DEVELOPING AN ENERGY POLICY EDUCATION PROGRAM

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It is important to begin with some idea of what our energy situation will be in the future.

Supplies of fossil energy are assumed to be finite. It is further assumed that we have already discovered and utilized the most convenient and easily tapped of our supplies of petroleum and natural gas. We are finding additional increments of oil and natural gas more and more difficult and costly to find and exploit.

Over the next several decades we are expected to face decreasing availability of our once abundand domestic supplies of petroleum and natural gas. Barring embargos of one sort or another, petroleum imports probably will serve to take up the immediate slack for that fuel, insofar as our balance of payments permits. No such solution is expected for natural gas, given the inherent technical and economic difficulties in transporting and utilizing imported liquefied natural gas.

Another factor that compels one to look ahead for a period where demand outruns supply is the refusal by the body politic to pay increasing costs for energy coincidentally with decreasing supplies.

Even if some idealized free market were operational, it is terribly difficult to postulate how such a market should function for the case of declining resources. How much is a current generation willing to pay to allow some of these declining resources to remain available for future generations?

Some of the market solutions suggested for this dilemma are marginal costs or marginal price schemes. These, however, just raise a host of new problems—from windfall profits to the rapid technical shifts that would be necessitated if resources were priced on such a basis.

What is being suggested is continuing supply-demand imbalance tending, over the long run, towards scarcity of energy resources. Furthermore, solar, nuclear and other new or high technology supply factors are not expected to make much of an

impact over the next several decades. Given this situation, let us consider for a moment some specific characteristics of extension education that are critically impacted by the energy dilemma.

One of the major concerns of the extension educator is the identification of the "teachable moment", the time when our clientele is most receptive to new ideas. It can be, and often is, quite specific with respect to time, location, and subject. The existence and identification of this "teachable moment" for energy policy education is one of our greatest problems.

An excellent current example is the difference between energy extension programs directed towards households in the Midwest as compared with the New England states. Housing specialists and home economists in New England have developed innovative educational programs on energy conservation and are reaching wide audiences. There is also considerable interest in energy policy.

In the Midwest, almost all programs are either stillborn or in suspended animation. Household audiences there are not interested in energy conservation or policy education programs when they are served primarily by regulated, low priced natural gas. In contrast, high heating oil prices and very real shortages under the embargo have stimulated a whole series of "teachable moments" in the New England states.

In much of the country the energy dilemma has no real credibility as a public policy education issue. Yet, many of us feel very strongly that it certainly is real enough and that it is vital for the public to become informed about it.

A second concern to extension education is that of research support for energy policy or other energy programs. Those of us in the agricultural establishment almost take this for granted within agriculture. Persons involved in energy extension will have to draw upon a vast array of diverse information if they are to be able to undertake their jobs successfully.

Given the intensity of feeling that is bound to develop about different policy alternatives, someone involved in energy extension will find it difficult to draw appropriate information from warring factions. An example is the lack of "middle ground" information on the nuclear—non-nuclear power plant debate. How is the extension educator to treat a new technology when the only source of information might be the federal agency that is promoting its adoption or the environmental group trying to stop it?

To some extent the appropriate technical information must be

both readily available and reflect local needs and conditions. There should be a large number of competent researchers with responsiblities similar to extension specialists for interpretation of existing research and the initiation of appropriate applied research. In conservation or in the adoption of new technology, much of this research support probably will have to come from schools of engineering associated with Land Grant University centers.

One major problem will be changing the current engineering school orientation from viewing the solution of practical problems as a profitable consulting opportunities to viewing them as part of a public responsibility. This has been accomplished in some cases. Outstanding examples are the engineering extension services of Texas and Missouri.

Any effort on the part of the extension educator to push a particular technology carries with it an inherent danger. We are used to developing alternatives for policy education. We are going to have to adopt the same approach with respect to alternative technologies. Energy extension educators must have support from specialists who are free to test a product or technology independently of it development.

The extension educator must be free to make judgments about technologies which he, in concert with the independent specialist, may believe are inappropriate for his clientele. If it is only an implementing appendage of specific research and development effort, energy conservation or policy extension will be seen as a propaganda effort.

A great deal of stress has been placed upon "technical" considerations. This has not been of much concern to us in many areas of public policy education in the recent past. We are used to looking at areas of human choice within some known technological parameters. Thus, one of the most important questions is, how can we cope with the breadth of the energy dilemma? It presents a broader range of technical and institutional questions than we are generally used to dealing with.

Many of our public choice alternatives depend upon futuristic assessments of technology. If we make these assessments highly specific, we will severely limit our range of alternatives. If we make them too general, our public policy alternatives will be so numerous as to be impossible to analyze.

We are faced with a true Goldilocks dilemma. We need to hit the "just right" technology porridge the first time. Then we have to be able to analyze human and institutional alternatives and consequences within the appropriate technology environment.

Many believe that we are locked into energy dilemma solutions by the technological fixes considered appropriate (according to conventional wisdom) for a given environment. These solutions are sometimes very unattractive to many, but the technocrats patiently explain that these represent our only viable way out.

Whole human and institutional problems get tied firmly to one unique technical fix and are determined by it. Here the public policy educator has a very special role. The range of reasonable choice is extensive if education can take place and if the appropriate institutions can be devised.

The situation might be sketched in this way: there are a myriad of technologies which singly or jointly might help us. However, there are just a handful of powerful groups wanting to convince us that their single solution is the appropriate technical fix.

Ultimately, a better informed public (one having both technical and economic literacy) plus some new institutional arrangements (or some flexibility with old ones) should enable us to consider a range of solutions.

It might be worthwhile going through an example of this kind of technical and institutional hybrid which can yield a viable policy alternative.

Recently, the public advocates of the New York and New Jersey Public Service Commissions had Dubin-Mindell-Bloome Associates, a leading engineering consulting firm, undertake a broad study of power requirements for some areas within these two states. The request for the study resulted from applications by the major electric utilities for the construction of new generating plant capacity.

As with any estimate of energy needs there were a number of assumptions that could be made about future demand. The result was high demand estimates from the electric utilities. This conflicted with the no-growth scenario of environmental and other groups.

At this point of demand estimation the battle lines are now being drawn. If we will not need increasing amounts of power, then the plant does not need to be built. Conversely, if the power will be needed, then we will have to obtain it from somewhere, and the plant will have to be built. A clear set of policy choices is present. What more could a public policy educator wish for?

The Dubin group did not approach the problem from the conventional perspective. They looked at different technical alternatives and asked, what would happen if we were to undertake a

program of making the households and buildings more energy efficient in those places served by the utilities involved?

Thus, through some mechanism they hypothesized, existing buildings in Long Island and New Jersey were reconditioned to improve their energy efficiency. Also new buildings were constructed so as to meet certain energy efficiency standards.

The overwhelming technical conclusion of the Dubin report is that more than enough energy could be saved through application of existing conservation technology than the required growth to meet future energy demands hypothesized by the utilities.

This demand growth was the rationale for the construction of new generating capacity. Thus, if an energy conservation program were initiated, the new generating capacity would not be required. These results held for a number of decades, even when based upon the most inflationary demand-growth estimates.

What the Dubin firm did, of course, was to start where there were only two alternatives and create a third. Their approach should be intriguing to public policy specialists, because the limiting factors became behavioral and institutional constraints rather than resource constraints.

The amount of capital necessary for improving energy efficiency in the service area was less than that required for the construction of the new power plants proposed by the utilities. To make the third alternative operational, the questions to be answered are: how do we tap capital markets for unconventional purposes as effectively as utilities tap them for new plant construction? How do we accomplish the remodeling "retrofitting" over such a widely dispersed number of individually owned buildings? The potential payoff is that if we can tackle these questions successfully it would result in a reduction of our energy resource requirements to meet future needs.

As energy resources become scarcer, educators are more and more likely to be entering an arena where there is already a substantial degree of polarization. One of the best ways to tackle this situation would be to look for third alternatives. However, timing is critical, because resource expenditures for energy development or transmission are so massive that sunk costs tend to loom heavy over decision making. Once the power plant is built, there is no turning back. The course has been set by that massive investment.

A critical question is whether we will reach a teachable moment

with the general public before the massive investment of resources in special technical fixes already has been made. It is easy to be pessimistic on this score. The body politic's unwillingness to pay the increasing cost of scarce resources delays any realization of their actual present or future cost.

Solutions that can be undertaken by bureaucracies or corporations already in command of vast resources appear easier to the individual than those which might have to touch his own wants and habits.

In a somewhat similar environment, a number of our colleagues involved in community development work have attempted to focus their educational efforts upon key decision makers within the community. This has always bothered egalitarian sensibilities. I have often wondered if we were merely playing the political game and accomplishing the possible, even if it was not coincidental with the best interests of the community as a whole.

There is an analogy to the situation we face with respect to energy. Many decision makers already have their fingers deep in the pie. Most of the general public is unconcerned. By the time the public does become concerned the massive resource allocations will have been made, and one course or another will have been set.

Given this dilemma, I believe that there are some important activities for public policy educators. We must:

1. Continue to work with our public clientele and try to interest them in the energy issue at the slightest glimmer of a teachable moment. If our weather is colder than average this winter we may well get spot shortages of natural gas in the Midwest. We should resist the temptation to be proved wrong by trying to predict them, but should they materialize utilize the opportunity to educate people about resource scarcity.

2. Begin to work with energy policy decision makers. Most important, generate and challenge them to seriously consider "third alternatives" of the sort the Dubin firm supplied. We should be able to do as well or better than the raft of consultants that federal energy agencies hire to do their thinking. We certainly should be more in touch with the complexity of human and institutional arrangements that are the key to new alternatives.

3. Attempt to get the full range of talents at our Land Grant Universities interested in the energy dilemma and involved on a public service basis. This is an uphill fight, especially with engineering schools used to consulting fees and a reward structure

based solely upon research results. But you will be making a vast public contribution if you succeed in opening one small avenue of cooperation and public service.

Finally, it might be informative to look at the comparative priorities of another country dependent upon foreign oil. Sweden is spending several dollars per capita upon energy research of the sort that our Energy Research and Development Administration is undertaking. They are also spending $25 per capita on public education and outreach programs, basically energy extension. The Swedes recognize that they have enough proven technology available to make substantial differences in their energy consumption.

The problem for all of us is getting this kind of technology applied by individuals on a broad scale.