

More Power to Us

Still wary about nuclear energy

No modern technology had a more enthusiastic and promising birth than nuclear energy. No modern technology has encountered more unintended consequences and disappointments to that promise. Though originally developed for destructive purposes—the making of bombs on an unprecedented scale—nuclear power was soon seized upon as the answer to future needs for energy sources. It would make electricity so abundant and so inexpensive that it offered the hope of an unlimited supply of energy “too cheap to meter.” And early on in the commercialization of the technology, these hopes seemed all but assured as utilities rushed to place orders for nuclear reactors at a staggering pace.

But none of these intoxicating hopes ever materialized. Not a single nuclear power reactor has been ordered since 1978, and the last reactor built was ordered in 1973. For nearly two decades, nuclear power has been dead in the water. Will it remain so?

Recent events offer optimistic signs for getting nuclear power back on the upward trajectory it once enjoyed. Advances in research

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and development have led to a new generation of reactors that are inherently safer, with the potential of assuaging one of the chief concerns of the American public. The growing scientific consensus that global warming is a reality due to the burning of fossil fuels has also led to a reconsideration of nuclear energy, since the technology generates no carbon dioxide (CO₂), the principal greenhouse gas implicated in climate change.

On May 17, President George W. Bush unveiled a national energy plan, the first since President Carter’s, that featured nuclear energy as one of the main energy sources for the nation. The Department of Energy has launched a new competitive research initiative to revive the “sagging industry.”

With the convergence of all these favorable conditions one might expect a positive shift in public mood, perhaps even a recapturing of majority support for the technology. What do the polling data say?

A significant amount of public opinion data addresses this expectation. A majority of it is either context or time-specific, so it is

reasonable to begin by examining trends using time series data, in which virtually the same question has been put to the American public repeatedly.

The longest running time series on nuclear attitudes uncovers the revealing pattern of a dramatic shift in public support for nuclear energy from the mid-1970s to 1990 (see Figure 1). A vast majority of the public (nearly three to one at one point) supported the technology prior to the 1979 accident at Three Mile Island near Harrisburg, Pennsylvania. But afterwards, Americans became ambivalent. While opposition exceeded support for the first time in the second quarter of 1979, by the third quarter support again outpaced opposition—but with a much smaller margin than before the accident.

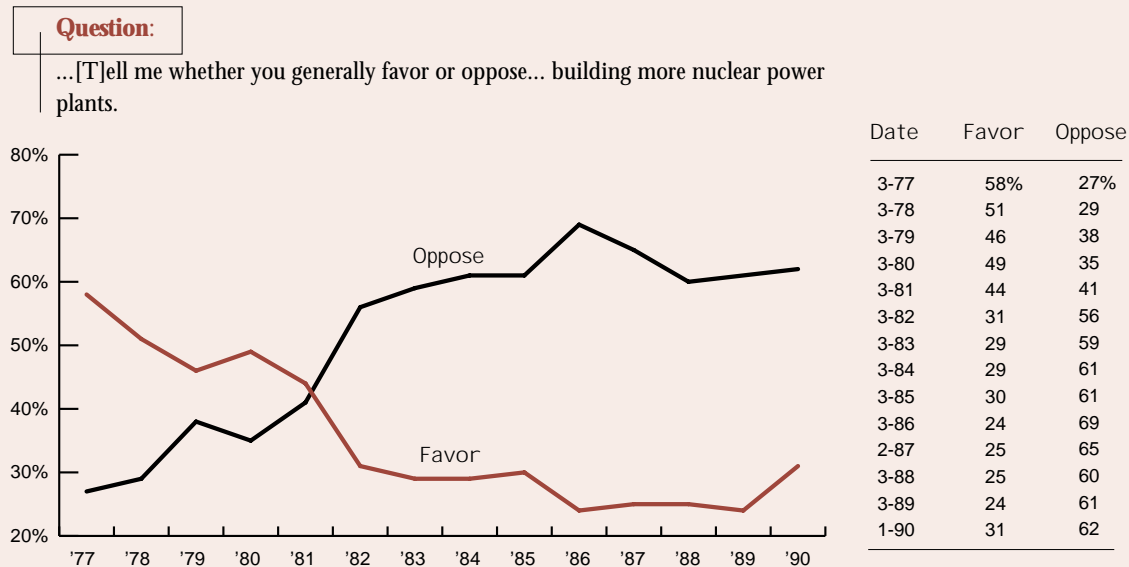
Then, in the first quarter of 1982, coinciding with the Reagan



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Figure 1

A Dramatic Shift in Public Support for Nuclear Energy



Source: Surveys by Cambridge Reports/Research International, latest that of January 1990.

administration's military buildup (including the deployment of cruise and Pershing missiles in Western Europe) and the public demonstrations it generated, opposition leaped forward by 12%. Unlike after TMI, support never rebounded. In virtually all subsequent surveys the ratio of opposition to support was consistently two to one or larger—a near-perfect reversal of attitudes at the beginning of the time series. The April 1986 Chernobyl accident in the Ukraine produced an increase in opposition that was remarkably slight, but the disaster further crystallized the decade-long resistance to nuclear power.

Four recent polls show how opposition to nuclear power has evolved since Chernobyl. A March 1999 Sustainable Energy Coalition survey of registered voters found 60% opposed to and 26% in favor of building more nuclear power plants. A March 2001 Gallup poll of all adults found less but still majority opposition (51% to 44%).

Two 2001 polls by ABC News/*Washington Post* sustain the conclusion that opposition to the building of nuclear power plants is still the majority position. In the January poll, 60% were either somewhat or strongly opposed while 37% were somewhat or strongly favorable. A June poll revealed some relaxing of opposition but still showed a majority (52%) opposed while 41% were in favor.

We obtain a diametrically different picture when the public is asked about the future of this technology. Majorities have told survey researchers for a decade and a half that nuclear power will be important in meeting the future electricity needs of the nation. Interpreting these results in the context of whether nuclear power has regained public favor is difficult. After all, the question, like most polling questions about the future, has no fixed reference point; the unspecified future is always just that—not now, sometime later. As such, it does not speak directly to the here and now.

A range of attitudes lies between the two opposing views discussed above. They are revealed by augmenting these time series with other data that speak to different time and proximity dimensions. Questions framed intermediately in time, proximity, and generality—between right now and some unspecified future date, between building plants and support for nuclear power in general—produce a pattern of results where opposition falls between the two extremes in the time series.

For example, a May poll among registered voters by Fox News found a strong plurality of 49%—with 40% opposed—favoring the building of more nuclear power plants to meet electricity needs. A similar query by Gallup in March, asked of all adults, produced more ambivalent results: 46% favored or strongly favored the use of nuclear power to provide electricity while 48% expressed opposition.

When the question was asked in more abstract form (“Do you support or oppose using nuclear power to generate electricity?”), favorability increased further. An April poll by the Associated Press (AP) found 50% giving supportive answers to a question posed this way while 30% were opposed, and an unusually large 19% said they did not know.

While general attitudes toward the technology provide a useful overview of public mood, the “crunch” comes at the local level. How willing are citizens to have a nuclear power plant in their community?

Recent data bearing on this question come from AP polls conducted in March 1999 and April 2000. The question posed was whether Americans would support or oppose a nuclear power plant within ten miles of their community. In 1999, 54% opposed (compared to 21% in favor), and in 2000, 50% opposed (compared to 22% in favor) having a nuclear plant in such close proximity. In its press releases the AP reported levels of support (55%), and opposition (40%) only among those who had previously answered that they supported nuclear power to generate electricity, creating the impression that a majority of citizens were quite willing to accept a local nuclear facility.

Continued opposition to the local siting of a nuclear facility was evident in a March Gallup poll showing that 63% of the adults sampled were somewhat or strongly opposed to the construction of a nuclear power plant “in their area,” while 33% were somewhat or very favorable to the idea.

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For decades Americans have been aware of some of the inherent risks of nuclear power (such as a core meltdown and the release of radioactivity), and this awareness is one foundation of their opposition. The potency of these safety concerns has mellowed in recent polls. Asked in March 1999 by Gallup whether they were worried about a nuclear power accident, 62% of Americans said they worried a fair amount or a great deal, while 37% worried only a little or not at all. Asked in the April AP poll whether they thought nuclear power plants are safer now than ten years ago, 65% responded affirmatively. Asked in the same poll about the likelihood of a nuclear accident, 50% said it was unlikely or highly unlikely, but 44% said it was likely or highly likely. While these are positive signs for the technology, perhaps due to its nearly accident-free performance for a decade and a half, the safety concern apparently persists for sizable minorities of the public.

A second aspect of nuclear power troubling to Americans is the failure of the nation to reach a solution to the problem of nuclear waste. The April AP poll indicated that 45% of the public believe radioactive waste from nuclear power plants cannot be stored safely for many years. Independent data from the state of Nevada—the location of Yucca Mountain, the sole designated site for sequestering nuclear waste—indicated a much higher level of concern there.

Taken together, these results reveal what I interpret to be the persistent pragmatism of the American people. Americans are neither willing to accept a nuclear power plant in their backyards—the familiar NIMBY syndrome—nor to support the building of additional nuclear power plants right now. On the other hand, they are also unwilling to abandon this technology entirely. They reserve support for the nuclear option until its two persistent problems are solved.

Examining the results at a more refined level reveals an underlying pattern. The question-specific range of responses (from majority opposition to majority support) can be summarized with the idea that the proximity of nuclear facilities, in space and time, is the underlying factor shaping public opinion. In other words, the more immediate in space (near me) or in time (now) the posed questions about nuclear power are, the more likely the public will be opposed to the technology. The complement of this, of course, is that distant framings will produce greater support. I am now treating this provisional explanation as a hypothesis and have begun to test it empirically.

Recently, a variety of media sources have concluded, from an eclectic, unsystematic look at recent opinion data, that there has been a complete reversal in public sentiment for nuclear technology. One example of this representation of public sentiment was a May 7 article in the *New York Times* by Richard Rhodes, winner of the Pulitzer Prize for his history of the atomic bomb, that concluded: “A majority now say they approve of nuclear power, a shift that appears to indicate awareness that nuclear power does not produce greenhouse gases that lead to global warming.” This conclusion is sustained with respect to American awareness of

the seriousness of global warming. In a March *Time/CNN* poll, 64% of the public agreed with the statement that “the emissions of gases like carbon dioxide cause global temperatures to increase,” while only 23% disagreed; and, in the same poll, a whopping 75% said global warming was a very serious or fairly serious problem, while only 21% did not believe so.

But this awareness and concern about global warming does not translate directly into support for nuclear energy as an alternative to the burning of fossil fuels, the major source of carbon emissions. Putting the two issues together, a September 1998 poll conducted by Research/Strategy/Management for the Sustainable Energy Coalition asked respondents to assess “various ideas [that had] been offered for dealing with the pollution that causes climate change.” Surprisingly, 55% of respondents were strongly or somewhat opposed to the use of nuclear power, while 42% favored or strongly favored it.

The conclusion by Rhodes that nuclear power has regained public support, which has appeared elsewhere in recent media coverage, appears remarkably premature. There are indications in the available time series that the longstanding mood of strong opposition to nuclear power is softening, but that opposition, it is clear, is far from the melting point where it is replaced by majority support. This conclusion is sustained especially in the case of the local siting of nuclear facilities.

There are two anomalies to this complex but orderly pattern of results, both coming from California polls. A May poll by Field resurrected a question that had not been posed in 17 years. Californians were asked, “Do you favor or oppose building more nuclear power plants to provide more electricity in California?” Fifty-nine percent answered favor while 36% were opposed.

These results were the mirror-opposite of those obtained by the last asking in 1984, when 63% were opposed and 37% were in favor. A different question wording was used in the earlier poll, however: “...I’d like you to tell me whether you agree or disagree with each of the statements... The building of more nuclear power plants should be allowed in California.” Whether this

California energy industry—what came to be called “a crisis” by many—though beginning to emerge in summer 2000, started to peak during the spring and summer of 2001. This is precisely the period when both anomalous polls were conducted. It raises the question whether these results were the ephemeral response to a perceived crisis.

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change in question wording affected the results in any way is unclear.

The second anomaly appeared in an April *Los Angeles Times* poll, split between Californians and adults in the mountain states of the West, which found that 52% supported, while 33% opposed, the use of nuclear power to prevent global warming.

The interpretation of these results is challenging. On the one hand, California has often been a cultural bellwether for the nation (launching such trends as the commitment to fitness, restrictions on smoking in public places, deregulation of energy markets, and others), so these results may be a harbinger of the future mood of the nation. On the other hand, more often than not, California trends eventually turn out not to be trends at all, but just fads that fail to diffuse to the nation as a whole. Indeed, that state’s early experience with deregulation, rather than launching a nationwide trend, may have doomed that energy option to the scrap heap.

Furthermore, the dislocations associated with the restructuring of the Cali-

Finally, whether or not majority support for nuclear power has been rekindled in California is somewhat moot. Still in effect is a law, passed in 1976 due to a statewide initiative, that prohibits the construction of nuclear plants in California until there is a solution to the disposition of radioactive waste.

The American public more generally is still deeply concerned about the nation’s failure to find a solution to the problem of nuclear waste, and a sizable minority has lingering concerns over the safety of nuclear plants. Each of these concerns—the first emerging because of the sizable amount of bomb grade material in stored, high-level waste, and the second because of the potential for malevolent actions by terrorists—can only have been heightened by the recent terrorist attacks against the United States.

Upcoming polls on nuclear power are likely to reflect the perceptual consequences of this horrific event. In sum, nuclear power may see happy days again, but the evidence suggests that those days have yet to come. ●