

Solar energy in Michigan

Conservation could lighten heat needs

Conservation and solar energy measures can cut home heating costs in half in cold-winter Michigan, according to researchers at the University of Michigan's Institute for Social Research (ISR).

Solar technology, they explain, can reduce the effective heating season in Michigan from six or seven months to three or four months.

Mark Berg, Paul Ray and Mark Hasett, of the ISR's Energy Policy Group have just completed a study of the potential benefits and costs of solar energy and conservation in Michigan for the Energy Administration of the Michigan Department of Commerce.

The researchers conclude that conservation measures that emphasize increased efficiency — adding insulation, plugging leaks, making furnaces more efficient, curtailing unnecessary use of air conditioning and lighting, using more energy-efficient appliances — could reduce a typical home's energy needs by up to 60 percent.

CONSERVATION MAKES it possible to obtain a large percentage of remaining energy needs from solar energy systems. The report examines many of the different types of solar technologies.

However, it gives greatest emphasis to designs.

"Solar sunspaces and greenhouses in many cases can provide appreciable amounts of heat to homes (as well as additional living space), but even where these designs are not practical, there are other solar designs which are relatively inexpensive and provide useful quantities of heat to a well-insulated home."

THE ISR STUDY led to these major conclusions:

• In Michigan, the greatest potential energy savings are in home heating, where expected doubling or tripling

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ing of natural gas prices over the next 10-15 years will make aggressive conservation and low-cost solar very attractive.

• Potential energy savings from the existing home (retrofit) market are much larger than from the new construction market over the next 20 years: five times larger for conservation, 11 times larger for solar systems.

• For the state as a whole, the potential energy savings from conservation measures are three times greater than the savings from use of solar technology. Conservation is the most cost-effective step a homeowner can take and always a first step on the way toward cost-effective solar applications.

The study compared the energy needs of a hypothetical 1,550 square-foot house of conventional construction in Ann Arbor with the same structure in Atlanta, Ga. Actual weather statistics for the two areas were used in the comparison.

BOTH HOUSES, with typical pre-1960 construction used existing conservation strategies to reduce current energy use by as much as 60 percent.

The hypothetical houses were next equipped with extensive passive and active solar energy systems.

In Georgia, these solar installations could theoretically provide 100 percent of the remaining heating needs. In

Michigan, they could provide 79 percent.

While most retrofits would not incorporate as large a solar system as in this theoretical analysis, a 50-percent savings from conservation measures and solar energy would be easily achievable for most houses in which well-planned conservation efforts have not yet been initiated.

While not providing all of the required heat during the coldest months, solar technology, they suggest, can effectively reduce the extended Michigan heating season by several months.

"THE SOLAR system is more cost-effective in Michigan because it can contribute almost twice as much usable heat due to the longer heating season. Consequently, it can pay for itself in about half the time it would take in a more temperate region."

Michigan imports most of its increasingly expensive energy, and the traditional balance of trade has shifted against Michigan, creating an energy-related reduction in jobs and growth, the study says.

An estimated \$8.2 billion left the Michigan economy last year in payment for imported energy. "That's over 7 percent of the gross state product, up from about 2 percent in 1972."

The U-M analysts suggest that conservation and solar energy offer one valuable way to reduce that drag by promoting more efficient use of imported energy.

"WE ARE TALKING about one-time investments compared to year-after-year drains on money from within the state," they explain. "Our analyses show that conservation and solar energy combined could cut Michigan's heat-

ing energy bills by one-half to one-third of their present size within the next two to three decades."

The researchers indicated strong concern over the price rises that will result from natural gas deregulation, noting that "the impact upon poverty-level and elderly households will be very serious."

In response, the study examined the feasibility of making relatively low-cost investments in conservation and solar to improve the energy efficiency of low-income residences rather than providing ever larger amounts of government aid to pay energy bills. The researchers believe these "improved weatherization programs" may be far more cost effective over the long term than monthly aid.

THERE ARE STILL a number of barriers to using new energy technologies in Michigan — the initial high cost of solar heating systems, problems in raising capital for solar and conservation investments, cuts in government spending for conservation or alternative energy programs, reluctance or inability of property-owners (especially landlords and low-income homeowners) to make improvements in energy efficiency, inadequate information about conservation and solar technologies, and the underdeveloped status of the solar industry.

As fuel costs rise and the people of Michigan begin to gain experience with solar technology, the researchers say, many of these barriers should fade.

"Government policies on conservation and solar technology may be the most critical of the unknowns," they conclude.

consumer mailbag



Grace Gluskin
of Concern, Inc.

Generic brands popular

I see more and more no-name items on my supermarket shelves. They seem quite a bit cheaper so I would like to try them, but I can't afford to buy anything that my family will not eat.

Debbie N., Livonia

add foods slowly, a few at a time, and see how your family responds.

I understand there is a guide of recreation areas for the handicapped. Where can I get a copy?

Ken G., Bloomfield Hills

Generics, products in plain package whose labels simply read "chocolate pudding, grape jelly, vegetable oil or detergent," have increased in number on store shelves since they were introduced to consumers in 1977. And you are right — they are cheaper, usually priced 15-40 percent below the branded competition. Consequently they appeal to consumers who are particularly sensitive to price.

However, surveys also show that shoppers who tried generics found many to be as good or better than branded equivalents. Nutritionally, they are on par with labeled products, but the quality may vary from item to item and store. Tastes are too varied to make any specific recommendations.

You may want to start by trying the unbranded cleaning products and then

The new guide, "Handicapper's Coastal Guide to Accessible Recreation Facilities," is available free of charge from the Michigan Department of Natural Resources, Division of Land Resources Programs, Coastal Management Program, Box 30028, Lansing, MI 48909.

This guide lists recreational facilities that make it easier for people with special physical needs to enjoy the state's Great Lakes shoreline. It gives location, a brief description and the types of facilities accessible to disabled individuals.

Consumer Mailbag answers your questions. Address letters to Grace R. Gluskin, Concern Detroit, 1 Northfield Plaza, Troy, MI 48068.

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Do We Need Genetic Counseling?

Many birth defects are genetic in origin: the baby inherits the disease from one or both parents. Sometimes the disease is related to the parents' ethnic background — sickle cell anemia is more common among blacks, thalassemia is more prevalent among persons of Mediterranean descent, and Tay-Sachs disease usually strikes children of Eastern European Jewish parentage.

In some cases, parents can be tested to see if they carry genes which may cause diseases or birth defects.

Some genetic diseases, including neural tube deficiencies (such as spina bifida) seem to run in families. Others, including Down's syndrome, can be related to the age of the parents. Testing during pregnancy can often detect these problems.

If anyone in your family has had a genetic disease, if you are from an ethnic group which is prone to a genetic disease, or if you are over the age of 35, you may want to consider genetic counseling before you decide to have children.



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