

village view

by Andrea Leonard

This is part II of a two-part article.

To make solar heating systems economically feasible, they must come into common use; in order to encourage wide-spread use of solar heating systems, costs of construction and installation need to be lowered.

To begin using the two kinds of energy -- heat and light -- Earth receives from the sun, investment is needed to develop working and workable solar heating systems.

It's clear, then, that all that stands between such development and the widespread use of solar power by the general public is the initial high cost of solar panels and storage system, and the initial high cost of getting solar cells into mass production.

All the experts agree we have the basic technology for harnessing the sun's energy for heating buildings and homes and for generating electricity.

On one drawing board, for instance, there's an experiment to construct 100 acres of mirrors to direct and concentrate sunlight to one place where water in a boiler would be transformed into steam; the steam, in turn, would drive a turbine and generate 10,000 KW of electricity an hour.

That's enough juice to supply all the electric power needs of a town the size of Hyannis.

Therefore, what's lacking appears to be money. Capital investment money to get solar panels and heat storage equipment into homes, schools and other buildings is needed.

Money's now being spent to advertise the need for off-shore drilling. Those dollars, together with the money spent to research off-shore drilling could go a long way to develop solar power systems or to put solar cells into mass production.

The public money being spent to clean up the oil spills might better be used for subsidizing installation of solar collectors and heat-storage equipment. The subsidy could be in the form of a tax-rebate or a tax deduction, or federal matching funds could be made available to private industry or individuals willing to invest in this energy-saving program.

Money used in this way could eliminate the need for future expenditures for cleaning up oil spills. Oil could become obsolete except to keep wheels greased and for cooking.

It's not the lack of money that's interfering with progress.

The federal government gives lip-service to energy conservation by the general public but does little, comparatively speaking, to encourage solar energy development.

Six years ago our federal government budgeted a million dollars for solar-energy research; in 1976 over \$175 million was earmarked for this purpose; but at present **feasible solar energy proposals are being denied federal funds.**

The government's Energy Research and Development Administration (ERDA) has issued its interim report on a "National Plan for Solar Heating and Cooling."

The plan's authors have chosen to ignore proven systems that are economically feasible today, and propose instead that:

"Federal funding will be limited to the amount by which the cost of a building with a solar energy system exceeds the cost of a similar building with only a conventional system."

Read that sentence very carefully. It says that the federal government will provide a direct subsidy **only** to the development of economically inefficient heating and cooling systems!

The inventor who comes up with an economical solar system can obtain no federal funding at all; only those who develop inefficient systems will be subsidized. That's what it says.

The plan directly rewards and encourages economically wasteful systems; the program can only delay the development of solar heating and cooling of homes and buildings.

All over the country people are building solar systems and using them to heat their homes. In Stow, Mass., a manufacturer of solar houses uses the sun to heat the modern cedar-walled house he's designed and built.

Even on the coldest day of our New England winter, the temperature of the house is a comfortable 68 to 70 degrees F. Solar energy also warms the 16 foot by 30 foot swimming pool in the house. The solar system is a prototype and cuts energy bills by about 75 percent.

Capturing the sun's radiation and using it for light and heat is practiced from Maine to California, in spite of protestations by companies in the fossil-fuel business that "it can't be done, yet, economically." It is being done.

Bay State Gas Company has built a house in Massachusetts with solar panels in its roof; these panels absorb the sun's rays for heat and hot water. It's an experiment Bay State Gas can probably prove is uneconomical.

A house in Arizona is heated by a bank of water-filled 55-gallon steel drums behind a south-facing glass-panelled wall. At night the windows are covered with outside shutters to slow cooling; the interior stays comfortably warm.

A similar system in New Hampshire is supplemented by a wood-burning stove located in the central part of the house.

One enterprising family in Kansas built its own solar heating system using discarded aluminum printing plates for solar collectors, and storing solar heat in the cellar in discarded paint cans filled with water.

Schools and office buildings are being designed and built to use solar energy to keep classrooms and offices comfortable. Other governments are studying ways to use sunshine to generate electricity for utility customers.

The move from oil to the sun as a prime source of energy will unquestionably be expensive at the start. It's in this area our government should be extending the financial help rather than to continue the present systems.

Americans are being told they must look ahead to paying ever-increasing prices for imported oil from South America and the Middle East, that price controls are to be removed from oil produced in the United States, and that the rising costs of living can, in large part, be traced to the rising costs of oil.

Oil exploration is subsidized by federal funds and by tax advantages other industries don't enjoy.

Since solar power produces neither pollution nor radioactivity (which fossil-fueled and power plants do produce), since it's inexhaustible and abundant (on the average, 126 watts of solar energy reaches every square foot of the earth's surface every day), and since once the simple collectors are installed and the even simpler storage equipment is set up (and the two are connected by some pipes to one another and your heat delivery system), they will operate with no moving parts from that time forward, talk of training maintenance people and setting up distributors is foolishness.

Even in northern parts of the world, the amount of solar energy reaching an acre of ground is equal to ten barrels of oil per day; that hitting a roof pitched to gather the maximum rays of the sun is, in most cases, more than enough to meet the energy needs of the building below.

If all foreign oil sources were to dry up tomorrow -- as they would, to all intents and purposes, for instance, if another war were to break out -- **we would manage** you know.

Use of private automobiles would be radically curtailed for lack of available fuel, but this nation has enough gumption to keep rolling in spite of adversity.

Solar energy development would take an immediate giant step forward and become the nationally-accepted new form of power, practically overnight.

Solar batteries would be operating electric cars within months. During the transition period, Americans would be assailed upon all sides with propaganda for saving fossil-fuel supplies as though it were an entirely new problem instead of one that's been obvious and obviously growing for the last seven years.

What's apparent are these facts: the oil companies are powerful and have a lot of leverage with those who run our federal bureaucracies. The oil companies aren't ready to make way for a better energy system.

The federal government talks fuel-economy on the one hand, but practices nothing of the kind on the other. Technologically, solar power is within our reach; solar heating and cooling works fine wherever it's installed. The real obstacles are economic and political. The economic ones are easily solved; the political ones can be overcome only if there's enough public concern.

Are the costs and the dangers -- dangers to life itself -- measurable in terms of dollars and cents? How about in common sense?