

Book review

Laird, Frank N., *Solar Energy, Technology Policy, and Institutional Values*. Cambridge University Press, 2001, 248 pp.

In an April 30, 2001 speech on energy policy Vice-President Dick Cheney said

Conservation is an important part of the total effort. But to speak exclusively of conservation is to duck the tough issues. Conservation may be a sign of personal virtue, but it is not a sufficient basis all by itself for sound, comprehensive energy policy. We also have to produce more. The American people have worked very hard to get where they are, and the hardest working are the least likely to go around squandering energy or anything else that costs money. Our strategy will recognize that the present crisis does not represent a failing of the American people.¹

Critics were quick to respond. For instance, Mary McCrory wrote in the Washington Post six days later that the Vice President's message was that 'Conservation is for sissies and self-righteous fatheads who think they're better than real people.'² Ellen Goodman wrote, "'Personal Virtue' became one of those signature sneers, a perfect verbal illustration of the administration's animus to environmentalists.'³ The tone and substance of the Vice Presidents remarks and the commentary that followed are almost completely devoid of substantive content about the efficacy of alternative energy policies, and entirely about perceptions of life-styles and values. How is it that policy debate about United States energy policy sank to content-free bickering about environmental sensitivities?

In his very readable book *Solar Energy, Technology Policy, and Institutional Values* Frank Laird provides important insights into how the energy debate has evolved over the years and some important context for thinking about the future. Laird discusses solar energy policies from the end of World War II through the 1970s, finding, 'Partisans in the debate over emergent energy technologies clearly associated their preferred technologies with their larger visions of a desirable way of life' (p. 5). In this notion Laird finds the answer to the question 'Why were the values associated with solar technologies so anathema to conservatives? In earlier decades solar technologies had been championed by conservative advocates, and understanding how solar came to have particular values imputed to it requires a much longer and deeper perspective' (p. 12).

The book is organized in two sections, before and during the 1970s energy crisis. The first part provides an in-depth look into the early framings of the energy policy debate. Readers may find themselves surprised to learn about advocates who pushed simultaneously for nuclear and solar technologies. This first section provide critical context for understanding the transformations documented in the book's second half, and indeed for understanding what has happened since.

At 191 pages, the book is very readable and the writing is engaging. But at the same time the analysis relies on a large number of primary sources and is extensively documented (53 pages of notes). Laird explains sufficiently the intellectual foundations of the book to sate all but the most academic, and moves quickly enough to his analysis and the story to engage the more pragmatically minded.

To frame his analysis Laird uses Winner's notion of 'technology as legislation ... as an interpretive tool for understanding the meanings that drive people to favor certain choices of technological systems over others' (p. 5). Laird sees technology, and in this case solar energy, as a malleable base value in policy debate and around which ideas, interests and institutions are created, marshaled, diffused and restricted.

The evidence Laird arrays within this framework is compelling. For example, the stereotype-breaking image of conservative champions of solar energy is sure to challenge the perspectives of its readers steeped in the post-1970s energy crisis policy debate. In another example, Laird provides context for understanding present day energy policy debates. Consider the following statement of John Love, assistant to President Nixon for energy, made in a 1973 letter:

I do not believe that it is an overstatement to claim that the distance man travels from his cave – that is both his social and material progress – can be measured by his use of energy to improve his environment, to produce goods, to make things grow and to provide mobility... . To a large degree, the development of a Nation can be measured by its use of energy. Americans are the greatest energy users in the history of the world. With only six percent of the population, we use 35 per cent of the energy produced in the world ... what a tribute that is to our intelligence and innovativeness (quoted on p. 95).

Today, the global portion of energy used by the United States is widely perceived as a symbol of culpability for environmental and other global wrongs. That energy use was not-too-long-ago seen by elites such as John Love as a symbol of prowess and social progress will surely challenge those who think that the perspectives shaping contemporary energy policies are unchangeable. The evidence presented by Laird shows that perspectives can change quickly. A significant challenge for readers in understanding the evolution of ideas, interests and institutions of the alternative energy debate will be to interpret Laird's analysis in the context of history and to resist imbuing such data with modern perspectives. For example, Laird finds that until the 1970s and the rapid expansion of the environmental movement, environmental advocates, with rare exceptions, paid no attention to solar energy. 'In histories of the environmental movement and in the writings of its advocates, solar energy does not even show up, much less occupy an important place' (p. 60). In short, though the energy policy debates leading to the 1970s included discussion of familiar technologies and trade-offs, each of these examples presented by Laird suggests that a time

traveler from 2001 would find the cast of characters and their associated policy positions quite foreign to modern sensibilities.

Laird presents a compelling case that adoption of solar energy as a cause by the environmental movement stemmed more from their viewing this technology as political and social *means* than as a technological *end*. He writes that for many in the environmental movement,

Solar is more than simply a replacement for declining fossil fuel supplies. One is doing more than simply unplugging conventional supplies and plugging in solar. Rather, in this view, solar energy, if developed in a way that acknowledges its normative properties, brings with it the prospect of changes in social and political institutions as well as energy sources... . In particular, these advocates claimed that small-scale solar energy would encourage a society more environmentally benign, less hierarchal and bureaucratic, and with greater social justice (pp. 135 and 134 respectively).

It was in this reframing of the solar energy debate in terms of the 'good society' that its advocates found themselves in cul-de-sac, unable to earn greater policy acceptance of solar energy. Laird writes, 'the ecological advocates may have seized ownership of the solar energy issue, but they never owned the more general energy issue' (p. 187). The experience of solar advocates in the Carter Administration vividly shows 'the difference between successfully pressuring for a policy and successfully institutionalizing a new set of beliefs and values associated with some technology' (p. 185).

Laird provides a compelling argument that claims of solar energy's inability to compete with fossil fuels on the basis of cost stem from self-fulfilling prophecies of nuclear advocates in the 1960s. For example, the relatively insignificant public investments into developing solar technologies was due, at least in part, to an expectation that solar energy *could not* compete on an economic basis, thus it should come as no surprise that solar did not compete on this basis – a Catch-22. Compared to solar energy, expectations for and investments in nuclear energy moved in the opposite direction, with claims made of energy too cheap to meter and generous federal investments in research and development. Laird's analysis would be stronger with a section on the technological and economic obstacles that may have limited solar energy's role in national energy policy. If research and development investments between solar and nuclear had been reversed, would the United States today be flush with energy too cheap to meter?

If there is a complaint to be leveled against Laird's fine piece of scholarship it is that his analysis ends with the Carter administration. One can hope that Professor Laird is hard at work on volume two, covering the Reagan, Bush and Clinton years. The lack of a more recent context may create obstacles to understanding *how and why 1970s-era energy politics matter today, in particular for students born after the period examined in Laird's book*. Nevertheless, this book should be required reading in courses on energy or environmental policy,

and indeed it should be read by all those engaged in the practice of energy policy itself. Instructors will want to complement the volume with perspectives on what has occurred since 1980.

Returning to the debate over Vice President Cheney's 2001 comments about 'personal virtue.' It would seem that the core of the energy policy debate has not evolved much from where Laird ends his investigation. Solar energy has certainly diminished as a focus of attention among the environmental community, but alternative energy more broadly has not. Advocates for alternative energy today are arguably still focused on using technology policies as a means to effect social and political change, and arguably are still trapped in a cul-de-sac resulting from defining energy problems in this manner.

No issue demonstrates this more clearly than 'global warming.' Putatively about the human impacts on environment and society, 'global warming' is really a debate about energy policy that pits the same constituencies against one another that faced off in the 1970s energy policy debate. Nothing illustrates this point more forcefully than the gridlock called the Kyoto Protocol on climate change. Laird has written elsewhere (*Issues in Science and Technology*, Winter 2001).

Spending time fighting over the Protocol emissions targets will just delay getting to the important tasks of making desperately needed improvements in the environmental and social conditions of the world's people ... perhaps counterintuitively, these quantitative targets create problems that seriously hinder our ability to actually accomplish the broader goal of reducing GHG emissions and developing adaptive policies for climate change.

Why is this? Laird argues

Quantitative emissions goals for CO₂ and other GHGs involve great uncertainty, considerable interpretation, and deeply contentious ethical disputes. There are dozens of things over which competing sides can fight. What efficiencies do analysts assume for various energy production processes? Does deforestation count as part of emissions? Does a country get GHG emissions reduction credit for planting trees? If so, how much? Does it depend on the species of tree? Making these emissions estimates will require very complicated calculations, and government agencies, industries, and environmental groups will expend large amounts of time, talent, and political capital trying to influence how experts calculate those estimates. In the end, the arguments will focus on abstract and arcane issues related to estimating the goal, and all concerned will lose sight of what they were originally trying to do: reduce the production of GHGs.

And so, as Laird documents in his book for the longer history of alternative energy policies, goal substitution is the real challenge standing before advocates of solar energy, *not* fundamentally irreconcilable values of conservatives and

greens. It is all the more ironic because the challenge has been self-inflicted by the advocates of alternative energy. Laird writes ‘the real problem was solar advocates’ inability to change the official problem frame for energy, leaving both the ecological and conventional solar advocates with a problem definition to which they could contribute little’ (p. 187).

Laird’s analysis should provide a sobering perspective for those engaged in current energy policy debates. If policy outcomes actually matter – that is to say if debate over energy policy is to be more than simply witnessing to ones values – then it is incumbent upon advocates to, paraphrasing Aaron Wildavsky, define policy problems that actually can be solved. Sniping over statements about whether or not conservation represents personal virtue may score points in political debate, but to paraphrase the Vice President, it is *this dialogue* that is not a sufficient basis all by itself for sound comprehensive energy policies that address social, environmental, political and symbolic outcomes in a practical manner.

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