federal, done to bail you or me out of our troubles? About all they have done is to tax us. The money goes into the general fund from which comes money with which to administer federal lands upon which Mr. Mackey pastures his poor "stomped-on" cows and calves. His grazing fees certainly are way short of paying the bill.

"Digger" Costelloe, editor  
Oregon Outdoors

## HIGH COUNTRY NEWS

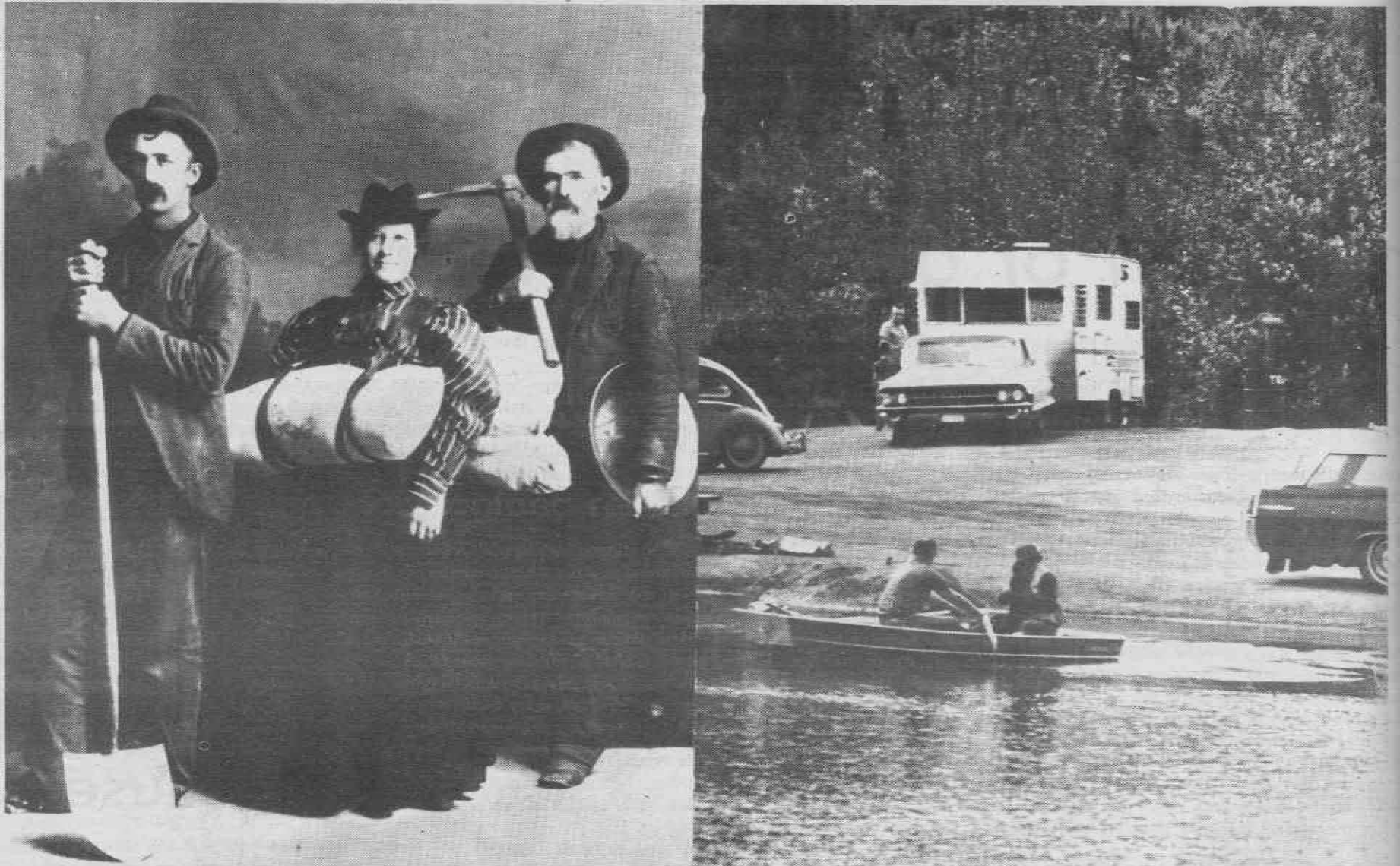
Published biweekly at 140 N. Seventh St., Lander, Wyo. 82520. Telephone 307 332-4877. Second class postage paid at Lander.

|                     |                     |
|---------------------|---------------------|
| Publisher           | Thomas A. Bell      |
| Managing Editor     | Joan Nice           |
| News Editor         | Bruce Hamilton      |
| Associate Editor    | Marjane Ambler      |
| Office Manager      | Mary Margaret Davis |
| Advertising Manager | August Dailer       |
| Circulation Manager | Georgia Nations     |

Subscription rate \$10.00  
Single copy rate 35¢

Material published in *High Country News* may be reprinted without permission unless it is copyrighted. Proper credit should be given to *High Country News*. Contributions (manuscripts, photos, artwork) will be welcomed with the understanding that the editors cannot be held responsible for loss or damage. Articles and letters will be published and edited at the discretion of the editors. To send a sample copy to a friend, send us his or her address.

Box K, Lander, Wyoming 82520



**TRANSPORT TO ALASKA.** Transportation is among the many activities in America that have grown more energy intensive. Today about a quarter of the energy we use goes for transportation purposes. The trio of hikers on the left had its picture taken in Skagway in 1898 en route to the Klondike. The modern self-contained traveler comes to Alaska via pickup camper or pulling a trailer.

## Slowing growth

(continued from page 1)

As rosy as it sounds, the U.S. potential for energy conservation is substantiated by recent findings of the Lawrence Livermore Laboratory in Berkeley, Calif. In a report entitled "Energy Conservation, Its Nature, Hidden Benefits, and Hidden Barriers," the lab states that cutting down on energy waste 1) actually improves consumers' well-being; 2) doesn't impede economic growth; 3) increases employment opportunities; 4) saves capital; and 5) gives the country time to develop sources of safe energy.

An added bonus the lab report states is: "Energy costs average over 10 per cent of the gross national product, so that any government program aimed at curbing the 1974-75 recession-inflation could well employ energy conservation, in order to squeeze unproductive energy dollars back into the non-energy part of the economy."

In the Ford study, researchers looked at three possible rates of energy growth. One, the basis for government and industry planning, assumes that energy consumption will continue to grow at the rate at which it has grown in the recent past. The Ford project calls that possibility, which involves energy consumption growing at a rate of 3.4% per year, the Historical Growth scenario.

A second energy future discussed, the Technical Fix scenario, projects a slower rate of growth in energy consumption. A third possibility, the Zero Energy Growth scenario, examines what would happen if the nation steadied its demand for energy by the year 2000.

The project concludes that "the size and shape of most energy problems are determined in large part by how fast energy consumption grows . . . slower growth makes many energy-related problems less formidable."

In the Technical Fix scenario, we would use our engineering know-how to do everything we do now more efficiently. That could cut our rate of energy consumption growth by nearly one-half, says the Ford study, to 1.9% per year. In the Zero Energy Growth (ZEG) scenario, we not only become more energy efficient, we direct our economic growth towards activities that require less energy. In the year 2000 the ZEG society has shifted its attention from energy intensive production to better bus systems, more parks, better health care, and the like.

The biggest energy savings are possible: 1) in buildings,

by reducing the energy needed for heating and cooling, 2) in automobiles, by achieving better gas mileage, and 3) in industrial plants, by achieving better efficiency, the study says.

The Policy Project did not skimp on amenities under any of the alternatives proposed. Each alternative would provide enough energy by the year 2000 to heat and centrally air condition all the 100 million households in the country. In addition, each would provide for water heating, a cooking stove, a freezer, a dishwasher, and a frost-free refrigerator in every home.

### THE ENERGY SOURCES

Where will the energy for these futures come from? In the Historic Growth scenario, coal and nuclear power are the mainstays. But all domestic sources, including onshore and offshore oil and gas, and oil shale, must be aggressively developed. Commitments to these technologies would have to be made immediately because the newer technologies are "a decade or more away."

The slower rate of growth in the Technical Fix scenario permits a more relaxed pace of development. "The nation could halt growth in at least one of the major domestic sources of energy—nuclear power, offshore oil and gas, or coal and shale for the Rocky Mountain region—and still demand less from the other supply sources than Historical Growth requires," say the Ford researchers.

The Zero Energy Growth scenario allows even more flexibility.

Before 1985 both of the slower-growth futures would be dependent on the following sources:

- "New discoveries of oil and natural gas in the lower 48 states and Alaska onshore, and offshore in the Gulf of Mexico;

- "Coal from deep mines and areas where surface mining reclamation is feasible;

- "Electric power plants that are already in some stage of construction;

- "Secondary and tertiary recovery of oil and gas from existing wells."

After 1985 the Zero Energy Growth could mix in some of the clean renewable sources — wind power, solar power, and energy from waste.

This slowing down gives us the time to choose, the

Figure 14—Gross national product: Historical Growth, Technical Fix, and ZEG.

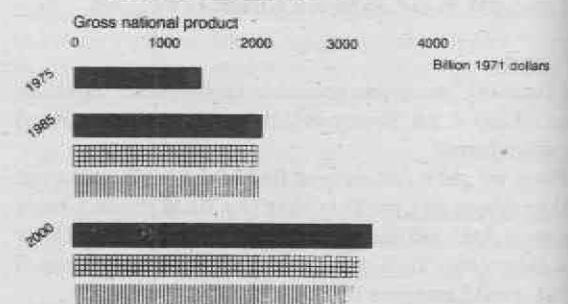


Figure 15—Employment: HG, TF, and ZEG.

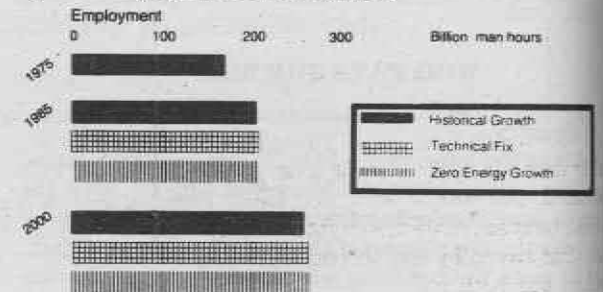
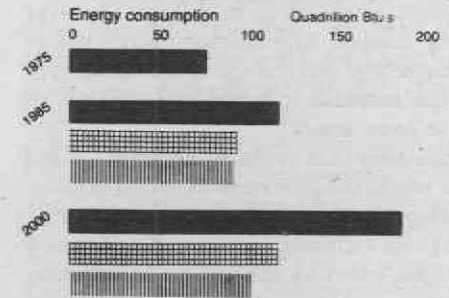


Figure 16—Energy consumption: HG, TF, and ZEG.



Source: Energy Policy Project and Data Resources, Inc.

**ENERGY GROWTH: THREE POSSIBILITIES.** The Ford Energy Policy Project looked at three rates of U.S. energy consumption growth: our historic rate (HG), a rate which approaches no growth by the year 2000 (ZEG), and a rate in between the two (TF). The effects these rates might have on the gross national product, on employment, and on energy consumption are shown in Figures 14, 15, and 16 above.

## Energy policy has momentum, like a mammoth supertanker carrying a quarter-million tons of crude oil, which cannot stop in less than 20 minutes and three nautical miles.

researchers contend. We need not invest in questionable technologies before we are ready.

### UNCOUPLING ENERGY AND THE GNP

The report debunks the idea that a slowdown in energy growth will injure the economy.

"Energy growth and economic growth can be uncoupled; they are not Siamese twins," the researchers say. "From the early 1870s to 1950, GNP per capita rose six-fold, while energy use per capita little more than doubled. . . . Economic growth far outpaced energy growth because the efficiency of energy production and use was dramatically improving."

In both of the study's slower-growth projections energy efficiency would, once again, be dramatically improving. Neither scenario would significantly reduce either the GNP or the number of jobs available. The Zero Energy Growth scenario, by shifting from industries which require large amounts of energy and machines to services which employ people, would actually make more jobs available than the other two alternatives.

"Drift is surely the worst of the alternatives before us," say the Ford researchers. "Energy policy has momentum, like a mammoth supertanker carrying a quarter-million tons of crude oil, which cannot stop in less than twenty minutes and three nautical miles. Just as the decisions to develop atomic power in the 1940s are shaping energy supply in the 1970s, so too, decisions taken today will have a vital effect on energy use and energy production in

the year 2000."

What sort of choices should we make? The Energy Policy Project recommends reducing our energy growth rate by at least one-half, as in the Technical Fix scenario.

How to get there? High fuel costs will be one motivation. All recommendations included in this scenario would save the consumer money at today's prices. If energy prices should rise, conservation tactics would become even more attractive. Insulating and putting storm windows on a home in New York might save a homeowner \$120 to \$150 per year in fuel oil costs, for instance. Switching from a car that gets 12 miles to the gallon to one that gets 20 would save an average driver about \$185 a year. An investment in a heat recuperator for an industrial furnace using natural gas would save a manufacturer enough in fuel cost to provide a rate of return of about 15% on the investment.

### ACTION REQUIRED

Each scenario, even Historical Growth, requires that the American people take action through their government. To achieve the rate of growth described in the Technical Fix scenario, the Policy Project suggests four major energy conservation goals:

- "Setting the prices to eliminate promotional discounts and reflect the full costs of producing energy—especially important in achieving industrial energy conservation goals;
- "Adopting national policies to assure the manufacture and purchase of more efficient automobiles;

## The Great Escape'

# Major savings possible at home

The easiest way to save large amounts of energy in our homes is by eliminating what a utility brochure describes as "The Great Escape"—that is heat losses through windows, walls, floors, doors, and ceilings.

According to the Ford Foundation Energy Policy Project, about 90% of the potential savings in the home lie not in discarding electric typewriters and dishwashers, but in eliminating heating and cooling losses. That requires the application of some fairly old-fashioned technology—insulation, storm windows, and weather stripping. Since about a fifth of the nation's energy is used in the home, savings in this area could help pare down our national energy needs.

Eliminating losses can make an enormous difference in an individual fuel bill. Insulation alone can save as much as \$40 out of every \$100 spent on fuel, according to a Pacific Power and Light Company brochure.

The ceiling is the most critical place to insulate. Three inches of insulation in an attic can save as much as 25% on fuel costs over no insulation. To make it economical to go thicker depends upon the type and cost of insulation material used, the cost of fuel, and local temperatures. In general, heat saved by the first inch of insulation is three times that saved by the second inch—and 75 times that saved by the 10th inch.

Special materials are used for insulation because of their ability to stop heat loss or gain in a building. One inch of quality fiberglass batt insulation has as much resistance to the flow of heat as 46 inches of solid concrete—or 3½ inches of wood, for instance. Insulation materials are rated by their thermal resistance or "R" value. The greater a material's "R" number, the greater the insulating value.

### STORM WINDOW SAVINGS

If you live in Casper, Wyo., about 93 cents worth of energy per year passes through each square foot of glass in your home. Storm windows cut those losses in half. You lose only 45 cents a year out of a square foot of window space that is double glazed, according to a Stanford Research Institute study made for Pacific Power and Light Company.

### THRIFTIER SYSTEMS

Further savings are possible through properly maintaining heating systems. A system which is cleaned and

adjusted yearly will produce more heat from less fuel.

In most regions of the country a heat pump would also be an economical investment in efficiency. The pump warms a house by cooling the out-of-doors. An electric motor brings in low temperature air from the outside and pumps it up to a useful temperature. For every unit of energy a heat pump consumes in electricity, it produces two or three in heat.

Solar heating and cooling systems used alone, or in conjunction with a heat pump—are another way to use existing technology to save fuel. By the year 2000, the Ford Energy Policy Project predicts that about 10% of U.S. homes will be equipped with solar energy systems.

To achieve savings in homes on a nationwide basis, the Policy Project recommends three kinds of government action:

- 1) "Establish a federal loan program so that easy credit is available to householders and small businessmen to make economical energy saving investments in existing buildings.
- 2) "Revise FHA (Federal Housing Administration) standards for mortgages to specify minimum levels of heat loss and gain for buildings and minimum efficiency of space conditioning systems based on life cycle economics.
- 3) "Initiate federal, state, and local government programs to provide credit to builders and owners to finance energy saving technology, to upgrade state and local building codes, to provide technical assistance to builders."

### APPLIANCES LABELED

The Policy Project also points out that to make sound decisions, the consumer needs more information than is now available about products on the market. Major appliances should be labeled with energy requirements and operating costs. That would make it plain that a frost-free refrigerator, for instance, uses two-thirds more energy than frosty models. It would make it easier to see that higher initial costs may eventually pay off in lower operating costs.

In New York City, sellers must display Energy Efficiency Ratings for all major appliances on sale. In most other places, manufacturers reveal energy statistics only on a voluntary basis. The Policy Project recommends a federal "truth-in-energy law," which would require that

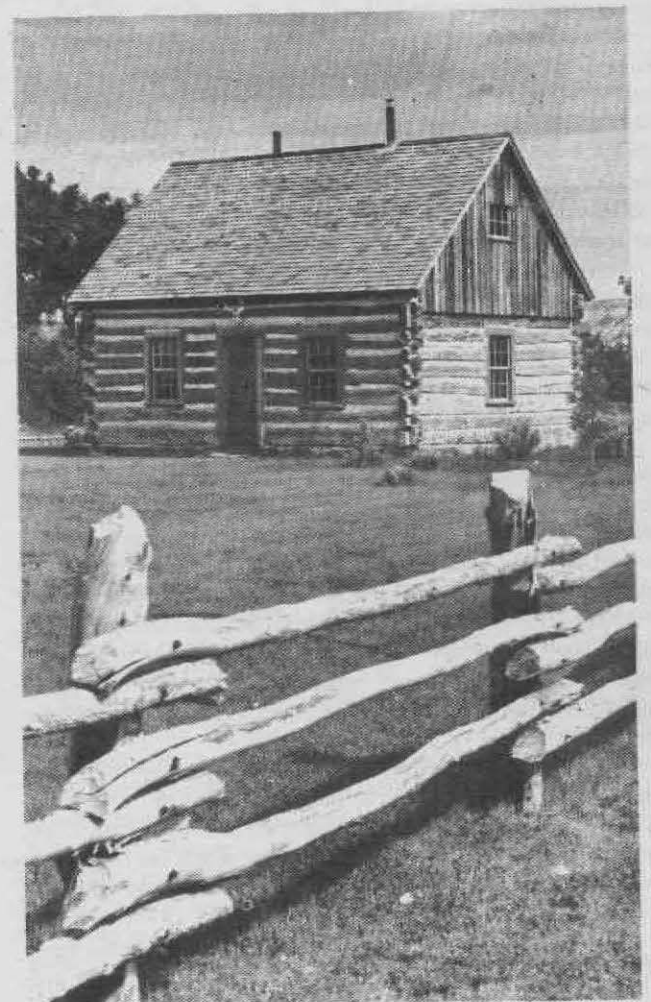
July 4, 1975 — High Country News-5

- "Developing incentives for increased energy efficiency in space conditioning of buildings;

- "Initiating government programs to spur technological innovation in energy conservation."

Even at slower growth rates, the project warns, "Meeting future energy requirements without shortages, unnecessary environmental degradation, or adverse impacts on foreign policy will not be easy. . . . We recommend a specific set of actions because if we simply drift, the nation will inevitably suffer a series of energy related crises in the years ahead." ■

The article above is based on the book, *A Time to Choose; America's Energy Future* by the Energy Policy Project of the Ford Foundation, Ballinger Publishing Co., Cambridge, Mass., 1974. The book is the culmination of a \$4 million, 3-year long inquiry into the nation's energy crisis by a team of economists, lawyers, writers, scientists, and engineers.



**SAVING HITS HOME.** About 20% of the energy we use today is consumed at home. The easiest way to save is by plugging leaks—that is, eliminating heat losses through windows, walls, floors, doors, and ceilings. You'll save money for your efforts—as much as \$65 on every \$100 you spend for fuel says the Office of Economic Opportunity. The home pictured above is the Theodore Roosevelt cabin in North Dakota.

all appliances indicate their annual cost of operation in dollars at current prices.

### UTILITY SERVICES

New services provided by utilities may inspire additional savings. A Michigan utility now installs insulation in customers' homes for a fee that is included in the regular monthly bill. A California utility is experimenting with the lease of gas-solar hot water heating units.

Electrical meters installed in each unit of an apartment building might be an additional spur to conservation. It is hard to care about what you don't see and don't (apparently) pay for, apartment dwellers have found. Also useful would be a meter which could register electrical consumption at times of power plants' peak load. This could help eliminate pressures to build more generating capacity. If the peak-load power was more expensive, consumers might spread the load more evenly and make it possible for utilities to meet a rising demand without building more power plants. ■

## Throwing away profits Industrial waste could be saved

Industrial uses account for about 40% of our total energy consumption today.

If consumption continues to grow at recent historic rates, in the year 2000 energy wasted at electric power plants could amount to about one-fourth of our total energy consumed, says the Ford Foundation Energy Policy Project.

More efficient generating processes and more efficient use of the electricity produced could reduce these losses. And by the year 2000 we could be saving about one-half of the fuel we now use for energy processing.

In the next few years, industrial conservation could begin by making minor improvements in present practices. This alone could achieve energy savings in the range of 10% to 15%, according to the Energy Policy Project. After 1985, the industrial sector could achieve even greater savings through technological innovation.

If electricity is generated near an industrial plant, waste heat can be used for industrial process steam. The net savings in total requirements for steam and electricity could be about 30%, according to the Energy Policy Project.

Devices called heat recuperators, which can save 20% to 25% on fuel, could be installed to improve the efficiency of industrial heat processes which don't require steam.

Process innovations are also possible. In the energy intensive aluminum industry, a new Alcoa "chloride process" could reduce fuel needs for primary aluminum production by about 30%. In the paper industry, a new process designed to reduce water requirements would also cut energy requirements in half.

Recycling metals, rather than mining and processing new ones, leads to "substantial energy savings," according to the Ford study. It will become more attractive when rising fuel prices lead more cities to the burning of wastes to provide a portion of their power, leaving the metal portion of the wastes more accessible.

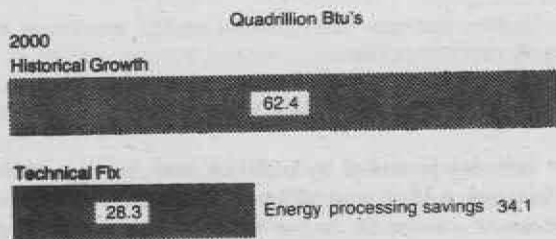
One of the greatest spurs to innovation in industry will be rising fuel prices. Government should step in in only two areas, the Ford study recommends: 1) in planning to combine steam and electricity production and 2) in metals recycling.

Some kind of coordination would be necessary to set up energy-industrial parks, because of the widely varying lead times required by the participants. Electric utilities require eight to ten years to bring a plant on line. The industries that could be linked with them tend to have much shorter lead times.

"This difference in the planning period discourages dual energy use because potential user industries are hesitant to commit themselves as far in advance as a utility requires," the Energy Policy Project reports.

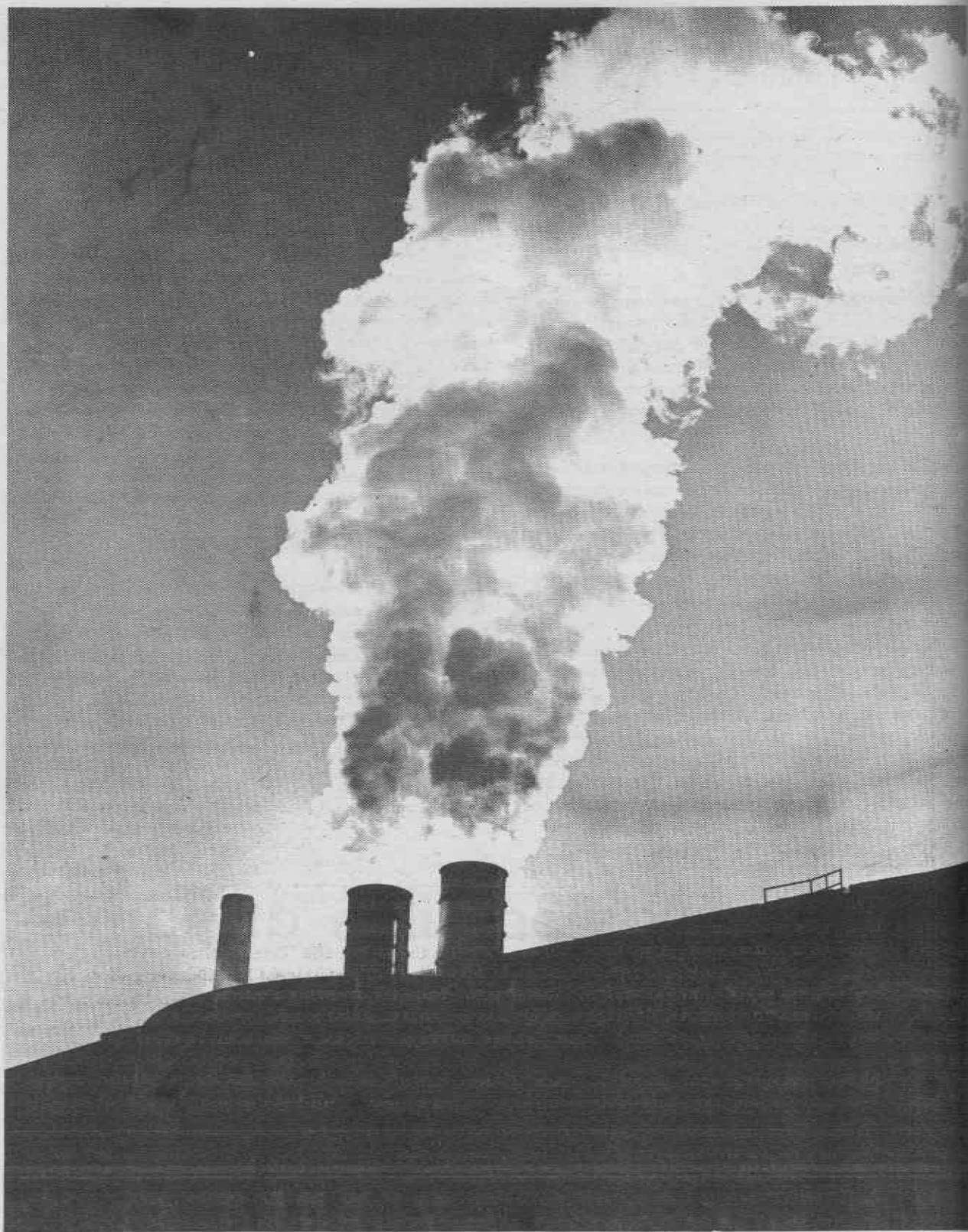
As for metals recycling, two government disincentives presently exist: 1) virgin metal ores presently enjoy federal income tax advantages, and 2) railroad rates, which are controlled by the federal government, are higher for virgin ore than for scrap.

Figure 9—Energy consumption for energy processing



Source: Energy Policy Project

**ENERGY COMPANIES COULD SAVE.** We waste a lot of energy before it ever reaches the consumer—in processing fuels and generating electricity. In the year 2000 energy wasted at electric power plants alone could amount to about one-fourth of our total energy consumed, says the Ford Foundation Energy Policy Project.



If electricity is generated near an industrial plant, waste heat can be used for industrial process steam. The net savings in total requirements for steam and

electricity could be about 30%, according to the Energy Policy Project.

Photo by Lynne Bama

## Making cars more energy efficient

Transportation swallows up about a quarter of the energy demanded in this country every year. The Ford Energy Policy Project suggests that greater fuel economy in our automobiles would save us 23% of the fuel we might consume for transportation in the year 2000.

The project claims that present engineering know-how could move the nation from dependence on cars which average 12 miles per gallon (mpg) to 20 mpg models by 1985 and 25 mpg models by the year 2000.

More energy savings could be possible, the Policy Project admits, but the 23% level was chosen because it is both significant and "entirely feasible." It is a comfortable conservation goal, providing for continued use of the automobile, a 10% increase in passenger miles, and some variety in the sizes of vehicles.

To achieve the savings, you could drive an inexpensive, lightweight car—or you could drive an expensive, but fuel-efficient, larger car. To streamline the larger models' fuel demands, industry could apply the following principles, the Policy Project claims:

- 1) aerodynamic drag reduction through body redesign (five per cent improvement in fuel economy)
- 2) rolling resistance reduction through use of radial tires (10% improvement in fuel economy)
- 3) better load to engine match (10-15% improvement)

- 4) substitution of 300 pound of aluminum for 750 pounds of steel (18% improvement).

These improvements might up the price of a new car by as much as \$450. But the fuel savings would more than compensate the car buyer for his investment.

### FUEL STANDARDS

To put these ideas into action, the policy project suggests that the federal government enact minimum fuel economy performance standards, requiring vehicles to get at least 20 mpg by 1985. The seed for this policy is contained in "The Energy Conservation and Conversion Act of 1975," which recently won approval in the House.

The House-passed measure is stricter than the Ford researchers'. The bill would establish fines for 1978 model cars which fail to get at least 18 mpg and would require 20 mpg by 1980.

"It should be emphasized that there is no technological problem to achieving these economies," the Policy Project says. "The Honda Civic... delivers over 30 mpg while meeting the original 1975 Clean Air Act emission standards."

The diesel engine, the project points out, is another promising alternative. Diesels are already widely used in

(continued on page 7)



**WE COULD BUILD THEM TO CONSERVE.** Using existing know-how we could get many more miles out of a gallon of fuel in our automobiles. A bill in Congress, the "Energy Conservation and Conversion Act of 1975," would require that all 1978 model cars get at least 18 miles per gallon. By 1980 the standard would be upped to 20 miles per gallon. The bill has passed out of the House and will face Senate Finance Committee hearings this month. Photo by Lynne Bama

**A marshmallow?**

# House bill would help cut waste

A House bill, the Energy Conservation and Conversion Act of 1975 emerged stripped of its vitals, according to some Washington observers.

Common Cause, a public interest organization, called it "meaningless." Rep. Sam Gibbons (D.-Fla.) said the bill is "about one ounce conservation and a barrel of loopholes." President Gerald Ford labeled it "a marshmallow."

The measure, stripped of its original gasoline taxes, was approved by the House 291 to 130 June 19 and sent to the Senate.

The bill's chief sponsor, Rep. Al Ullman (D.-Ore.), admitted before the House vote that key provisions had been scrapped. But he said he thinks the bill at least "sets the nation on a gradual, long-range swing toward a new

energy base, and away from our dependence on foreign oil."

The major provisions in the House energy bill, according to a UPI report, are the following:

—"Quotas on imported oil, starting at six million barrels a day this year and next. The President could vary the amount by one million barrels a day.

—"Fines for auto makers whose 1978-model fleets fail to get at least 18 miles per gallon, with higher standards in succeeding years.

—"Tax credits for insulation, solar equipment, electric car purchases and some other energy-saving acts by individuals and business.

—"Taxes on business uses of natural gas and oil, with some exceptions."

The bill also would repeal excise taxes on radial tires and on buses used in city-to-city transit.

It sets up an energy conservation trust to receive the money from import duties and taxes levied on oil and gas use. The trust money could be used for research and development in energy conservation and various energy supply schemes.

Tax credits for installing home insulation would be 30% of the cost of insulating, up to a total expenditure of \$500. Solar energy equipment installed on a taxpayer's home would be eligible for a credit equal to 25% of the first, \$8,000 spent.

Federal Energy Administrator Frank Zarb says the bill doesn't do enough to cut U.S. dependence on foreign oil.

The measure would eliminate President Ford's present import tariff of \$2.21 a barrel of oil and \$1.23 a barrel of petroleum products and replace it with the more modest duties on imports, which at present prices would amount to about 24 cents a barrel of oil and 60 cents a barrel of oil products.

Dr. Jack Carlson, assistant secretary of the Interior for energy and minerals, called the removal of the President's power to impose peacetime oil import tariffs "a step backwards." He said the President's import tariff was already

having an impact on conservation. He also said that since the oil import quota was set at a level lower than present imports, "that could create problems in the economy and require rationing or a significant price increase."

"The only items that would have really impacted on conservation were deleted by the House action," he said referring to the gasoline taxes.

Rep. Ullman said he thought the President's plan, on the other hand, would cause "a jarring price hike" by cutting back consumption all at once.

"The President's way is wrong—economically and politically," he said. "The cost in jobs and inflation is more than we can bear as we struggle out of a severe recession."

The bill now moves to hearings before the Senate Finance Committee.

# Conservation to replace need for new power?

The Suffolk County, N.Y., Department of Environmental Control is studying how to meet Long Island's energy needs from 1975 to 1995 by energy conservation and alternate energy systems. The department has asked Dubin-Mindell - Bloome Associates, Consulting Engineers and Planners, to investigate ways of minimizing the need for additional central power station generating capacity to meet power demands.

The study, due this month, "pinpoints energy savings in new and existing buildings that can be accomplished through dozens of techniques, ranging from more efficient lighting sources, improved insulation, and more efficient heating and air conditioning systems and modes of operation, to the use of energy-efficient home appliances and the substitution of heat pumps for resistive electrical heating devices," say the engineer-planners.

The firm is also assessing the possibility of introducing solar energy on a mass scale in a population area of about 2.5 million. Wind power systems designed by William E. Heronemus and "total energy systems" (on-site electrical generation combined with waste heat recovery) are two other options being explored.

"It may well be that through total energy plants, we can go a long way toward supplying new demand for both electrical and thermal energy without burning any more fossil fuel, overall, than we do today, since on-site electric power generation with heat recovery is so much more efficient in supplying the total energy requirements of buildings as compared to the present approach of fossil-fueled on-site space heating, and off-site power generation," says Fred Dubin, president of Dubin - Mindell - Bloome.

Table 15—Energy input for consumer expenditures on selected goods and services

|                                     | Thousand Btu's<br>per Dollar* |                       |
|-------------------------------------|-------------------------------|-----------------------|
| 1. Airline transportation           | 130.9                         | } Partial substitutes |
| 2. Railway and sleeping car travel  | 59.6                          |                       |
| 3. Kitchen and household appliances | 58.9                          | } Partial substitutes |
| 4. New and used cars                | 55.7                          |                       |
| 5. Auto repair and maintenance      | 25.5                          | } Partial substitutes |
| 6. Drug preparations and sundries   | 52.5                          |                       |
| 7. Radio and TV receivers           | 45.4                          | } Partial substitutes |
| 8. Radio and TV repair              | 28.1                          |                       |
| 9. Magazines and newspapers         | 42.2                          |                       |
| 10. Food purchases                  | 41.1                          |                       |
| 11. Private higher education        | 34.8                          |                       |
| 12. Women's and children's clothing | 33.1                          |                       |
| 13. Health insurance                | 32.0                          |                       |
| 14. Theaters and opera              | 15.4                          |                       |
| 15. Physicians                      | 10.3                          |                       |

\* For 1971.  
Source: Robert Herendeen and Anthony Sebald, "The Dollar, Energy, and Employment Impacts of Certain Consumer Options," draft report to the Energy Policy Project, April 1974.

**WOULD REDUCED ENERGY GROWTH HURT THE ECONOMY?** It might change the economy but it wouldn't damage job potential or productivity, according to the Ford Foundation Energy Policy Project. The chart above shows that different products and services require different amounts of energy to provide the same dollar's worth of value. If energy became scarce and expensive, certain shifts would take place in the economy. Because energy-intensive items would be more costly, we would try to find less energy-intensive substitutes. "The nation's economy might be expected to shift its growth somewhat from manufacturing recreational vehicles and large cars to patronizing the performing arts and smaller cars," says the Policy Project in its explanation of the Zero Growth scenario.

# Car efficiency

(continued from page 6)

Europe by taxicabs because of the high fuel economy they achieve in city driving.

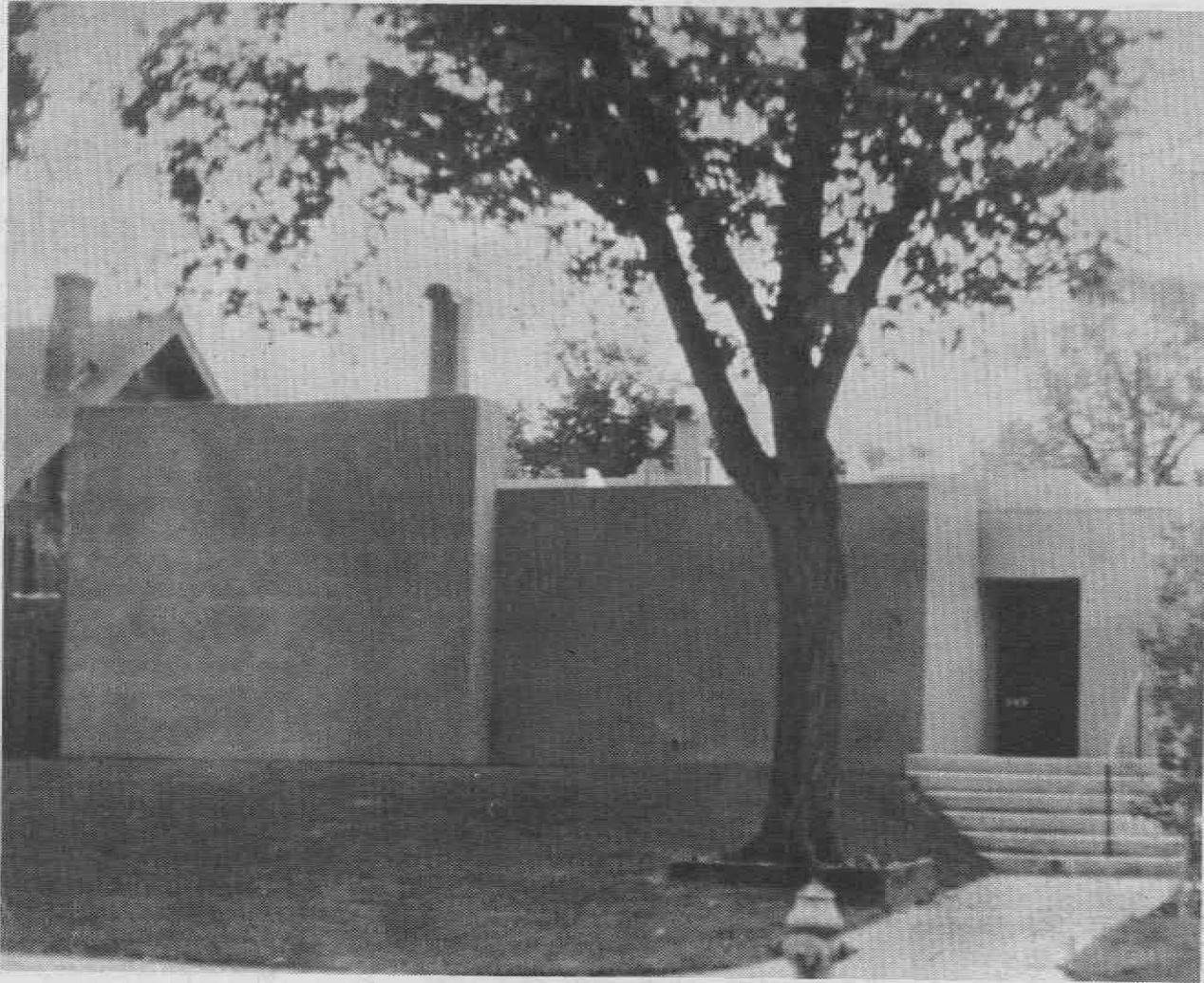
## WHAT'S A CONSUMER TO DO?

If the energy conservation act passes, we may see fuel-efficient vehicles of all descriptions on the market. Until then, the conservation-minded consumer will apparently have to make-do with as small a car as suits his needs.

Other ways recommended by experts to conserve your vehicle's fuel:

1. Use your car only when public transportation, a car pool, a bike, or a walk won't do.
2. Keep your engine tuned up, your tires properly inflated, your wheels in alignment, and your oil clean. Lack of attention to any of these areas will waste gas.
3. Avoid sloppy driving—jack rabbit starts, sudden stops, and unnecessary idling. These practices also waste gas.

# Dick Crowther's homes promote energy consciousness



Crowther's own home in Denver is the epitome of his ideas about conservation architecture. He pays about \$78 a year for natural gas heat. The bill for a house about the same size next door is \$200.

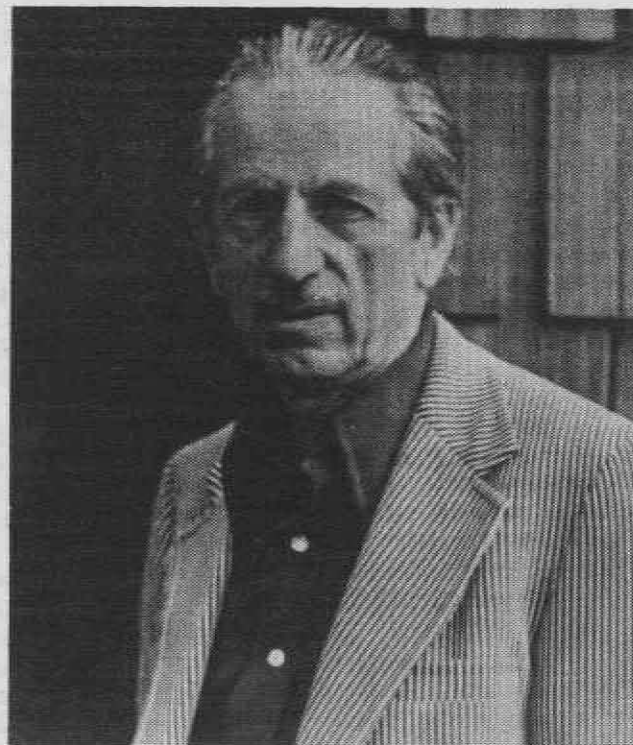
Dick Crowther's understanding of our energy problems has turned him into a crusader. We have more energy than we need now, Crowther says. But we are wasting it.

Crowther is founder of an architectural firm in Denver, Crowther-Kruse-McWilliams, and a new architectural development and research company for solar energy and energy conservation, Solar Group, Inc. He and his firms designed a National Science Foundation solar heated and cooled demonstration house at Colorado State University, a solar collector adaptation for an older house in Denver, a new solar heated and cooled office building in Denver, and are in the midst of a dozen other solar energy projects.

But Crowther's personal solution to our energy problems and a solution he preaches to others involves no unconventional energy technology, no special materials—just ideas. For the past 30 years or so Crowther has been involved with energy conservation in homes and buildings to eliminate the need for large amounts of power—from any source. Crowther's own home in Denver is the epitome of his ideas about conservation architecture.

Crowther says there has never been much interest shown by most builders and consumers in energy conservation. "American optimism" is the barrier, he maintains. "We think that with our knowledge and enthusiasm we can overcome all reasonable obstacles."

Crowther recommends an injection of realism to our energy bliss. "We are short. We are wasteful. We have developed more social consciousness than we used to



Dick Crowther, energy conservationist and architect. "We are sinning against the universe."

have; we need to ergy c  
two go hand in ha

In the meantime, design  
human energy use low  
his own home, by additio  
on the cost of cons been  
energy consumption 65%.

A first step is a diffe  
different energy or poi  
different temperat  
ing area, the co in  
area. "There's a tai  
higher than is neak," C

He is disturbed by con  
blocks economical ts and  
tion. For his own chose  
energy conservation outsi  
compromise betwee at ab  
in the winter and re sum  
are painted white to en  
tion and minimize lectri

Crowther's house noun  
sweep up and overpors,  
spots vulnerable here is  
recessed to buffer

Most walls and sout  
square foot of west 1.4 sc  
facing walls is ideer an  
because it will mi

All of the window's ho





...er in front of a home in Denver which he remodeled with conservation and solar energy in mind. "We are short. We are ... We need to develop an energy consciousness," Crowther says.

...energy consciousness. The ...  
 ...ing to satisfy most ...  
 ...ational seven per cent ...  
 ... been able to reduce his ...  
 ... different tasks require ...  
 ... puts ... out. In a home, ...  
 ... are contained in the sleep- ...  
 ... g any television viewing ...  
 ... a temperature ...  
 ... Crowther says.  
 ... y a gamut for fashion, which ...  
 ... use of energy conserva- ...  
 ... one. Base paint colors with ...  
 ... in outside is grey-beige—a ...  
 ... n heat absorption qualities ...  
 ... ect in summer. Inside, walls ...  
 ... nd light enhance light reflec- ...  
 ... the electric lighting.  
 ... is on hand, where the winds ...  
 ... it-ness, windows, or other ...  
 ... weather is a single entrance, ...  
 ... t from ...  
 ... windsouth. A ratio of one ...  
 ... square feet of south- ...  
 ... l for the area, Crowther says, ...  
 ... imina- ...  
 ... es in home are fitted with

double glass. It has no west windows, and only tiny windows on the north side—once again, to minimize heat losses. Plastic "skyshafts" of his design bring in daylight with almost no energy loss.

The house has massive exterior walls and ample fiberglass insulation within the walls and ceiling. A thin air film trapped by textured outside walls forms a final layer of thermal protection.

Crowther utilizes ground heat in a way that could be emulated by many existing homeowners, via a concrete floor slab system. He has insulated the slab at the outside perimeter, making the earth and the slab a reservoir of warmth.

Ceilings in the house are lower at the perimeter and rise to accommodate a solar garden in the center of the living area. Heated air rises to the lower ceilings, then moves to the higher room. At the top of the solar garden is a vent which takes up the rising warm air and recycles it through the heating system.

In winter, the house is sealed, Crowther never opens a window. Air is freshened by large tropical plants, an electrostatic filter, and a charcoal filter. But in the spring and fall, when temperatures are in the 50 to 75 degree range, Crowther utilizes a specially designed ventilation system. He opens slots near the base of his north wall to bring in cool air. The cool air displaces warmer inside air, which moves to the outside through roof stacks which open and close in response to the sun.

Crowther finds this ventilation system far superior to any arrangement of windows he's ever designed. Cool air

comes in without making the room drafty.

Crowther's final effort toward maintaining high air quality in his home is a sign outside his door which reads: "Environmental House--No Smoking Please."

To roughly measure the success of his efforts, Crowther compares his house to the conventional brick house next door. Both houses are about the same size: 2,600 square feet. Both use natural gas for heat.

While the people in the house next door pay about \$200 a year for their heat, Crowther pays about \$78.

Many energy conservation ideas can be put to use in existing buildings. Crowther has found that simple conservation measures like double glass in windows and extra insulation could increase building costs by 3% to 5%, but will save 25% to 40% of a home's energy demand.

The greatest amounts of energy can be saved through a "total design project," Crowther says. That is—"comprehending everything that happens to and in a building in a total way." To be most effective the design must encompass site choice, architecture, construction, and even interior decorating.

Whether adapted to old buildings or built into new ones, energy conservation is Crowther's most urgent concern. "We should penalize people for degrading or unduly wasting resources," he says. The penalties could be built into the taxation system to ensure that waste is "curtailed and stopped."

"We are putting morality on the wrong basis," Crowther says. And in doing so, "we are sinning against the universe."  
 —JN

# Reckoning from Washington

by Lee Catterall

The mood was tranquil and friendly as Interior Sec. Stan Hathaway spoke to a group of banqueting Indians and friends in the plush dining room of a Washington hotel.

As that free and easy spirit prevailed in Washington, federal agents halfway across the country were preparing to enter a scene that would explode in violence and culminate in the death of two of them.

It was an incongruous and perplexing set of events occurring 99 years to a day after General Custer made his last stand in the hills of Montana.

The complaints Indians are making both in Washington banquet halls and in resurrected South Dakota battlefields go to the very structure of Indian society in this country, a structure built by the white man.

In 1934, the government imposed on nearly all tribes a system styled in the government's own image. Tribal leaders would be democratically elected to run affairs on their own reservations and to represent their tribes before the Bureau of Indian Affairs.

Indian leaders generally had not been chosen that way before, so it was only natural that the new leaders were the ones most adaptable to this alien system, the ones most willing to play the white man's game.

That annoyed many Indians from the beginning. The annoyance has finally exploded in recent years, with charges that tribal councils have been filled with "apples" (red on the outside, white on the inside) and "Uncle Tomahawks." The immense amounts of money those leaders have been allowed to administer—both federal and from land and mineral leases—have allowed them to create powerful fiefdoms.

It is that deeply entrenched system that now falls under Hathaway's direction.

The government has been responding to Indian complaints, but slowly and to a degree many Indians find unacceptable. Indians want "self-determination" and "sovereignty," but the chaos wrought through the years by government policy complicates those two terms incredibly.

In his banquet address, Hathaway spoke strongly in favor of Indian self-determination and for raising the commissioner of Indian affairs to the higher rank of assistant secretary within the Interior Department. The response was warm, because those goals go beyond what Congress has been willing to do.

However, they do fall far short of what dissident Indians are demanding. Self-determination for some means the right of the tribes to administer those programs. For the dissidents, it means the right to change their form of government. Doing the former without the latter might serve only to further entrench the present Indian leaders.

Promoting the head of Indian affairs within the department is favored by Indians universally. However, it keeps Indian affairs in the Interior Department, which is in the business of leasing the nation's natural resources. As one Indian puts it, the department has the responsibility for "feeding the foxes and keeping the chickens alive."

Hathaway noted Wyoming has no large Indian population, nor does it have a large population, "period."

"But," he added, "we pride ourselves on our ability to get along with each other and our ability to understand the other fellow's point of view. I think I can manage to keep that little bit of Wyoming with me as I assume my duties here."

He will find no more severe test of that ability than in the area of Indian affairs.



## Northern Plains coal suit most important battle front

by Lee Catterall

The federal government is likely to ask Supreme Court Chief Justice Warren Burger to allow resumption of federal activity related to Powder River Basin coal development while it appeals last month's court decision freezing that activity.

By a two-to-one vote, a U.S. Court of Appeals panel ordered the government to prepare a region environmental impact statement on its broad plan to allow coal development to increase in Wyoming, Montana, and the Dakotas.

The court decision stunned many officials on Capitol Hill and in the bureaucracy, people who had become engrossed in political skirmishes over strip mining and slurry pipelines. For now, the court system has become the most important front in the battle over coal development of the West.

Meanwhile, the court said, the government should take "no actions that would defeat the purpose the impact statement is designed to serve." Interior Department officials and Sierra Club lawyers who brought the case agreed the decision allows the government to take no action related in any way to an increase in coal development. Only renewals of existing federal permits are allowed under the court order.

### 'DISASTROUS'

A spokesman for Interior Sec. Stanley K. Hathaway called the court decision "disastrous." A department official involved in the issue said it could delay government plans for coal development in the area "for years."

The order overturns a decision by U.S. District Court Judge Barrington Parker and sends the case back to Parker for oversight.

The government is allowed to appeal the decision to the full nine-member Court of Appeals or to the Supreme Court. An Interior Department official said it is likely to go directly to the Supreme Court, both to save time and because the Court of Appeals is considered more liberal. He said the government also is likely to ask Burger for a "stay," allowing federal activity to progress while the case is pending.

However a stay is not likely. Permission by Burger to allow the government to begin approving applications for development would gut the court decision by allowing a "major federal action," as determined by the Court of Appeals, to proceed despite the lack of an impact statement.

The 1969 National Environmental Policy Act (NEPA) requires the government to prepare environmental impact statements before undertaking "major federal actions significantly affecting the quality of the human environment."

In its court suit, the Sierra Club has been contending the various proposed actions to allow development of the Powder River Basin's rich Fort Union Formation of coal are, together as well as individually, a major federal action.

U.S. District Court Judge Barrington Parker last year ruled otherwise, deciding there is no "program" that ties together those various proposals, which range from the awarding of prospecting permits to the generation of power or the transportation of coal. The three-member appellate court disagreed.

The actions are related, the court decided, whether or not the government has done the necessary work of coordinating them in a responsible way.

"It is our view that when the federal government, through exercise of its power to approve leases, mining plans, rights-of-way, and water option contracts, attempts to 'control development' of a definite region, it is engaged in a regional program constituting major federal action within the meaning of NEPA, whether it labels its attempts a 'plan,' a 'program,' or nothing at all," the court said. Judge Parker, it said, was "in error."

### TWO REPORTS

The court said the government should begin preparing the environmental impact statement after completing two reports that are on the verge of publication.

One is a proposed system for leasing federal coal in an orderly way, taking into account the new profitability of the area's low-sulfur, easily-strippable coal.

The other is the Northern Great Plains Resource Program report, a study of proposed coal development in the area. The impact statement "presumably would be em-

bodied" in that report, according to the court opinion. The court held "it is uncertain whether the proposal for an action is sufficiently ripe to require preparation of an impact statement at this time."

"While federal officials are entitled to dream out loud without filing an impact statement," the court said, "an impact statement is required when a proposal moves beyond the 'dream' stage into some tangible form of ripeness."

That time will occur, the court said, when the leasing system and the Northern Great Plains Resource Program report have been completed.

### APPLICATIONS RIPE

"The flood of applications will then be ripe for approval and the massive development of the Northern Great Plains will begin," it said.

The effect of development "would be cause not only the mines themselves, but by the power plants, gasification plants, railroads, aqueducts, pump-out plants, reservoirs, dams and new housing that would necessarily accompany the strip mines."

"Briefly put," the court said, "a region best known for abundant wildlife and fish, and for its beautiful scenery, a region isolated from urban America, sparsely populated and virtually unindustrialized, will be converted into a major industrial complex."

The court ordered the government to appear before Judge Parker 30 days after the issuance of the Northern Great Plains Resource Program report to tell whether it plans to allow coal development and prepare the statement or if it decides not to allow development, whether it plans to file an impact statement on that "negative" decision.



**GEOHERMAL V. WILDLIFE.** Geothermal leasing near Hunter Hot Springs in Montana could result in a "nearly total loss of the big game population presently using the area," according to James Posewitz, Fish and Game Department administrator. The Bureau of Land Management is presently trying to determine if leasing the area needs to be preceded by an environmental impact statement. The site is 18 miles northeast of Livingston, Mont.

**GAS CONSERVATION ORDERED.** The Montana Public Service Commission has ordered utility companies and their major customers to conserve natural gas or face state-imposed penalties. The state has ordered major consumers to draw up and follow conservation plans. One reason for the state's demand is that Canada cut in half the amount of natural gas it allows Montana Power Company to import from Alberta.

**SKI TRAIN FROM SKI TAXES.** Pitkin County, Colo., would like to try installing an \$11 million electric road from Aspen to Snowmass, thus eliminating a million car trips a year from the ski town to the ski area and hopefully eliminating a good share of the air pollution problem. The county commissioners tried to get a bill through the legislature to tax ski lift tickets to help fund the project, but it died in committee.

## The Hot Line

energy news from across the country



### NGPRP SAYS WATER FOR COAL NO PROBLEM

Supplying water for Northern Plains coal development shouldn't pose significant problems, according to Northern Great Plains Resource Program manager, John VanDerwalker. "Our determination is that there's no water problem in the North Missouri River Basin," he told a Rocky Mountain Center on Environment luncheon in Denver. He said the river system north of Sioux City, Iowa contains 8 million acre feet of available water annually and was optimistic that the river could be developed "without adverse environmental impacts," according to a ROCKY MOUNTAIN NEWS report. VanDerwalker said if Montana and Wyoming can adjust the terms of the Yellowstone River Compact, water can be provided for coal development from existing storage reservoirs, and there would be no need to build the controversial Allenspur Dam on the Yellowstone River. He said potential water supplies are sufficient to accommodate large-scale coal development and allow the doubling or tripling of irrigated agriculture. The Northern Great Plains Resource Program is a joint state-federal study of the region's natural resources. The final NGPRP report should be released July 25.

Photo of Sutherland Reservoir, 23 miles west of North Platte, Nebraska. Here agricultural land interfaces with a site considered in 1972 for a 600 megawatt coal-fired power plant.

**HOUSE APPROVES BREEDER.** The House has approved a \$5.8 billion budget for the Energy Research and Development Administration over the next 15 months—including funding for the Liquid Metal Fast Breeder Nuclear Reactor program. The vote was 227-136 in favor of the controversial breeder program.

**OIL ESTIMATE SLASHED.** The U.S. Geological Survey has revised its estimate of U.S. Atlantic offshore oil reserves downward by 80%. USGS now says the nation may have only half the undiscovered oil and gas resources suspected a year ago, according to a report to the Federal Energy Administration.

**NEW SOLAR CELL.** Varian Associates of Palo Alto, Calif., may have made a breakthrough in converting solar energy directly to electricity. The company is developing a solar cell made from gallium arsenide which needs to be only one-third of an inch in diameter to produce 10 watts of electricity. "Other solar energy materials (the main material being silicon) require 1,000 times the surface area to produce the same amount of energy, says a Varian official. The new Varian cell is said to be 20% efficient, a very good rating for a solar cell.

**PILOT GARBAGE POWER PLANT.** The Riverside, Calif., city council has approved a pilot plan to convert the city's garbage into electricity to serve about 1,200 homes. The pilot plant would convert 50 tons of trash a day into electricity, according to project promoter, Resource Sciences, Inc., of Santa Ana. The city produces 300 tons of trash a day, and is backing the plan partly because its landfill dump will be filled in about four years.

**VALDEZ POPULATION EXPLODES.** Valdez, Alaska, terminus for the trans-Alaska oil pipeline, had a population of 800 four years ago. The population now is about 4,600 and it should grow to 10,000 by next year, according to a New York Times report.

**PRIVATE NUCLEAR ENRICHMENT.** President Gerald R. Ford has asked Congress to break up the government's 30-year old monopoly on uranium enrichment and provide financial guarantees to private companies to build four \$3.5 billion nuclear enrichment facilities. The move could boost the price of government-enriched uranium 80.5%. Without new enrichment facilities a nuclear fuel shortage will occur by 1984.

**COAL DEMANDS LISTED.** John Corcoran, board chairman of Consolidation Coal Co. and head of the Federal Energy Administration's Coal Advisory Committee, says that mining companies won't be able to meet coal production needs unless certain demands are met. The demands include: amending the Clean Air Act, no unreasonable surface mining legislation, opening up coal leasing in the West, adequate transportation, and a "realistic" means of complying with the National Environmental Policy Act.

**TOUR A BREEDER.** An experimental breeder reactor turned off 13 years ago, is now open for public tours. The facility, near Arco, Idaho, will be run under an agreement between the National Park Service and the Energy Research and Development Administration. On Dec. 20, 1951, the reactor produced its first electricity and proved that the reactor could transform a plentiful form of uranium into burnable plutonium at a better than one-to-one ratio.

**A-WASTES — WHOSE WORRY?** The Supreme Court has agreed to review a lower court decision which put responsibility for regulating radioactive wastes in the bailiwick of the Environmental Protection Agency (EPA). The federal government pushed for the appeal, arguing that the lower court decision would be likely to "delay construction and operation of nuclear power plants during a time of national emergency shortages." The Colorado Public Interest Research Group filed the suit originally. Their executive director, Hunter Davidson, says his group believes EPA is more environmentally conscious and would do a better job of regulating nuclear wastes than the Energy Research and Development Administration.

## emphasis ENERGY

the Northern Rockies and Great Plains



**DECKER EXPANSION OKAYED.** The Montana Department of State Lands has issued a permit for the Decker Coal Company to expand its strip mine in southeastern Montana north of Sheridan, Wyo. A group of ranchers in the area had questioned granting the permit because the high sodium content of the soil makes reclamation difficult if not impossible. C.C. McCall, Montana's reclamation administrator, says he will require that the toxic materials be buried eight feet deep and that 20 inches of soil be placed over the spoils to increase reclamation potential.

**HERSCHLER NOTES CHANGE.** Addressing the Wyoming Mining Association, Wyo. Gov. Ed Herschler said the state's new environmental laws are on the books "because there is a change in the philosophy of the people of Wyoming." Herschler said the Sierra Club suit halting mining in the Powder River Basin may have been of some benefit because it has given the state a chance to plan for expected impact.

**GASIFY IT.** Peabody Coal Company's vice president of public relations, William G. Stockton, says Wyoming coal should be used for making synthetic gas, not shipped back East to be burned in power plants. He told the Wyoming Mining Association, "Continuing research will solve the sulfur dioxide pollution problem one day, and when that occurs, utilities and industries will want to return to their former sources of higher quality, lower cost coals."

**MORATORIUM CHALLENGED.** Mountain States Resources Co. of Salt Lake City has filed suit in U.S. District Court challenging the Interior Department's moratorium on coal prospecting permits on federal land. The suit is at least the fourth one that seeks to overturn the federal ban.

**WYO. GAS PLANT SITE PICKED.** Panhandle Eastern Pipeline Co. has picked a site 15 miles northeast of Douglas, Wyo., for its proposed \$1 billion coal gasification plant. The proposed facility will require 800 permanent employees at the plant and 290 at a coal mine.

**UTAH SHALE PLANT DISCLOSED.** The Oil Shale Corporation (TOSCO) plans to build a 75,000 barrel-a-day oil shale plant in eastern Utah during the next decade on state lands. TOSCO wants to consolidate five non-contiguous state shale lease tracts into a single tract for its venture 35 miles south of Vernal, Utah. The plant would require 2,000 to 3,000 construction workers and about 1,500 permanent employees. TOSCO is studying new town sites as well as expansion of existing towns, either Ouray or Vernal, to accommodate the workers.

**STATE PICKS NIPPLE BENCH.** In a special session last week, the Utah legislature advocated selection of the Nipple Bench site for the proposed \$3 billion Kaiparowits power plant project in southeastern Utah. The site is 15 miles from Glen Canyon National Recreation Area. The federal government is considering two sites in the area — Nipple Bench and Four Mile Bench.

# BLM grazing suit foes reach agreement

Environmental groups and the Bureau of Land Management have reached an agreement for the preparation of local environmental impact statements on livestock grazing on over 150,000,000 acres of public lands in 11 western states. The agreement was the result of a lawsuit filed by the groups in the federal district court in Washington, D.C.

Judge Thomas A. Flannery, who earlier had ruled that the localized impact statements were required by law, approved the agreement reached by the two parties on June 18. On the same day, Supreme Court Chief Justice Warren Burger denied a request by livestock owners to delay preparation of the impact statements until the U.S. Court of Appeals in Washington has considered their appeal of the case.

The schedule approved by the court obligates the BLM to prepare an impact statement for each of 212 areas of the public domain lands. A model statement will be prepared in the Challis, Idaho, area in the first year; statements assessing the impact of grazing in 70 critical areas totaling 104,000,000 acres will be prepared in the next five years; and the remaining statements in the following seven years. The government also agreed to drop its appeal of the court's earlier decision.

The agreement stems from a lawsuit filed two years ago by the Natural Resources Defense Council, a national environmental defense organization; the Ada County Fish and Game League of Boise, Idaho; the Oregon Environmental Council; the National Council of Public Land Users of Grand Junction, Colo.; the Nevada Outdoor Recreation Association in Carson City, Nev.; and James Morgan, a Montana wildlife biologist.

The environmentalists had charged that the BLM had

failed to comply with the National Environmental Policy Act in its administration of livestock grazing on the public lands. In his decision in their favor last year, Judge Flannery found that "grazing clearly may have a severe impact on local environments" and that without localized assessments of such grazing, "there is a serious threat of injury to the public lands." The groups had alleged that the public lands are widely abused by over-grazing, and that the adverse effects of the grazing practices permitted by the BLM include the reduction of fish and wildlife populations, accelerating erosion, deterioration in water quantity and quality, and impairment of recreational

uses.

The plaintiffs' attorney, Roger Beers, hailed the schedule which he and attorneys for the BLM had worked out together according to the Judge's instructions. He stated: "These environmental assessments are long overdue. They will be the first hard look at local conditions and what to do about them."

"This could mean drastic cutbacks of grazing," John M. Olson, executive secretary of the Idaho Cattlemen's Association.

Federal officials estimate that the 212 statements cost more than \$55 million to prepare.

## 1975 Colorado Legislature 'an environmental bust'

by Marilyn Stokes

Lobbyist for the Colorado Open Space Council

With the recently finished session of the Colorado Legislature being an "an environmental bust," one feels like taking the attitude of the little old lady who was encountered on election day and was asked, "For whom did you vote?" "I never vote," the old lady snapped, "it only encourages 'em."

While the 1974 election was, in some respects, a victory for environmentalists in Colorado, it was also a turning point for conservatives-- a time to start "digging in their heels." This reaction is one of aggressively holding onto the status quo-- holding onto "what has made Colorado work in the past." It is also a determined reaction by some in the legislature to keep tight rein on the "balance of power" and to frustrate the new "environmentalist Governor" Dick Lamm in his attempts to exercise the leadership of the office.

Part of the stalemate in legislation resulted from the split in power in the Colorado General Assembly. The Democrats control the House and the Republicans, the Senate. While some major environmental bills were killed in partisan sparring (severance tax); others lost because of conservatism (Colorado Energy Conservation Act); and others failed because they were introduced too late in the session (transferable development rights).

### NO DEPARTMENT OF TRANSPORTATION

The severe disappointment of the session was the failure to pass a measure establishing a Department of Transportation. The DOT bill has been introduced for six years running and this year was supported in the governor's State of the State message and the Republicans' legislative program. The bill became a hostage of the Senate v. Lamm controversy over the building of Interstate 470 south of Denver. The Senate not only refused to confirm Lamm appointees to the Highway Commission, but they also kept the House-initiated DOT bill in the Senate Appropriations Committee, never allowing a floor vote.

The Colorado Senate in a bi-partisan vote failed to approve a measure sponsored by Sen. Joseph Schieffelin which would have established minimal thermal performance standards for new commercial and residential buildings.

Another Senate floor vote defeated a measure to establish permanent funding for the Conservation Trust Fund through the enactment of a real estate transfer tax.

House bills which did not get past the Senate committees included minimum subdivision regulations for municipalities, enactment of a severance tax on Colorado's metals and mineral fuels, an Environmental Policy Act, and amendments to the Air Pollution Control Act to streamline enforcement. (One polluter has been allowed to continue emitting pollutants for 7 years while tying up the case in the courts.)

The House killed an important land use measure which would have required local governments to determine their potential service areas based on their abilities and local desires. The proposed Urban Service Area Act provided a system whereby urban service areas would be adopted and growth outside the service area limited. Service areas could have been changed in the future if certain conditions existed. The House also declined to consider

stricter strip mining controls (waiting upon direction from Congress), and defeated a simple measure to reduce energy consumption by state government employees.

### WHAT DID THEY DO?

What environmental legislation did the legislature enact?

—A subtle, but important measure which prohibits the removal of phreatophytes (water-loving vegetation) as a means of augmenting one's water supply. It had been the hope of some farmers to remove cottonwoods, salt cedar, etc., from the streambank and then claim a water right from the water previously "lost" and "wasted" via evapotranspiration.

—A measure which requires municipalities to show need before condemning agricultural water rights. The bill was supported by a coalition of environmentalists and agriculturalists. The act establishes a court-appointed commission to review the growth development plan of the municipality seeking the condemnation and require preparation and review of an impact statement to determine whether or not the condemnation is in the public interest. The court makes the final determination, based on the recommendation of the commission, whether or not to allow the condemnation. Previously, the only issue reviewed was the price which the municipality paid for the water. This act comes as a reaction to the condemnation of 60,000 acre feet of water by the City of Thornton (see HCN, March 28, 1975). Proponents of the measure feel that condemnations may increase as growth-promoting communities try to grab for the limited water resources. The Colorado Municipal League, however, declares that the act is unconstitutional and will raise the cost of the water.

—Potential funding for the Conservation Trust Fund. A measure which will go before the voters in 1976 for final determination directs the proceeds from the proposed state sweepstakes to go into the State's Conservation Trust Fund for acquisition of open space. The constitutionality of establishing a sweepstakes in Colorado is clouded.

—Two small, but important, steps to encourage solar energy. The equipment used by a Coloradoan to produce solar energy will be assessed at a lower value for property tax purposes. Also, the legislature gave approval for property owners to establish contracts to obtain "solar easements" (i.e., the air space needed to maintain a flow of solar rays to a solar collector).

The Governor's office indicates it will develop its environmental legislative program during the interim. The Colorado Open Space Council will be working with interim committees, too. But it will take more than that. It will take an effort to make the conservatives realize that the citizens of the state are far ahead of them, that Coloradoans want to protect their state from the damaging potentials of strip mining, to establish progressive land use controls, and to plan transportation wisely. Maybe some will discover what Gandhi did, who said, "There go my people, and I, as their leader, must hurry to catch up with them."

Editors' note: This month, the Colorado Open Space Council will publish an analysis and voting record for the 1975 session of the Colorado General Assembly. Copies may be requested by writing Colorado Open Space Council, 1325 Delaware Street, Denver, Colorado 80204 and enclosing \$2.00 for each analysis requested.



## Teno says 'awesome' nuclear responsibility

Rep. Teno Roncalio (D-Wyo.) has called his effort to find answers to the problems of safeguarding nuclear materials throughout the world "the utmost awesome and solemn responsibility of my lifetime."

Roncalio is chairman of the Joint Atomic Energy Subcommittee on Agreements for Cooperation, which oversees U.S. nuclear power treaties with other nations.

"International trade in nuclear power plants is brisk, and growing," Roncalio stated in a bylined column released for Wyoming newspapers June 20. "But are there adequate safeguards to assure that the nuclear technology spreading throughout the world is used only for peaceful purposes? I believe so... perhaps... maybe... I hope."

Roncalio said that he was concerned because some countries refuse to obey the International Atomic Energy Agency (IAEA) regulations. Other important questions in his mind are:

"In their zeal to make a sale, will some exporting nations fail to insist on adequate safeguards?"

"Can importing nations, even though under IAEA regulations, find a way to beat the system, to somehow divert, undetected, nuclear material to military use?"

"Even if such activity were detected, what can the IAEA or the exporting country really do beyond giving notice to others or simply cutting off future sales?"

"What about the growing stockpiles of used-up atomic fuel? Such spent fuel from electric power plants is easily converted to plutonium, the essence of nuclear explosives."

Roncalio said, despite these problems, he believes that nuclear technology has "enormous potential for good." He cited power generation, agriculture, medicine, and industrial research as fields in which nuclear technology could play an important role.

# Western Roundup

## Court acts on game range transfer

A federal judge has granted a temporary restraining order to prevent the transfer of three game ranges to the jurisdiction of the Bureau of Land Management, pending action on a suit filed by the Wilderness Society, the Oregon Environmental Council, and six citizens to block the transfer. The environmentalists said the transfer was illegal because no environmental impact statement had been filed under the provisions of the National Environmental Policy Act. U.S. District Court Judge William B. Bryant's order prohibits the transfer until after a hearing on the suit, which is scheduled July 11. The three ranges involved are the Charles Sheldon Antelope Range in Nevada, Oregon, the Charles M. Russell National Wildlife Range in Montana, and the Kofa game range in Arizona. Environmentalists would prefer to see the three administered by the U.S. Fish and Wildlife Service. (See HCN, June 6, 1975) The same week that the suit was filed, a Congressional committee also took action opposing the transfer. The House Committee on Merchant Marine and Fisheries reported favorably on a bill to assure that refuge lands are administered by the U.S. Fish and Wildlife Service.

## Montana recycles government papers

More than 50,000 pounds of the papers pushed by Montana state government employees each month are now being recycled following an order by Montana Gov. Thomas Judge. Judge gave the order in July 1974 to begin salvaging computer cards and printouts, used bond paper, newspapers, old memos, and letters. By mid-January, about 214,000 pounds of recyclable material had been gathered, or the equivalent of about 2,033 trees, according to the article in *Montana Outdoors*. The program had made \$2,270.22 by then by shipping the material to Denver and selling it. After the legislature opened, so much more material was being recycled that an extra person had to be hired. Judge says the program not only conserves energy and natural resources otherwise required to produce the paper, it also reduces the need for additional landfill disposal areas.

## U.S. Steel challenges water regs

The U.S. Steel Corp. has challenged state and federal water quality requirements for its iron ore mine near Lander, Wyo. The company is protesting the conditions of a wastewater discharge permit issued by the Environmental Protection Agency and certified by the Wyoming Department of Environmental Quality, according to United Press International. U.S. Steel's complaint charges that the EPA and Wyoming limitations on suspended solids and water turbidity are too stringent. Hearings are planned on the EPA requirements July 9 and 10 at Denver and later in the month on the state requirements before the Wyoming Environmental Quality Council.

## Alternative wilderness hearing is held

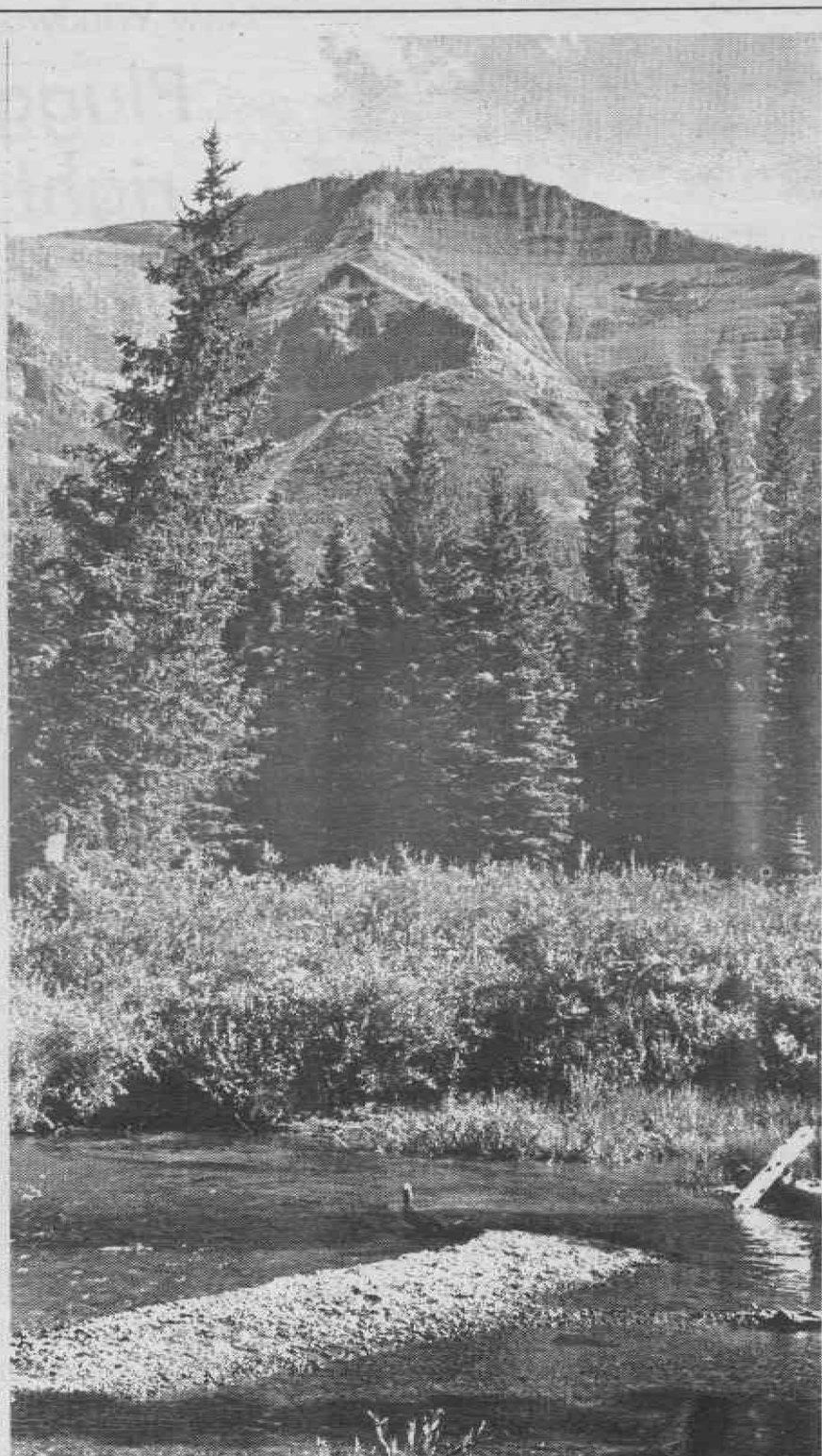
When the U.S. Forest Service refused to hold public meetings in Denver for the Upper Eagle Planning Unit (an area of the White River National Forest near Vail, Colo.) a group of citizens decided to hold their own public meeting. ENFORCE (Effective National Forest Ownership Requires Citizen Effort) was organized by the Colorado Open Space Council Wilderness Workshop "to protect Denver area citizens' rights to become involved in the management planning of our National Forests." The Denver meeting complemented local public meetings held on the planning unit. "Invitations were sent to all interested parties, including the timber industry, mineral industry, local county governments, municipalities, federal agencies, and conservationists," according to ENFORCE. Nearly 100 people attended with the vast majority supporting wilderness study for the Holy Cross wilderness area. ENFORCE says how the Forest Service will use the unofficial Denver meeting results "will depend solely on the patience and open-mindedness of the agency officials."

## Garrison water rights insecure

The manager of the Garrison Diversion Conservancy District in North Dakota, Homer Engelhorn, told the Associated Press that water is not guaranteed to irrigators associated with the controversial Garrison Diversion. Engelhorn said that title to the water was not written into any agreement and now downstream users are seeking water originally planned for irrigation in Garrison. This disclosure led Monroe August, chairman of the Committee to Save North Dakota, to remark, "Here we are, eight years after construction was started on the diversion project, after the Bureau of Reclamation has acquired over 12,000 acres of land for the McClusky Canal, after they have sliced through good farms, drained aquifers, dried up wells, cut and damaged roads, driven young men away from farm units they had hoped to farm, destroyed some of the finest wildlife areas in the state — and now, after all that, the project's promoters come back and tell us that the availability of water for the project is not certain." Engelhorn said a moratorium on the project is in order until the promoters "first guarantee that there will be water to irrigate with."

## \$50 reward for ferret information

A ferret search is again being sponsored in Wyoming with the support of the National Geographic Society and the National Academy of Sciences. A \$50 reward is being offered to the first person providing information leading to the discovery and verification of the existence of black-footed ferrets, an endangered species which has been reported in Wyoming but not verified. The reward will not be paid for any ferret caught in traps or killed by the finder. Contact Tim W. Clark, Ferret Search, Box 1330, Jackson, Wyo. 83001.



The Montana Board of Natural Resources is now implementing streambed preservation standards which were called for by the 1975 Montana Legislature. The rules establish minimum standards for projects such as channel changes, new diversions, riprap and other streambank protection projects, jetties, new dams and reservoirs, and industrial, commercial and residential developments, according to the MISSOULIAN story. The rules would not cover such projects as cleaning and maintaining diversion facilities and removing debris from streams.

Photo of the Middle Fork of the Flathead River by Dale Burk

## Briefly noted . . .

An environmental impact statement is being prepared on operation of the Rocky Flats nuclear weapons plant near Boulder, Colo., according to the Energy Research and Development Administration (ERDA). When asked by the *Denver Post* if preparation of the impact statement was a tardy effort to comply with the 1969 National Environmental Policy Act, assistant Rocky Flats manager James Nicks replied that an environmental assessment "has been in the process" since 1969 when the law was passed.

\* \* \*

The Bureau of Indian Affairs has asked the Department of the Interior to suspend work on the Central Utah and Uintah water projects pending a study of the effects on Indian water rights in the Uinta Basin. The study is expected to take from one to three weeks, according to a *Deseret News* story.

\* \* \*

The federal housing agency has been taken to court by a student public interest group which thinks that environmental impact statements should be required from developers of subdivisions. The suit was filed by the Colorado Public Interest Research Group Inc. (COPIRG) against the U.S. Department of Housing and Urban Development.

\* \* \*

U.S. Rep. Tim Wirth (D-Colo.) will be introducing legislation to increase the size of Rocky Mountain National Park by 50 %, according to the *Rocky Mountain News*. Under the proposal, 128,000 acres would be added including 77,000 acres in the Indian Peaks region, and parts of the Never Summer Range, Neota Creek, Comanche Peak, Deserted Village, and Wild Basin.



We picked our way easily down the grassy slope to the river's edge, where we found a comfortable, sun-dappled log to sit on. The slope protected us from the wind and lent an aura of seclusion-- just the right place to enjoy a steaming cup of coffee from the thermos.

A few miles downstream, we had stood at the top of a breezy bluff and watched, through binoculars, fat Canadian geese waddling in the tall grass near the river and white pelicans fishing in the water. Even farther downstream, we had been delighted to catch a fleeting glimpse of an osprey feeding its young at a nest high on the canyon wall.

Now we sat, coffee cups in hand, and our feet dangling just inches from the swift-flowing water. A gull soared low overhead, then disappeared behind the trees in the direction of the lake. A white speck appeared far upstream, moving so swiftly that we hardly had time to reach for the binoculars in order to discover that it was a huge trumpeter swan, bobbing along like a cork. He was hardly out of sight before something else came floating by-- this time, a yellow canoe. The two occupants waved cheerfully, then disappeared almost in the wake of the swan. We sat there, savoring the beauty of the scene, and the peaceful, incredible quiet.

Incredible because we were not far from the main-stream of traffic in a national park bustling with tourists! My sister Lou and I had decided that a few days in Yellowstone would be a good tonic to allay the doldrums of winter. (We rationalized that maybe it wouldn't be so crowded this year-- lots of tourists would head East for the bicentennial celebrations-- and besides, June is such a beautiful month in the mountains!)

Actually, the other tourists didn't seem to intrude on our days at all-- those we encountered were friendly and courteous. Our main interest was in the scenery and wild-life, since we had both seen the geysers and paint-pots and hot springs on several previous visits. Each morning we packed our lunch kit in the car and headed for a mountain pass or one of the many streams and rivers in the park.

We sat on our log and mused that this lovely little spot was probably not much different now than it might have been a hundred years ago, when this great chunk of land was set aside as a national park. (One hundred and two years, to be exact!) I'm sure that many aspects of the park have been changed by man, but the rivers, lakes, and mountains that man has left alone give one a feeling of unchanging timelessness. That thought led us to wonder what this piece of land would have become by now if it had not been set aside "for the benefit and enjoyment of the people." Would this beautiful river flowing swiftly past



our feet have been harnessed to create electric power? Would the thick stands of pine have been cut away in great ugly squares, to furnish lumber? Would the swampy moose habitat have been drained and farmed? Would sheep and cattle graze where the elk and bison now feed? Would the mountains and valleys be bulldozed away to uncover seams of coal?

History tells us that John Colter, a hunter with the Lewis and Clark Expedition, was the first white man to explore the Yellowstone area. When he told of spouting geysers boiling springs, and bubblings mudpots, no one believed him. It was more than half a century later (in 1869) that the first expedition for the sole purpose of exploring the area was formed. And it was ten years later that one Cornelius Hedges proposed that the upper basin be set aside as a national park. Congress established the park on March 1, 1872. Surprisingly (surprising to me, anyhow), this act of foresight took place three years before the Battle of the Little Big Horn.

I remember John Colter from my history books, but until a few days ago, I don't remember ever hearing of Cornelius Hedges. Discovery, of course, deserves credit... but conservation of such great beauty seems even more laudable. Maybe tomorrow's history books will mention Cornelius Hedges!

## New Windworks invention

# Plugging your wind generator right into the power system

Windworks, a Buckminster Fuller-inspired commune dedicated to developing wind power technology, has invented a unique system that converts a wind generator's direct current (dc) into alternating current (ac) that can be used by any household appliance or plugged into the power grid. The convertor takes erratic wind power and changes it into regular household power.



Moose Falls in Yellowstone National Park. Photo by Wyoming Travel Commission.

"The Gemini power conversion unit (PCU) is a wall-mounted control cabinet that interconnects between a source of dc power and standard ac lines, either 120 volts or 240 volts.... Using the ac lines to determine both output voltage and frequency, the PCU is capable of automatically adjusting itself to convert input voltage over a range of 3 volts dc to 200 volts dc into 240 volts ac.... As wind speed varies, the PCU takes more or less power from the generator and can easily be adjusted so that optimum transfer of power is obtained without further attention," says Windworks.

"The ac lines can be permanently wired into the output terminals where local codes permit, or plugged into a standard electric range or other outlet if there is a problem with permanent installation," says Windworks.

"Normal ac loads are left connected to the ac lines, and if more power is being generated than required, the excess amount automatically flows back to the power company, reversing the watt meter, and reducing the monthly bill from the electric company. When the windmill cannot supply all the power needed by the load, the ac lines make up the difference. Thus, the ac lines can be considered an infinite storage medium to accommodate the fluctuation of power produced by the windmill."

Windworks warns that the PCU must be connected to the ac lines to function, and should not be confused with conventional inverters that can operate independently of an electric tie to the ac supply.

"By using the ac lines for forcing the voltage and frequency to be correct, a substantial cost saving is possible, and efficiencies normally exceed 95%," says Windworks.

For more information contact: Windworks, Box 333, Route 3, Mukwonago, Wis. 53149.

(Editors' note: This article is part of a series on alternate energy systems available to the public for home use. We have not tested these products, and so cannot make endorsements. We hope the information provided here will encourage readers to do their own research in the field. If you know of other projects worthy of publication in HCN please send information along to us so we can spread the word through this series.)

## Hearings scheduled on Colo. air regs

The Colorado Air Pollution Control Commission has scheduled three public hearings during August to solicit comments on proposed additions and revisions to state air pollution control regulations, including a proposed regulation that could restrict land use and growth.

A proposed indirect source regulation requires that a permit be obtained from the Colorado Department of Health's air pollution control division before any facility which might indirectly cause air pollution is constructed or modified. Joseph Palomba Jr., Commission technical secretary, said the proposed regulation "is expected to

restrict land use and growth, primarily in urban centers and some mountain recreation areas."

"The indirect source regulation is aimed primarily at reducing automotive pollution by dealing with the indirect sources of the pollution," he said. "The regulation would apply to the construction of certain parking facilities, highways and roads; retail, commercial and industrial facilities; and residential facilities including apartments, condominium developments and subdivisions."

The indirect source requirements will be combined with an existing regulation governing direct sources of air pollution. A fee system is proposed to cover the costs associated with the permits. Fees already are charged for permits to construct or modify direct air pollution sources.

The hearings will be conducted Aug. 5 and 6 from 9 a.m. to 4:30 p.m. at the Colorado Department of Highways Bldg., 4201 East Arkansas Ave., Denver, and Aug. 8 from 9 a.m. to 4:30 p.m. at Glenwood High School, 1340 Pitkin Ave., Glenwood Springs.

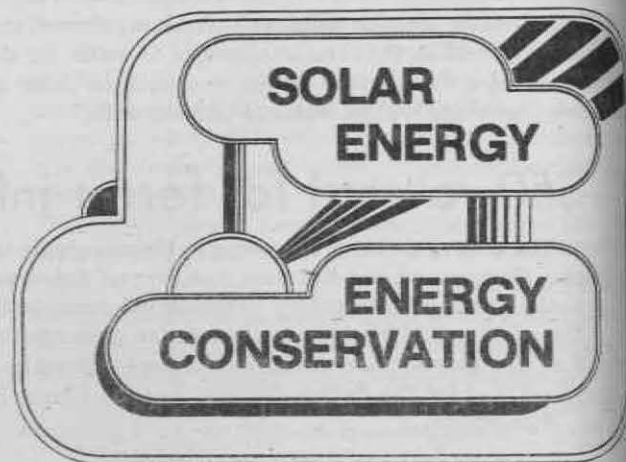
## Testimony is needed on Wyo. siting regs

A hearing will be held Monday and Tuesday, July 14-15, in Casper, Wyo., on the proposed industrial siting regulations for Wyoming. The regulations are to implement the industrial siting bill which was passed by the 1975 Legislature.

The council is interested in testimony from the citizens of the state, whether or not they have technical expertise. The seven member siting council will evaluate the proposed regulations on the basis of input received there.

Copies of the regulations can be obtained from: Dave Freudenthal, State Planning Coordinator, 2414 Carey, Cheyenne, Wyo. 82002 or call 777-7575. The Powder River Basin Resource Council has prepared a written summary of the regulations in their July newsletter which is available on request from Box 6221, Sheridan, Wyo. 82801.

The hearing will be held at the Casper College Administration Building, Room 198 at 8 a.m.



# To Possess the Land

by Frank Waters, The Swallow Press, Inc., Chicago, 1973. \$8.95, hard cover, 287 pages.

Review by Peter Wild

They still talk about it in New Mexico. Others, alive at the time of the event, refuse to say a word.

In the 1880s Arthur Manby began to build an empire by buying the local inhabitants of their land. In the summer of 1929 the Englishman was found dead, decapitated in his spacious Taos hacienda. The murder, and the sequence of fantastic events that led up to it, rivals in romance, mystery, and ruthlessness the most outlandish of wild-West soap operas. The story of the recluse involves high finance, heinous love deceptions of innocent virgins, a secret society, and a series of beheaded bodies—all used to acquire piece by piece the Antonio Martinez Land Grant for which he lusted.

To top off the uncertainty surrounding Manby, some claim to have seen him alive in Taos, even in Italy, long after his supposed death. The shadow of the man still hangs over Taos. What he stood for, the author makes clear, continues to plague the nation.

The shadow of the man still hangs over Taos. What he stood for continues to plague the nation.

Frank Waters has succeeded in plucking from the nimbus of the past a superb, documented tale. At the same

time he presents much of the historic background of land acquisition essential to understanding today's land-use problems. After the Civil War the Whites flooded West. To the ancient Spanish conquistadors wealth meant gold. To the new wave of invaders it was land, and they used the same tricks to possess it, and to circumvent provisions of the laws, as did the Spanish.

Concluding the Mexican-American War, the Treaty of Guadalupe Hidalgo guaranteed the property rights of the conquered. However, its provisions were not enforced by the United States government, and people like Manby met little resistance in twisting Indians and Mexicans out of their titles to valuable ranches.

A favorite ploy he used was to pay off some small debt some uneducated sheepherder might owe to a general store. Manby then threatened to have the sheriff throw him in jail unless he signed over his property as payment. In one crafty deal he picked up 9,200 acres for \$52.99. Anglos, with more access to the courts, proved more of a problem; but, if complex subterfuge didn't work, the bullets did.

Manby, and those like him both then and now, felt no love for the land, only greed for the returns he could squeeze out of it. His progeny are the strip miners and boosters of developments, who share the same attitude. As Waters concludes, "Today a horde of real estate agents, as ruthless as Manby, are avidly acquiring the land for resale in a booming market."

It is unreasonable to expect today's men to be any better in their hearts than was Manby. "To Possess the Land," besides being a fine mystery story, is a plea for adequate laws to control them.

## BULLETIN BOARD

### DOLORES RIVER WORKSHOPS

Four public workshops to discuss alternatives for inclusion of free-flowing segments of the Dolores River into the National Wild and Scenic River System will be held during the second week of July. The purpose of the workshops is to apply eligibility and classification standards to the river.

Locations for the workshops are Denver, Grand Junction, Cortez, and Norwood, Colorado. The Denver meeting will be held Monday, July 7, at 1:30 p.m. in Room 708, Bureau of Land Management Auditorium, Colorado State Bank Building. The next evening, July 8, the workshop will be held at 7:30 p.m. at the Ramada Inn in Grand Junction. On Wednesday, July 9, at 7:30 p.m. the workshop will be held at Norwood in the high school auditorium. The final workshop will be Thursday, July 10, at 7:30 p.m. in Cortez at the high school, south entrance.

### CONTROLS AID ECONOMY

Money spent on pollution control is expected to raise the rate of economic growth in the U.S. above what it would have otherwise been through 1976, according to a study released by the U.S. Environmental Protection Agency and the President's Council on Environmental Quality. The growth will peak in 1975 the report says, when the Gross National Product will be 1.6% higher due to the pollution control expenditures. The report: "The Economic Impact of Pollution Control: Macroeconomic and Industry Reports," can be obtained from the National Technical Information Service, 54285 Port Royal Rd., Springfield, Va. 22151. Ask for EPA 230 2-75-008.

### classified ads

"WIND RIVER TRAILS" by Finis Mitchell. Backpacking and fishing guide to the Wind River Range of Wyoming. Wilderness area of peaks, glaciers, forests, and lakes. \$2.95 postpaid from Wasatch Publishers, 4647 Idlewild Rd., Salt Lake City, Utah 84117.

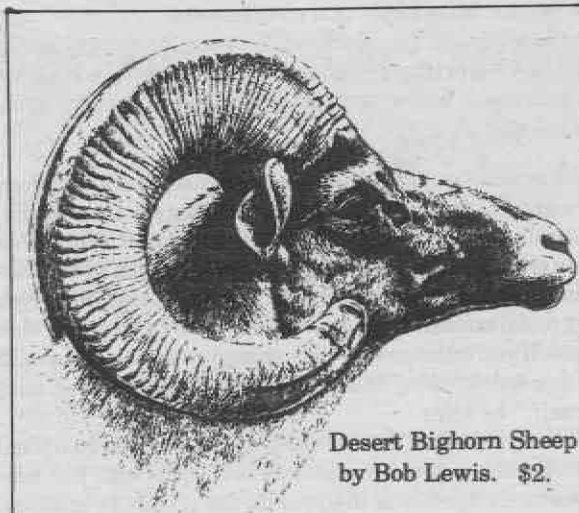
"HIGH Uinta Trails" backpacking and fishing guide to the many lakes and trails of the Wilderness Area of northeastern Utah. 62 trails described and mapped. \$2.95 postpaid from Wasatch Publishers, 4647 Idlewild, Salt Lake City, Utah 84117.

### TRAIL VOLUNTEERS NEEDED

The Forest Service needs applications from 100 volunteers to do maintenance work and build new trails on the South Platte Ranger District, Pike National Forest, Colorado. The work will be done July 23 through August 9. Write Harold Wadley, P.O. Box 25217, Lakewood, Colo. 80225.

### WE CAN'T GROW ON

The Center for Growth Alternatives has begun an advertising campaign under the direction of former Gov. Tom McCall of Oregon to encourage people to consume less. The campaign includes a series of television and radio spot announcements and a print ad, all produced by Public Media Center, a San Francisco-based public interest advertising agency. The theme of the campaign is "We Can't Grow on Like This," and the agency is asking that the ads be run as a public service. The campaign material is available from Public Media Center, 2751 Hyde St., San Francisco, Calif. 94109.



Desert Bighorn Sheep  
by Bob Lewis. \$2.

9 x 12 Heavy quality paper.  
Profits go to High Country News.  
Numbered prints of the pen and ink drawing  
are available by writing

HCN, Box K, Lander, WY 82520

# Eavesdropper

environmental news from around the world

### LOONEY LIMERICKS

by Zane E. Colog

There's plug-in curlers and carvers to use  
Hairdryers, brushes to burn out the fuse  
We're in an energy fix  
Now back to fire-n-sticks?  
No, a path between's watt we should choose.

**LOSS OF AG LAND TOP CONCERN.** The Citizens' Advisory Committee on Environmental Quality—a presidentially appointed group—says the loss of prime agricultural land is one of the nation's most pressing environmental and economic concerns. About 1.4 million acres are lost to developments each year, an area roughly the size of the state of Delaware.

**ENERGY CRISIS AN ENVIRONMENTAL PLUS?** The Citizens' Advisory Committee on Environmental Quality says the energy crisis, thus far, has been a "net environmental plus." The committee says environmental legislation is still largely intact and there has been some national retrenchment in energy consumption.

**BOOMS: THE SOUND OF FREEDOM.** An Air Force major told *The Missoulian* that sonic booms represent "what we like to think of as the sound of freedom." Air Force Major Robert Cunningham explained that the Air Force is proud that adversaries can see that Americans are willing to put up with sonic booms and other inconveniences for the sake of national security. He hastened to add that the Air Force does not take complaints lightly, however, and is taking efforts to minimize the effects of the booms.

**RECYCLING DISHWATER.** Japan and China, two of the world's most densely populated countries, are utilizing innovative recycling techniques to save resources. In China, a chemical factory uses oils and fats collected from hotel and restaurant dishwashing to make soap. Also in that country, cigarette butts, after treatment, are converted into a highly effective nicotine insecticide. In Japan, one major appliance manufacturer has succeeded in regaining nearly 80% of the oil from plastic waste, according to *Conservation News*.

When the first issue of *Borrowed Times* appeared in August of 1972, a lot of people didn't think we'd last a year. Now, almost three years later, they're too busy reading us to laugh at us.

Politics, the environment, events, reviews, and cheap thrills. Montana's best antidote to the morning press.

Subscriptions are \$2.50 for 10 issues (½ year) and \$4.75 for 20 issues (1 year.) Don't wait - the news can't.

Name .....

Street .....

Town ..... Zip .....

Borrowed Times  
c/o Subscription Dept.  
Box 1311  
Missoula, Montana  
59801

# John Mionczynski knows the luxury of using less

He who knows he has enough is rich.  
—Lao Tsu

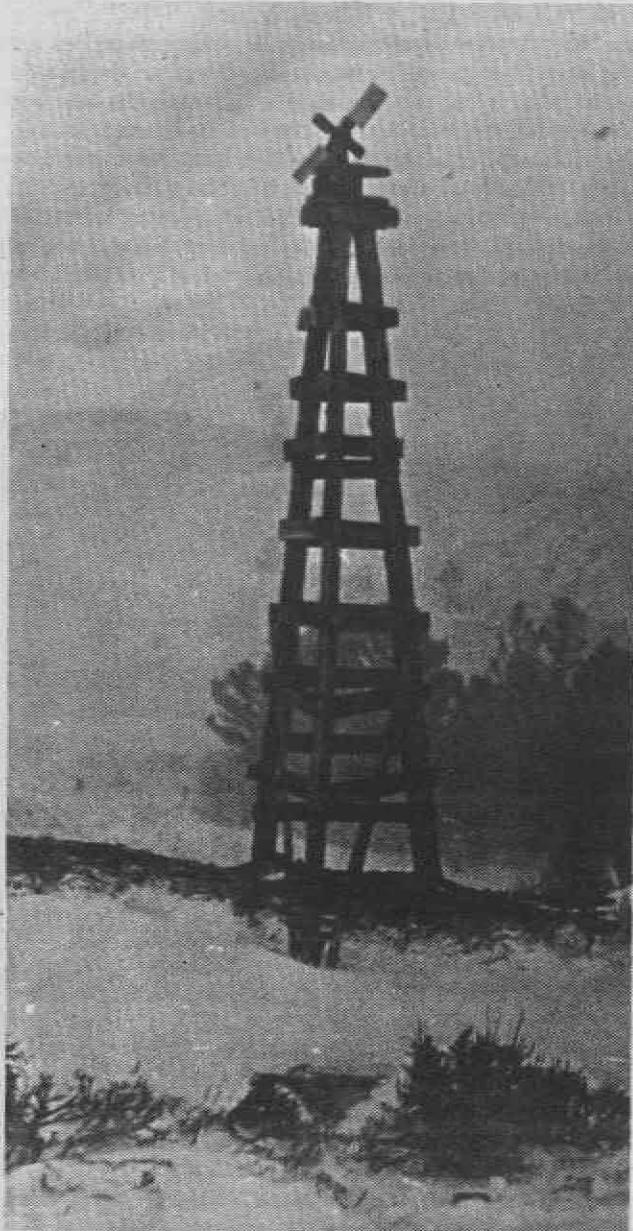
John Mionczynski lives up the mountain from Atlantic City, Wyo., in a 14-foot by 17-foot cabin he built for \$72. No phone. No running water. And, when it's working, the wind charger he built on the ridge behind his cabin supplies his only electricity, enough to power a tape deck and a small reading lamp.

Once Mionczynski and a friend narrowly missed a million dollar bonanza on a gold claim they had picked out that later panned out for someone else. If Mionczynski had that million now, he figures he'd like a cabin about twice as big. And a wind charger that works.

The people in Atlantic City regard Mionczynski, 28, as a little eccentric — but only a little. His jeep broke down there in the spring of 1970, and he's lived there ever since. A native of New York state, he found what he was looking for in the little mountain town — people who share to some degree his outlook on life.

At that time, there were 17 people living in the Atlantic City region. If something needed to be fixed, Mionczynski says you either figured it out yourself or found someone up there to help. One of the residents was a doctor. Another a mechanic. Everyone had a skill they were willing to trade for someone else's help, including the bartender at the Atlantic City Mercantile. He offered a place for the people to attend town meetings or just to escape the winter for a few hours, a service that was essential, according to Mionczynski. Most of the people couldn't afford to go to town every week. And anyway, the pass which connects them to Lander, the nearest town, is often closed to travel during the winter by blowing snow.

Now there are newcomers on the mountain, and Atlantic City is gradually being destroyed, Mionczynski believes. When he first came, the people who lived there were all running away from something — or toward something new. Now the newcomers bring it all with them: TV, two-way radios, and hang-ups.



Mionczynski's wind charger supplies 12 volts of electricity — all that he needs for his reading lamp and his tape deck. ("I can live without anything except music," he says.)

Some of the older residents retain at least some of the old communal self-sufficiency, and as a result, Mionczynski says they admit privately that in some ways, they look forward to the big economic crunch that many are sure this country is bound to experience. They enjoy the "lower standard of living" that others now scorn; heating with wood, outhouses, no electricity. (One argument overheard in the Atlantic City Mercantile was over who made the least money and had the fewest possessions.) Soon, they believe, others will be forced to adopt their ways.

Although the land is being subdivided all around him, Mionczynski is content to stay in Atlantic City a little longer. His cabin is a mile above town, 18.5 minutes by snowshoe on a bet. Sometimes during the winter, he travels a circuitous route to avoid moose blocking his path.

Also sharing the mountainside with him are his goats — a source of both companionship and of milk. In the future, he hopes that between the goats and his outhouse, he will be able to supplement his energy supplies using a methane digester. Within two years, he hopes to be energy self-sufficient.

Some of the other residents of Atlantic City find the methane digester to be one of Mionczynski's stranger ideas. But the wind charger he constructed out of a Chevrolet alternator, regulator, and a 12 volt battery also seemed strange to them until he proved that it would work. Now, a few others are considering wind chargers.

In a town known for its "scroungers," Mionczynski probably holds the title as the most enterprising. His cabin cost so much (\$72) only because he couldn't think of anyway to create his own insulation, which he bought new for \$48. Everything else except for nails he managed to get free or in exchange for a little effort. The logs were free for the cutting since the steel mine on the mountain wanted them removed. He earned the flooring by helping the Game and Fish Department tear down snow fencing. A friend is building a fence for his goats using scrap lumber from a sawmill in the valley. He found his wood-burning heater—a top notch "Warm Morning" with a thermostat—in an alley in town.

His ice box was also free, and he keeps it cold during the winter by putting a bread pan full of snow water outside his door each night to freeze, exchanging it in the morning for the one in the ice box. He makes his own kerosene for lighting out of bacon fat.

His food scrounging habits have perhaps brought him the most notoriety. When guests trudge up the hill to visit, he's likely to feed them pine bark beetles gathered from nearby trees. Guests with weak stomachs get them fried. For the stalwart: raw. Mionczynski, a trained biologist, offers assurance that they are a nutritional addition to the diet.

He eats them himself. He also eats grass, certain roots, stems, and leaves when he's out on pack trips, duplicating the diet of the grizzly bear. Mionczynski spends his summers studying the bears for state and federal agencies. Some Indians, he says, believe that man evolved from the grizzly, and they, too, copy the grizzly's eating habits. When he's back in the woods for several weeks, he supplements bear food with moldy cheese which he gets for free from a friend who is a cheesemaker.

In addition to the nutrition lessons, Mionczynski also gets a few hairs from the bears he traps for study. He gives the hairs to a fellow scrounger who uses them for tying flies for fishing.

Asked what qualities he thinks are necessary for others who want to attempt a self-sufficient lifestyle, he puts the emphasis on an interest in the natural way of life, rather than upon any physical capabilities. "It helps to be emotionally at peace with yourself so you can do what you want to do, instead of what you have to do to impress other people. If you can do away with things you always thought you needed to live, then you're down to dealing with yourself," he says.

Mionczynski still does not believe he's reached an ideal lifestyle; he's not yet completely self-sufficient. For now he works six months of the year on the grizzly bear study, supplementing that income by playing piano in the band at the Atlantic City Mercantile.

Although he is willing and quite able to adapt to the constraints of nature, he, and others like him, find their needs to be maladaptive when it comes to society. As he feels society encroaching closer and closer to his territory, he is preparing for the time when he must move on.

Where will he go? He has little hope for finding new frontiers. The impact of people is everywhere. He has several possibilities in mind, but ultimately, he says, there may be no place left. So perhaps he will proceed with an old dream of going "no place" by building a boat floating without a home.



John Mionczynski on his bike, his primary means of transportation from early spring until late in the fall. The bike gets 60 miles to the gallon, but he justifies using it more for "conservation of sanity."

## In the News

### Energy Conservation

the why 1  
the how 5

### Energy Conscious Homes

Dick Crowther's conservation architecture 8

### Grazing Suit

agreement reached 12

### John Mionczynski

conservation as a way of life 16