



SOLAR TECHNOLOGY and POLITICAL CHANGE

Brian Martin

with help from other members of FOE-Canberra

To many people in the environmental movement, low-level solar technology is assumed to be a good thing. Is this necessarily so?

In the complex relationship between the structure of society and technology, it is useful to separate out two sorts of influence. First, the social, economic and political organisation of a society has a strong effect on the type of technology imagined, developed and promoted in that society. One reason that present-day capitalist and state-socialist societies are promoting nuclear power is that this form of energy generation fits nicely into existing patterns of centralised economic and political control.

Nuclear technology is seen by elites to be desirable because it must be developed and run by experts (well-paid and docile): this effectively cuts off the possibility of community control of the technology. Another reason why ruling groups promote nuclear power is that it requires large amounts of capital; these groups then maintain more control, through control over the investment, over social and technological developments in the future. Last of all, the nuclear option is promoted because its very enormity and dangerousness seem to justify the existence of the scientific, managerial and political elites who promoted it in the first place.

The second sort of influence between technology and society works in the other direction: the technology adopted by a society helps determine the type of social, political and economic organisation of society which seems most workable and desirable. The widespread adoption of nuclear technology, for whatever reason, would reinforce the control of political and economic institutions by ruling elites, and foster an even more splintered and alienated social framework than already exists under present technology.

For many of those who promote low-level solar technology, the hope — whether explicit or implicit — is that solar technology will help promote a better society through this second sort of influence. The idea is first to introduce an energy technology which is environmentally safe and ecologically sound, inexpensive, simple to build and operate by individuals and small groups, and which is easily integrated into a life-style based on self-sufficiency and widespread participation in vital activities (growing and cooking food, making clothing and shelter, operating community-based health and education).

Establishing this technology hopefully will help lead to a society in which economic and political power is more widely distributed, in which people get satisfaction in doing those tasks which concern them directly, and in which a satisfying interaction between people, and between people and nature, is part of everyday life.

So Why Worry About The Social Implications Of Solar Technology?

To argue in this way is already to go beyond the promotion of solar technology for purely environmental and ecological reasons. But is it necessary to worry about the social and political implications: won't they take care of themselves? Surely low-level solar technology is so much better than its high-technology alternatives (fission and fusion, high-technology solar power as from massive desert collectors, and the energy-growth syndrome in general) that it is worth promoting without worrying too much about the economic and political techniques of doing so.

The attitude is convenient; but it may not be as appropriate as it sounds. It will be argued here that widespread adoption of all sorts of alternative technology is quite compatible with a highly-repressive social and political structure.

Let's take a possible scenario. Individual energy needs are provided by solar space and water heating, methane cookers powered by refuse, and lighting and back-up energy from hydro, wind and perhaps geothermal power. All containers are recyclable or completely biodegradable; food in shops is produced with the greatest abundance of nutrients, and is collectable from large containers in virtually unlimited amounts. Transport is provided by a highly efficient public central network, augmented by small personal vehicles powered by methane or hydrogen produced from solar energy. But travel is not so necessary, since cheap electronic communication means that one never needs to leave home. Working hours are minimal or voluntary. There is a wide variety of entertainments provided on tapes and video-discs, ranging from sports and computer games to drama and music. A wide variety of pleasurable drugs are free.

Enough of this scenario. It's not everyone's cup of tea, but it's just an illustration. Let's look more carefully at it. This hypothetical society satisfies the ostensible aims of the environmental movement: minimum use of non-renewable resources and energy, and low environmental impact. Yet it is possible that the majority of the people living in it would be repressed, in the sense that their real human potential for creative and interactive living would be submerged. Solar heaters and methane cookers might be sold or distributed just the way heating oil and electric ranges are now, perpetuating alienation from material possessions. Food might be centrally produced and processed just as it is now. The transport system might lead to just the same faceless anonymity as at present. The easily accessible entertainment and drugs might provide the same escape from an empty reality that is so prevalent today.

Many people in this hypothetical society would be 'satisfied'. No doubt many today would like to live in such a society. But the number of people actually stretched to their capacity, given the chance to involve themselves in challenging and rewarding activities, would be small — as it is now. The people so challenged mainly would be those who designed highly efficient solar heaters, who developed ecologically-sound and highly-productive agricultural techniques; who administered the public transport system, and who produced the wealth of diversionary entertainment.

What To Do?

Assume that a politically-minded environmentalist (or an environmentally-minded political activist) wishes to promote a society in which there is widespread community involvement in local decision-making and in producing the necessities of life, in which social roles and structures, technology, and moral codes are purposely designed by the community to maximise each individual's opportunities for a satisfying and challenging life, and in which life-styles are consciously put in harmony with the evolutionary needs and potential of humans and nature. (Isn't this high-sounding?) What is such a person to do?

It is not sufficient just to promote alternative technology, such as solar technology, in any way possible. By accepting uncritically the existing political and economic structures, it is likely that this technology will be introduced (if ever) in a way and in a form that leaves these structures essentially unchanged. Solar heaters will be sold on the market like other commodities: the poor

will lose out as the price of conventionally produced energy rises. Design of technology and of community organisation (housing, transport, communication) will remain in the hands of the scientific-technological elites: the technology and community organisation promoted by these elites will be designed (unconsciously or not) to reinforce their power. (For example, capability for local design and production of living quarters will not be encouraged.) A social organisation will be encouraged that does not threaten those who hold power: people will be given entertainment and drugged escape, rather than vital decision-making power. So just promoting alternative technology and ignoring the political context is not enough.

Neither is it sufficient just to change the existing locus of economic and political control. For although technology does not *determine* the structure of society, it certainly helps to push it in particular directions. If the people took control of all work places today, it might not be enough to stop continued promotion of private motor transport, or even to stop the technological attraction of nuclear power (or other forms of centralised power production).

The takeover would need to be tied to a programme of promoting technology that lends itself to different life-styles and patterns of decision-making. Such a programme is not inherently part of a political stance based on community control (although in practice it is in many cases). The existing social and economic organisation of society, its buildings and tools — even its very knowledge — will tend to stimulate a similar organisation of society in the future, whatever groups are in control. That is, the ruling elites promote technology (such as nuclear power) that maintains their political power; this technology then makes the existence of ruling elites (of whatever origin) more natural and inevitable. This technology, as well as the ruling elites, must be replaced.

It has been claimed here that a society run using all the panaceas of alternative technology, and at the same time separating people from the activities that maintain their lives, is possible — in principle. But could present monopoly capitalist (or state socialist) society possibly survive the transition to such a society? For example, could a massive redirection of investment occur — as from nuclear to solar power—before disastrous environmental deterioration set in, spurring citizen action against the social order? It *might* be that environmental degradation can continue to be blamed on people, the same way that automobile accidents, universally are blamed on bad drivers and poor roads rather than on inappropriate technology backed by vested interests. Capitalism has surprising adaptive capacities in this and other areas, and it would be wishful thinking to believe that making the transition to low-level solar technology *automatically* will present insurmountable problems to the system. At the same time there *will* be serious problems for capitalism in making the transition while maintaining control by the few over the choices of the many. It will be the task of the politically-aware environmentalist to use these problems to work for a society run completely and directly for and by the community.

The conclusion here is obvious, so it might as well be short. What is needed is action based on an integrated perspective, aimed at changing the existing distribution of political and economic power *and* changing the existing technology that is both the product of and the prop for this distribution of power. Promotion of solar power and opposition to nuclear power both have this potential, but only if carefully linked with political goals. What this means in terms of tactics, however, is something that must be worked out by each individual and each group.