

Exhibits and demonstrations draw audience to energy fair

by Barbara Dikty
Staff Writer

There was a fair held at the college last week but it wasn't the usual sort of fair with cotton candy and ferris wheels. The fair was put together by the students of the physics department and Ken Roberts. It featured electric cars and solar furnaces, composting centers and composting toilets. The Experimental Energy Exposition, which was held last Friday and Saturday in the Community Center Building.

One of the dominant themes of the exposition was Solar Power. Looking around the building you could see the amazing hot dog cooker and a solar furnace. Can solar energy really work in Oregon, a land of eternal rain? Yes, say solar proponents. There are 2000 average annual hours of sunshine west of the Cascades. The same amount of sunshine that parts of Montana, New York and West Virginia get on the coldest winter days in Oregon are available on the clear ones; solar energy increases just when you need it the most. The newer solar heating systems have much improved heat storage systems. One system patented by Solar, Inc. utilizes eutectic salt sodium sulfate decahydrate permanently sealed in black plastic storage bags. The heat stays stored in the salt longer than in conventional rock or water storage systems. Just what is needed for long periods of winter rain.

Even on cloudy days solar collectors can absorb some heat radiation. During Saturday's rains the Champion Solar Furnace was pumping out warm air. Not a lot, but some.

Two energy saving cars were also on display. One that ran on natural gas and one that was electrically powered. The natural gas car looked like any respectable auto, but the electric car was something else.

It was a tiny thing, barely five feet long, with an orange fiberglass body. The door, when opened, bent slightly under a steady wind pressure. One shudders to think what might happen to the car's occupants if they got into an accident.

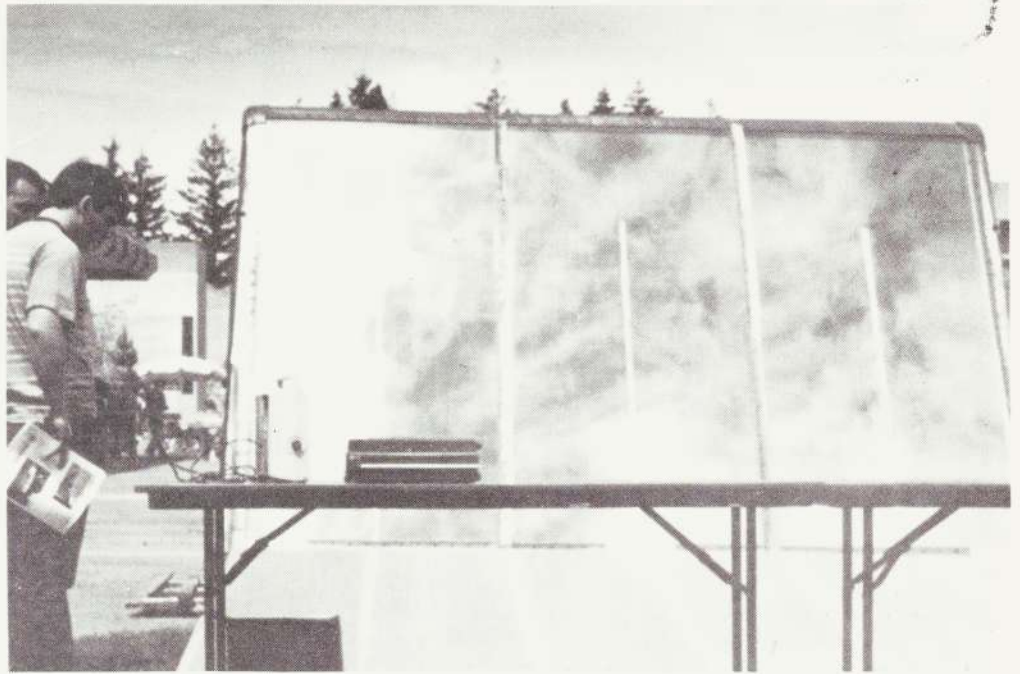
There are advantages to the Citicar, as it is called, because it's only meant to be driven in urban areas. There is no worry about it running out of gas, it needs to be recharged up once a week, certainly electricity is cheaper than gasoline and it won't add to the city's air pollution.

There wouldn't be any expensive engine repairs either, because there isn't much of an engine to repair. The car has a top speed of 50 mph, which is fine considering it's only supposed to be an urban car. One disconcerting thought, though, is that compared to a car this size even a volkswagon looks big!

At first glance, the exhibit from Homestead Tools was like stepping from the future into the past. An updated version of the one holer privy was featured which looked like a toilet stool seated on top of a big plastic container.

The Toa-Throne, an aerobic decay toilet, is a Swedish invention. It uses air to compost the wastes instead of flushing them down the sewage lines at 5 gallons of water a throw. In an average house, half the water used is flushed down the john. The Toa-Throne uses no water at all.

A common fear for this kind of toilet is that it might stink up the house. However, this is unlikely as gases are drawn off with



Photos by Jenni Wheeler

This giant solar collector was one of many energy-saving devices exhibited during last week's Experimental Energy Exposition on the CCC campus.

air through a ventilation pipe.

Darrell Rader, local distributor of the Toa-Throne was doubtful at first of the above claim, so he checked it out.

"I went to this doctor's home who had had one installed," said Rader, "since I'm the local dealer in these I had to check them out. Anyway, I went to his house and I stuck my head right down into it, (the toilet stool) and I didn't smell a thing. The air smelled fresh as it does right here where we're standing."

Composting toilets are allowed by Oregon State law with a special permit. House Bill 2888 which is now before the Oregon Legislature would allow anyone to own one.

One of the most interesting things at the Energy Fair was the Energy Simulator Game. The object of the game was to play off the United State's energy reserves against energy demands.

The game was played at five control panels attached to an analog computer by wires. The computer was programmed with all the reserves of oil, coal, natural gas, hydroelectric power, and nuclear energy available. Each control panel represented one section of the country, for example the Northwest, Midwest, and Southwest.

Each control panel had two types of knobs on it. Big energy resource knobs, (oil, coal, etc.) and a lot of smaller energy demand knobs, (industry, transportation, agriculture, etc.)

On the main computer panel was a clock that ticked off the years, a series of lights that told when and how fast reserves were being used up and another set of lights that told when the players were polluting the environment, and when they weren't.

The fascinating thing about the Energy Simulator game was that one could see the immediate impact of his or her choices.

When all parts of the country were wasting fuel with no concern for the future, the computer panel showed major electrical brownouts in about 10 years, the country running out of natural gas in 30 years, and ecological disasters and massive energy shortages around the year 2000.

On the other hand, when the players

carefully controlled their use of the natural resources, disasters were usually averted for another 150-200 years. This breathing space gave time to develop alternate sources of energy for the game.

An interesting bit of information the computer gave was that no matter how carefully we use our natural gas, we are going to run out of it in another 30-35 years.



Mike Aronson, physics instructor, "eyes" a solar device on exhibit. Aronson's classes planned the weekend exhibition months in advance.

