

The American public and their political leaders have finally become acutely and painfully aware that the burgeoning appetite for energy is taking an unreasonable toll of the economic pie and is creating unacceptable health and environmental problems. The problem is world-wide and the underlying predisposing issues include a rapidly expanding population and gluttony of energy from non-renewable sources. The U.S. Government has failed to place priorities and make the necessary commitment to develop renewable energy sources which ultimately must be developed if our technology, civilization, and standard of living are to survive. The majority of our political leaders still seem to be insufficiently informed and motivated to act against interests which continue us on the ultimately self-defeating course of relying on non-renewable energy sources. The official agency charged with the responsibility of providing expertise and leadership in energy matters (the Department of Energy), has changed its course little, if any, from the course of its predecessor agency, the Atomic Energy Commission

Federal proposals for energy development have continued to recommend larger and larger governmental support for energy development from such short-term and non-renewable sources as synfuels and nuclear fission, with only a pittance for the energy needed from renewable sources on a long-term basis. Political leaders continue to recognize renewable energy resources as the best and ultimate, but the political reaction has been rhetoric rather than funding and action.

Solutions to the energy crisis must take due notice of the underlying issues of over-population, non-renewable energy resources, and the lack of a realistic conservation ethic.

The United States has no comprehensive energy policy or rational leadership in energy matters. There exists a patchwork of bumbling plans and confusion, largely designed to appease powerful interests. Recommendations and decisions are being made largely by those technocrats representing such powerful interests. The technocrats have understandable but inappropriate biases and conflicts of interests, and are not pursuing a mission of serving the public welfare.

Conservation of energy offers an immediate and effective methodology for significantly reducing energy consumption. There is no tight or predetermined correlation between energy use and economic vitality, and a healthy economy can be maintained with a greatly reduced reliance on energy. Conservation through technical improvement, "meticulous engineering," and personal sacrifice, could result in zero energy demand growth beyond 1985. For example, automobiles can travel twice or three times as far on a gallon of gas, and such improvements are already being made. Other technological changes are involving computers, advances in steel and aluminum processing equipment, fuel cells, heat pumps, etc. Changes in consumer behavior including such things as insulation, mass transit, decreased travel, decreased electric lighting, and car-pooling are being increasingly utilized. Price incentives, tax incentives, regulatory controls, alteration of advertising, educational campaigns, and changes in research and development emphasis offer conservation improvements which have barely been considered or addressed.

Solar resource systems could provide energy as solid fuels (wood); liquid fuels (from grain); gaseous fuels (methane from manure or plant residues); hydroelectric power; photovoltaic electricity; wind-generated electricity; and direct heat for home, businesses, industries, and institutions. The mix of solar resource systems could be varied and integrated for different climatic areas. Solar energy does not involve an economy of scale, local solar systems reduce or eliminate transmission costs and losses, and solar systems are less likely to create unacceptable health and environmental problems.

It will take 25 to 50 years of transition to bridge the gap from the current non-renewable energy sources to renewable solar resource energy. Bridging energy during this period must be derived from a changing transitional mix of fossil fuels and fission until the required level of solar energy systems are functioning. The United States has recognized the need for solar systems for more than a decade, but has only responded for funding non-renewable systems at a disparate rate while essentially ignoring the long-term needs for renewable solar energy. Only recently (January, 1980) did the U.S. Government make a crash commitment to alcohol production, and this was the right decision for the wrong reasons (subsidizing the Agricultural interests rather than rationally developing alcohol production).

The self-interest of the majority of our citizens and future generations would be best served by the solar resource alternative.