Is the Energy Crisis Real?

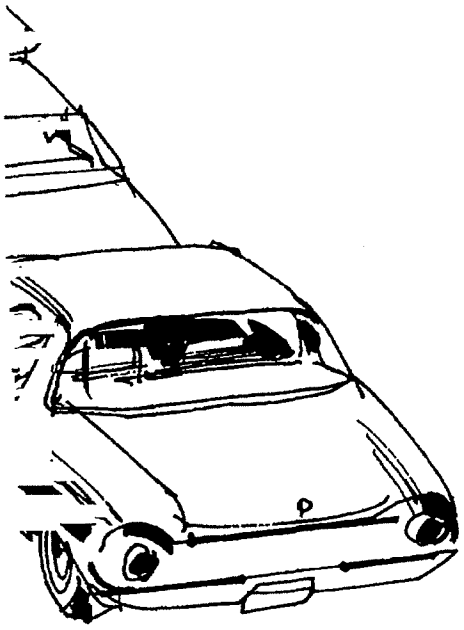
Lisa Shames

Ms Shames is a management analyst in the Energy and Minerals Division She received her A B degree in political science from Columbia University in 1977 and her master's degree in public administration from Syracuse University in 1978 She joined GAO that year on the graduate co-op program

The United States faces a serious and continuing energy problem which has provoked intense debate. Few will deny that the age of cheap, "easy" oil has drawn to a close. Imports from the Middle East are vulnerable, and domestic production is steadily declining.

At the present, there is no consensus on which fuel can and should replace oil. The use of nuclear power is steeped in controversy. The proven reserves of gas have been falling off. Coal is abundant, but there are potential environmental risks and practical problems in mining and transporting the necessary quantities. Among unconventional sources, solar energy is impeded by economic and institutional barriers, and synthetic fuels will not be available in significant quantities until the end of the decade.

Most likely the projected energy policy will develop into a mixed strategy to meet our future energy needs. One component of that mix, and one that offers immediate opportunities, is conservation.



Conservation

Conservation, or the reduction of energy use and its improved efficiency, is receiving growing recognition as an energy alternative. The second National Energy Plan, issued in May 1979, stated that "conservation continues to offer the greatest prospect of reducing dependence on unstable imports, reducing energy costs, and meeting environmental goals." The Harvard Business School estimates that a serious commitment to conservation could "supply" up to 40 percent of the country's energy with the same standard of living.[1]

Residential conservation involves millions of individual decisionmakers representing the most decentralized energy-consuming sector. Their attitudes and behavior regarding conservation are critical to any successful effort in encouraging the public to adopt a more energy-efficient lifestyle.

For an upcoming report evaluating the Department of Energy's existing and planned residential energy conservation outreach programs,[2] GAO sought to determine public opinion on the overall energy situation since 1977, and review the research on what motivates people to conserve. Specific issues were

- public awareness or perception of the energy situation,
- factors which persuade or motivate the public to conserve, and
- conservation measures already taken.

We believed that these considerations contribute to the individual's decision to adopt or reject conservation as a permanent way of life.

It should be noted at the outset that there are various influences affecting an individual's decision to choose conservation. Some are general (prevailing local fuel prices), while others are more personal (the effect of higher fuel costs on one's heating bills). Social values also affect a person's decision. Conservation is an "apple pie" concept; that is, few people reject it as socially unacceptable. Yet despite the verbal enthusiasm for conservation, there is a wide variation between what people say and what they actually do to save energy. It is difficult to determine the relative weights of these variables in any given survey, but they must be recognized nevertheless.

Public Perception of the Energy Situation

Effective policy implementation requires public acceptance, and the level of that acceptance is, in part, related to the public's belief that the problem is serious, that the problem will affect them personally, and that a new policy is necessary to solve the problem. For this reason, it is important to examine how the public perceives the energy situation.

Prior to the Arab oil embargo, energy was virtually absent from the public concern, but it is now a

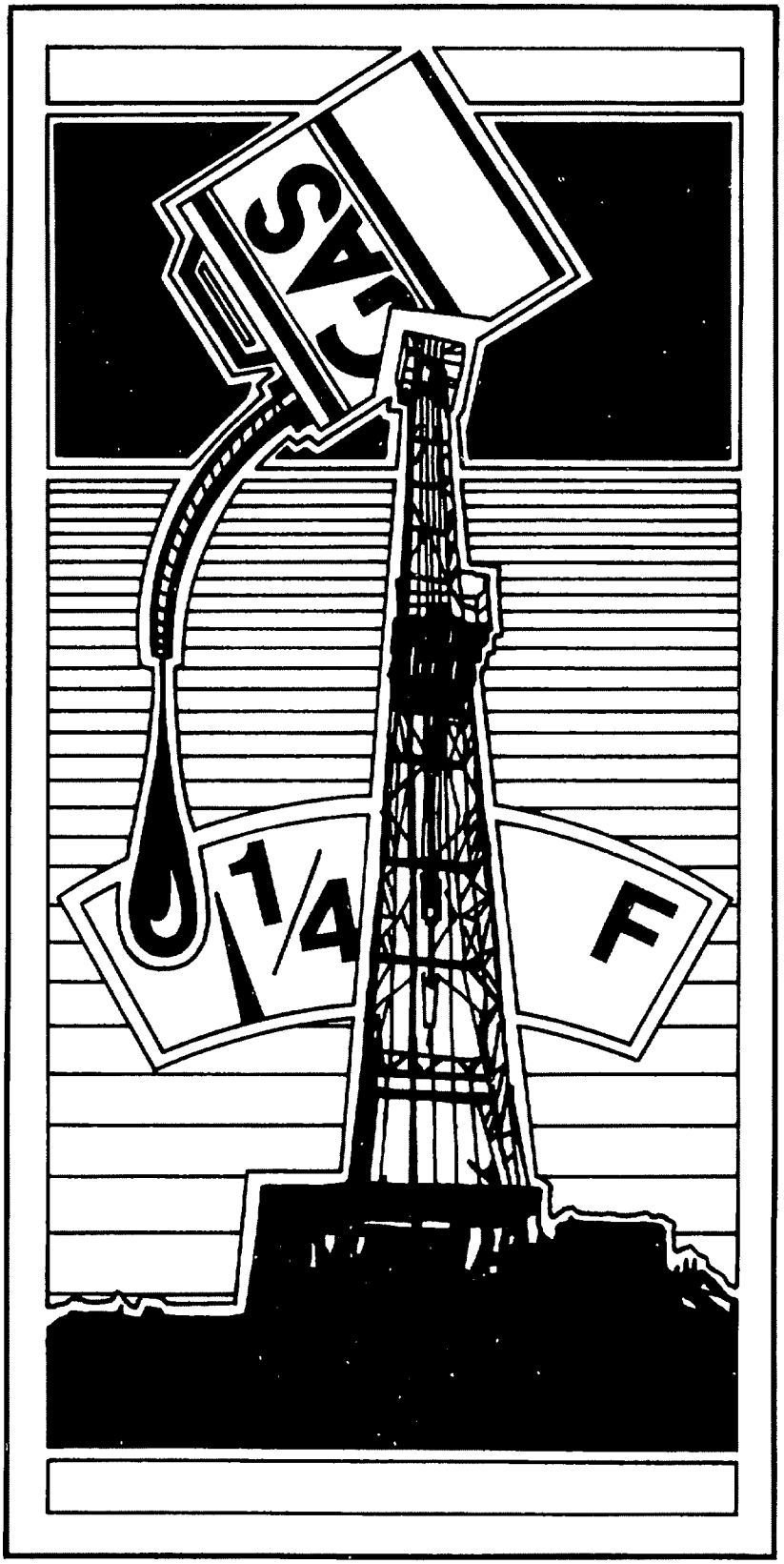
national problem. According to the Gallup poll, since 1977, over four-fifths of the American public think that the current national energy problem is "very" or "fairly" serious rather than "not at all" serious. Furthermore, the public is not very optimistic about the outlook for the U.S. energy situation. In April 1979, three out of four persons polled by the Opinion Research Corporation said the energy situation would remain serious over the next year.

However, when ranked with other problems as the most important problem facing the country, energy received low-level, but consistent, concern. It has generally been overshadowed by the economy, especially inflation and unemployment. But significant peaks of interest in energy have occurred when there are dramatic reminders. Most recently, during the 1979 gasoline shortage, more people named energy (38%) than inflation (28%) as the nation's most important problem.[3] But as the lines at the gas stations shortened, so did the public interest in energy. Apparently, the public does not recognize the relationship between the energy situation and the economy.

The Shortage Reality

Despite gas shortages and other dramatic reminders, Americans still doubt there is a "real" oil shortage stemming from a genuine depletion of resources. According to the Gallup Poll, as of mid-1979, four in ten people believed that the U.S. produces enough oil to meet its energy needs. The proportion that believes we are oil self-sufficient is higher now that in either 1977 or 1978. On the other hand, 46 percent are aware that the country must import some oil, although the majority does not know what percentage of oil comes from abroad. Several surveys show that since 1977, one out of two people feel that the fuel shortage is a hoax.[4] This skepticism intensified during the summer of 1979, when most people believed the gasoline shortage was deliberately brought about by the oil companies to increase prices.

These opinions underscore the public's lack of understanding and knowledge of the energy situation.



The predominant view—that the gasoline and oil shortages have been contrived—is primarily a result of mixed messages from Government and industry about shortages and then gluts. Conservation is more likely to occur if and when the energy problem becomes "real" to individual consumers. This may happen when the public appreciates the true nature of the energy situation.

Who Is Responsible?

When asked who or what is responsible for the energy situation, the American people have consistently blamed both the American oil companies and the Middle East oil-producing countries. However, most Americans acknowledge their own wasteful use of energy as a reason for the current situation.[5] But most Americans are also ready to assume some responsibility for correcting it. In a poll for the Alliance to Save Energy, three-quarters of the population now believe that individual efforts to conserve energy will have "a great deal" or "a fair amount" of impact on the nation's energy consumption. Most feel that personal conservation can contribute to this effort. Further, a majority of Americans feel that current energy consumption, if not curtailed, will lead to severe cutbacks in lifestyles.

Motivation To Conserve

People who are aware that their behavior influences the amount of energy they use are more likely to conserve. Without such informed awareness, it is difficult to establish favorable attitudes toward energy conservation.

A large number of Americans lack knowledge about the energy situation and what they as individuals can specifically do about it. For example, in one survey,[6] half of the people thought that one must turn down the thermostat 5° F. or more to save energy and did not know that turning down the temperature even 1° or 2° F. would help conserve energy.

The public's understanding of the overall energy situation is important too. Complacency may rest on America's faith that technological discoveries, or simply "yankee ingenuity" will solve the energy problem. This belief in a technological solution removes the perceived need to act individually. The public's preference for increased energy production rather than conservation illustrates this faith in technology.

Consumers will conserve only if they know why they should, and they will make personal sacrifices only if they are sure the need is genuine and the burden is felt equally. During the gasoline shortage in the summer of 1979, several surveys[7] show that three-quarters of the public would tolerate or even willingly cut back on driving if they were convinced that the shortage was real or that it would reduce dependence on foreign oil.

Americans have cultural norms which are contrary to conservation. Materialism is dominant, and success is defined in terms of conspicuous consumption. In the past, the lack of social pressure to conserve has contributed to consumers' failure to take conservation actions. Similarly, conflicts exist between conservation objectives and other desires, such as comfort and convenience. People want to save energy and be comfortable at the same time. Research conducted by Princeton University suggested that homeowners' attitudes about thermal comfort were the first and only consistent predictor of their actual consumption.[8]

Consumers prefer those conservation practices which require the least inconvenience and the least change in lifestyle. Americans have taken "one-time" energy conservation actions, such as buying a small, fuel-efficient car, but the practices which must be maintained over time, especially those that involve discomfort and inconvenience, are practiced less.

Money is the most effective incentive to conserve. It has been suggested that the money-saving aspects of conservation should be emphasized over the benefits of conservation for its own sake, because people are more inclined to save energy if the practice will save them money. By addressing the energy problem in terms of costs to the consumer, it is possible to connect the conservation message with personal, daily concerns. A consumer may be unfamiliar with Btu's or kilowatt hours, but virtually everyone relates to those same savings in dollars and cents.

Finally, easily understood information on comparative economics is necessary. People often overestimate the cost and underestimate the benefits of improving the energy efficiency of the home. Consumers minimize the initial capital cost because they do not know that the more expensive item could save more money over time.

Who Is Credible?

Before the public can accept and use practical energy information, the source of that information must be regarded as credible and trustworthy. Most research indicates that the Federal Government and large oil companies are generally not trusted by consumers. This is not surprising when we note the prevailing skepticism on the authenticity of the energy situation.

Among those considered as reliable sources are familiar institutions and entities with a recognized impartiality. They include State and local government units, local organizations, consumer and environmental groups, and universities. These entities are preferred because they are independent of any vested interest in the energy situation. But technical expertise also appears to be important in the public mind. For example, when seeking insulation information, people told the Wisconsin Energy Extension Service that they trusted first the utilities and then government, but least of all the insulation retail stores.

Mass Media vs. Personal Contact

Some energy conservation programs conducted so far have used mass media in attempts to persuade the public to conserve. However, most research indicates that such an approach has little or no influence on behavior. Persuasion does not appear to be adequate by itself as a means of increasing conservation. At best, public persuasion programs can only develop concern or build a climate of favorable opinion.

For the most part, mass media messages are received primarily by people who are already in agreement with them, and are generally ignored by those who are indifferent or opposed to them. In fact, it has been suggested that mass media encourages passivity and uninvolvement because it stresses institutions rather than individuals as principal actors. It was found that those who rely on mass media regarded themselves as less informed, considered issues less seriously, and took fewer personal actions to reach solutions.[9]

Usually mass media relates a general message, whereas more useful information must apply to a particular household. People prefer specific, on-site advice on how to conserve energy. Also, a personal impact must be perceived. Personal interaction rather than mass communication better influences attitudes. A change in habits is produced more effectively by example and encouragement than by a media campaign, as most people are strongly influenced by significant individuals in their immediate social environment.

Feedback on home energy consumption also helps conservation. The Twin Rivers Study conducted by Princeton University found that frequent and credible energy feedback information, coupled with encouragement to adopt, a difficult, yet reasonable conservation goal, could in fact help the conservation effort.[10]

Success of Conservation

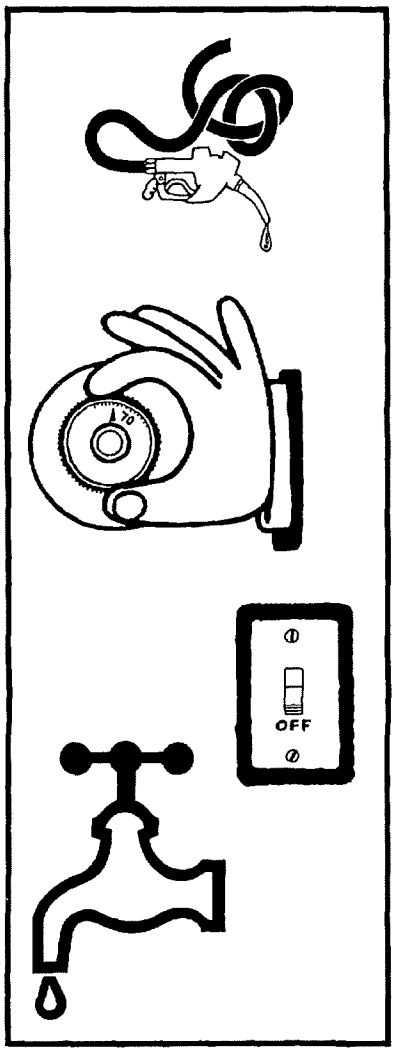
The behavioral sciences give insight into how one reacts to the energy situation, and can provide a means of planning alternative strategies which will affect those reactions and encourage greater conservation efforts among the public. However, there are three principal factors in the success of conservation: the individual must first acknowledge that there is an energy problem; second, the problem must be perceived as a serious one; and third, the individual must be aware of personal actions one can take to alleviate the problem. Conservation efforts depend entirely upon the public perception that the energy crisis is indeed real.

Conservation Actions

Because conservation is an "apple pie" concept and because conservation is now socially acceptable, and because people want to show their behavior in the best possible light, there may be some exaggeration in reporting what actions have been taken in energy conservation.

Increasingly, more people are doing something to reduce their energy use. In the Gallup polls, the conservation measures mentioned most frequently include driving less, adjusting thermostats, and reducing the use of lights and appliances. Several other surveys show that four out of five people have done something to improve the efficiency of their homes.[11] Installation of weatherstripping, insulation, storm windows, and improvements to the furnace are the most common conservation steps.

It appears that the majority of the public has taken action to conserve energy in their homes, but it is uncertain whether new energy habits have or will be maintained over time. Also, it is unknown if people are aware of the whole range of energy conservation options available to them. Apparently, a large proportion is not aware of life-cycle cost; that is, comparing the initial cost to long-term energy (and money) savings.



[1] Robert Stabaugh and Daniel Yergin, eds., *Energy Future Report of the Energy Project at the Harvard Business School* (New York: Random House, 1979), p. 136

[2] EMD report expected in January 1981

[3] *American Attitudes Toward Energy Conservation*, prepared for Alliance To Save Energy by Cambridge Reports, Inc. (July/August 1979), p 8.

[4] Al Richman, "The Polls. Public Attitudes Toward the Energy Crisis," *Public Opinion Quarterly* (1979), p 577.

[5] "Who or What Is Responsible for the Oil Shortage . .?" CBS News and *New York Times* (August 1977 and June 1979).

[6] Jeffrey Millstein, *How Consumers Feel About Energy* (Department of Energy, Office of Conservation and Solar Applications, June 1977), p. 4

[7] Information obtained from NBC News/Associated Press, June 1979, and CBS News/*New York Times*, July 1979

[8] Lawrence Becker, Clive Seligman, and John M. Darley, *Psychological Strategies To Reduce Energy Consumption: Project Summary Report* (Princeton University, 1979), p 9

[9] Kenneth Novic and Peter Sandman, "How Use of Mass Media Affects Views on Solutions to Environmental Problems," *Journalism Quarterly* (Autumn 1974), p. 448

[10] Becker, et al., p. 19.

[11] See "Poll Results," NBC News (March 21, 1979), p 3, and "American Attitudes on Conservation and Government Programs To Encourage More Efficient Energy Use," prepared for Union Carbide Corporation by Roger Seasonwein Associates, Inc (November 1979), p. 9.