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A Challenge to
Khomeini



TIME

The Cooling of America



piratory difficulties, eye and skin irritations, headaches, vomiting and severe irritation to the mucous membranes." Massachusetts estimates that some 7,000 houses in the state—and many more across the country—are insulated with formaldehyde. The cost of removing the stuff, where it can be removed, might run from \$14,000 to \$20,000 per house. The foam industry has filed suit protesting the ban and the requirement that manufacturers must remove the foam on homeowners' request.

In the meantime, independent thinkers are busy hatching schemes to beat the system. "A great learning process is going on," says Madison Draftsman Dan Greco, who describes himself as a "lay expert" in conservation. On Block Island, R.I., where the last sizable stands of trees were cut and sent up the chimney decades ago, some residents are experimenting with drying and burning peat. Mantle kerosene lamps are in fashion through the Northeast: not only is their light soft and pleasant, but the heat they radiate is equal to almost half that of a small electric space heater. In Minnesota, farmers sometimes stack bales of straw or garbage bags full of leaves against the outside of drafty house foundations. Cora Lee McKnight, 68, a Decatur, Mich., grandmother tells of Depression-era schemes to beat the cold: smearing a paste of flour and water into cracks, stuffing thickly folded newspapers between window and screen. "And we usually put hot-water bottles into our beds to keep our feet warm," she says. Other suggestions: wrapping water heaters in blankets, insulating windows with corrugated cardboard and placing old carpets under new ones.

In Alaska, where thinking hard to stay warm can be a requirement for survival, 258 residents—one out of every 2,000 souls, a rate higher than anywhere else in the U.S.—submitted ideas to a Department of Energy small grants program. Elizabeth Hart of Galena won \$13,800 to build a solar greenhouse that will use the body heat of chickens as a source of warmth. R. Charles Vowell of Unalaska got \$12,000 for a 10,000-gal. bio-gas generator that uses crab wastes from canneries to produce a burnable methane. Craig Anderson of Kenny Lake received \$400 to build a passive solar system that features collectors made of used beer and soft drink bottles. Kyle Green of Wasilla got \$49,300 to build a demonstration solar house suitable for northern latitudes.

It is easy to dismiss such tiny projects as tinkering—as it is easy to dismiss the wood-stove phenomenon. Crab wastes and the body heat of chickens are not going to save postindustrial America (though Ecologist Barry Commoner believes that methane, generated from a wide variety of wastes and especially grown



Children spill from partly underground Amity Elementary School in Boise

crops, could stretch declining natural gas supplies and help the U.S. bridge the 50-year period before it can achieve what he thinks possible: a completely solar-powered society). But the Department of Energy does not dismiss such ideas—and there may be wisdom here. What the woodburners and the backyard inventors are expressing is more than flabby "lifestyle" preening; it is an exceedingly determined kind of self-reliance: "I am going to stay warm, damn the Arabs, and damn the oil companies, and damn the damned Government!"

There are drawbacks to this unbudgeable stubbornness, of course. Despite the inventiveness that it accompanies, it is at its roots a resistance to change. And the changes that the society has shown itself willing to make so far are small ones. They do not inconvenience in serious ways. Yes to insulation, no to public transportation. Write to the nice people at Vermont Castings for a Defiant wood stove brochure, set aside, for the moment, the necessity to think through a profound unease about nuclear power and a disbelief in the quick

fix of synthetic fuels. Get through the winter, and make the tough decisions later.

This season of makeshift and grumbling, however, may turn out to have been the period in which the U.S., without really noticing that its attitudes have shifted, passed a balance point toward the acceptance of solar energy. A principle of architecture's postmodern school is that architecture is not an instrument of social change; it reflects social change. If that is true, then the solar age may be on its way. In San Diego County, all new residences built after Jan. 1, 1980, must have solar hot-water heaters. In Santa Fe, solar-home builders Wayne and Susan Nichols estimate that a combination of air-lock entries, good insulation and solar heat radiating from a green house and rockbed system houses could reduce heating costs by up to 90%. When the town fathers of Soldiers Grove, Wis., voted to rebuild their often flooded town well above the Kickapoo River, they instructed the architects to design a thermally efficient community, with solar heat in municipal facilities, a supermarket and housing project for the elderly. In Middletown, R.I., a 2,700-sq.-ft. dwelling gets its heat from



Santa Fe house equipped with reflectors to hold in heat at night
Conservation, however limited, is becoming a hopeful factor.

a passive solar design incorporating a solarium and uses no conventional heating system whatsoever. Its architect, Lee Porter Butler of San Francisco, has built 14 other similar houses, has 95 more in the planning and construction stages, and guarantees that if his heating ideas do not work satisfactorily, he will install a conventional furnace. Across the country, some 200 houses have been built incorporating the heat-saving features—heavy insulation and windows that face south—of the Illinois Lo-Cal house, designed in the mid-'70s by University of Illinois architects and engineers.

Engineer-Architect Fred Dubin, who considers conservation "a national security issue," is currently engaged in 75 energy-conserving projects involving new