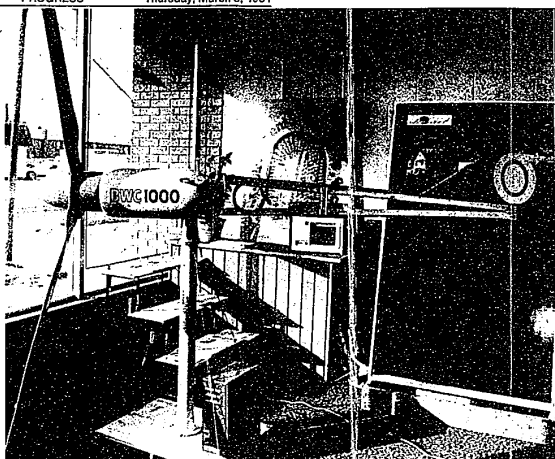


Troy inventor Stanford Ovshinsky is heavily involved in research on photovoltaics, changing sunlight into electricity. His company, Energy Conversion Devices Inc., is operating under a \$25 million contract from ARCO. (Staff photo by John Stano)



This wind generator is a growing part of the general solar scene involving energy development and utilization from renewable sources. (Staff photo by Art Emanuele)

# Sun power

## Energy for tomorrow?

By SHERRY KAHAN

Those who work closely with the solar industry in this area are optimistic about its future in Michigan. But they do not agree on the most effective way to harness its rays.

David Mitchell of Farmington Hills favors the passive solar idea, saying he could design and build a self-sufficient home with no electric or heating bills. A solar engineer for Sol-con Inc. Energy Systems, he would build the home to take advantage of what the sun provides free, and then equip the home with wind generators to supply its electricity.

On the other hand, Livonian Joe St. Cyr thinks the coming thing is photovoltaics, which change light into electricity by use of solar cells.

But while he is waiting for it to be perfected and become cheaper, his Solar Wind Energy Systems Inc. of Livonia is designing an energy saving system for a large development in Terra Ceia peninsula in Florida.

It will involve use of solar collectors for water and space heating, wind generators and a system to turn sewage into methane gas. Present state-of-the-art photovoltaic cells will also be included, and swimming pools will have water heating uses.

Another strong believer in the possibilities of photovoltaic cells is Sanford Ovshinsky, whose Energy Conversion Devices Inc. in Troy last year won a \$25 million contract from Atlantic Richfield Oil Co. (ARCO) to work on these solar cells. Back in June 1980 it was regarded as the largest solar investment in a private firm.

The hope in photovoltaic cells is that they will provide electricity without the use of coal, oil or nuclear energy.

Troy, by the way, is also the home of the first Michigan school to use solar heat, Bemis Elementary School.

SEVERAL LOCAL solar businessmen are pinning their hopes mainly on glass collectors placed on the southern side of a home. These are now producing both hot water and space heat.

Veronica Richard at Suntemp Energy Systems of Plymouth, says there are about three dozen space heating collectors already placed in the area. Air is circulated by a fan through these collectors. Then it is heated and brought into the house.

George Riedel of Livonia said such a space heater can also be used as an air conditioner when tied in with an absorption chiller. A partner in Michigan Energy Systems - The Other Utility, of Garden City, he adds that his company is not paying anything for its hot water. Solar panels on the roof are supplying what's needed.

He noted that two solar heating panels costing \$800 apiece can heat 100 percent of an average home (1,000 square feet) when the sun is shining. More than one-third of that cost can be returned through state and federal tax credits.

One of Riedel's solar hot water systems was purchased by Bruce and Linda Cinader of Canton Township in June. It provided 100 percent of their hot water heat until November. "Our gas bill was so low the gas company thought it was not getting the right reading," said Mrs. Cinader.

The system cost \$4,972. But with tax credits it set them back only \$2,171.

Mitchell thinks that some sort of basement area where solar energy could be stored by day and released at night is necessary to make solar space heating viable both day and night.

His greenhouse takes in the sun by day and stores it in the floor for later release. Glass in his windows, an advantage when the sun is shining but a disadvantage when it is not, needed some attention.

Mitchell pulled from memory a picture he had seen of the roof of a 17th century home in Italy. He constructed an insulating lid to cover the roof of his greenhouse when the sun is out of sight. It works automatically, activated by a sensor responsive to temperature.

AS ARE MOST solar enthusiasts, Mitchell is hot on the subject of building insulation, pointing out that heat from the sun goes farther if cold air isn't seeping in through cracks and thin walls.

"Pressure should be brought on the state Construction Code Commission in Lansing to double the R (resistance to heat) value of insulation required in new buildings," he said. "Now the code requires 3 1/2 inches of insulation in walls, an R value of 11. Only six inches is required in ceilings, a R value of 19. Both of these should be doubled for a minimum R value of 23 in walls and 40 in ceilings."

Mitchell is currently involved in the Wayne County Weatherization program funded by the U.S. Department of Energy. Under it, low-income people can have their homes weatherized at no cost to them.

Emotionally as well as professionally, wrapped up in the promise of the sun, Mitchell is troubled by the solar homes built in Northville and Troy by Detroit Edison. In his opinion they are built and designed to fail in order to make people feel solar is too costly a way to go.

The ideal way to go, he feels, is to pick a southern exposure and build passive solar heating aspects, such as a greenhouse, into the house from the start. Insulate thoroughly. Such steps could supply 60 percent of the heat needed, he thinks. The remainder could be gained from burning wood or using a standby natural gas furnace. He also favors using collector panels for heating water.

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## New trends for banking

(Continued from Page 1)

National Bank of Detroit, for example, is one of several major institutions in the metropolitan area which has not joined the network.

"Eventually we expect there will be other master switches (like MAC-link), and we'll all be talking to each other."

Advancement in technology, the acceptance by the public of computerization, and a new Michigan electronic transfers law paved the way for the major move to full-scale electronic banking.

The law made it possible for financial institutions to place automated teller machines off premises but required that institutions share their equipment.

EARLY IN 1979, Michigan National became a leader in off-premise automated teller operations. "We decided to put in at least 100 ATMs," most off premises, says Webb.

"We're getting ready for more expansion, but we don't know how great it's going to be yet."

"I expected that at least 50 percent of all consumer banking will be done on these machines (automated teller machines) in the '80s," continues Webb.

He doesn't feel there will be a general reduction in the number of branch banks, "but they'll be smaller and offering services they don't offer now — like financial management. Banks may sublet some of their space to other businesses."

He predicts that one day retail stores will have machines where customers can pay their bills as they check out.

The next big step in electronic banking — perhaps its adult stage — will be home banking.

"I predict we're just five years away from that," concludes Webb. People will have small computers in their homes that they'll be using for many things "and they can just do it all from there."