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Changing Public Attitudes Toward Nuclear Energy

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Filmmaker David Schumacher, a convert to nuclear energy, recently offered his view that public opinion is one of the biggest challenges to the future of nuclear energy. “The big storylines that have historically informed public opinion on nuclear energy have involved danger and destruction,” he said. “The resulting negative opinion has driven policy over the past 40 years or so. I think it would take a positive new narrative on nuclear to move the needle...”¹ There is partial truth in that description; there is indeed a need for a new narrative, but there is also this puzzling fact: Ideas about nuclear energy are ancient and persistent, yet the needle has risen in the past. What causes the needle to rise and what kind of new narrative is needed?

Two Faces of Nuclear Energy Predate the Technology

The “big storylines” that formed public opinion about nuclear energy begin with mythology. As brilliantly laid out by historian Spencer Weart in his groundbreaking book, Nuclear Fear, the imagery surrounding nuclear energy from the start predates the technology’s actual delivery. The imagery of a great powerful source of energy that could be both enormously beneficial and enormously destructive can be traced back to science fiction, alchemy, and even the Bible:

“Modern thinking about nuclear energy employs imagery that can be traced back to a time long before the discovery of radioactivity. That fact is disturbing, for it shows that such thinking has less to do with current physical reality than with old, autonomous features of our society, our culture, and our psychology.”²

The public has always seen two faces of nuclear energy—the face of immense promise and the face of peril. Spencer Weart describes “ambiguous monsters,” and “uncanny rays” offering “hideous death or miraculous new life,” “apocalypse” and “Golden Age.” Today’s public opinion research finds both faces present to some degree in the public’s thoughts about nuclear energy. The more the face of promise presents itself, the more the face of peril fades.

President Eisenhower lit the face of promise with his Atoms for Peace agenda. Dedicating the first commercial electricity generating nuclear power plant at Shippingport, Pennsylvania on May 26, 1958, he told the world:

“THIS PLANT--using the power of the atom to supply electrical power--represents what can be done, not only in America, but throughout the world, to put the atom to work for the good of mankind, not his destruction. It represents the hope of our people that the power of the atom will be able to open up a vast new world of peaceful development--that atomic power will ease

¹ Interview by Laura Scheele, in ansnuclearcafe.org, December 16, 2016.

² Spencer R. Weart, Nuclear Fear: A History of Images, Cambridge, MA, Harvard University Press, 1988, page 421.

mankind's burdens and provide additional comforts for human living.”³

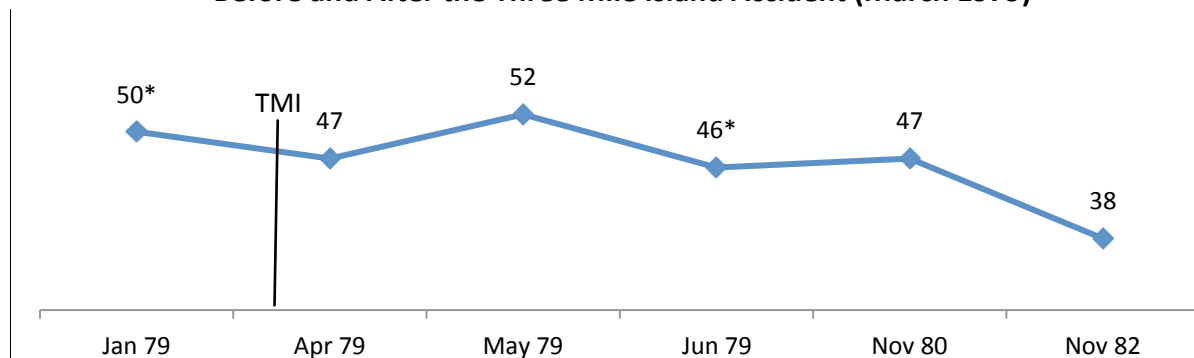
Accidents and Their Impact on Attitudes

Proponents of nuclear energy are quick to point out that nuclear power plants are designed to be safe and that the history of six decades of operations shows that they have one of the best safety records among energy sources. But the mythological beginnings and fear associated with the bomb and radiation magnifies the impact of accidents on public opinion. All the negative imagery flashes before the public. This imagery is long-lasting; people around the world can name Three Mile Island, Chernobyl, and Fukushima.

However, the impact of accidents on public attitudes is not always what one might expect and depends on several factors, including perception of need, proximity, perception of control, and the communications surrounding the “teachable moment.”

Perception of need. The importance of the two faces of the public image of nuclear energy is exemplified by the public opinion trends in the U.S. at the time of the Three Mile Island accident March 28, 1979. After the Three Mile Island accident, it took three years for support for building more nuclear power plants to drop. Why? In 1979, there was an energy crisis and Iran revolution. By 1982, energy was off the public agenda; absent a perceived need for new plants, support for building more plants dropped. See Figure 1.

Figure 1: Percent of the U.S. Public in Favor of Building More Nuclear Power Plants Before and After the Three Mile Island Accident (March 1979)



Sources: Cambridge Reports, ABC/Harris/EEI

The accident itself had little impact as long as the need for energy was foremost in the public mind. That phenomenon shows that the face of peril is not the sole driver of attitudes toward nuclear energy. However, the accident has remained ingrained as a peg point for worries whenever perceived need and benefits are not in the forefront—such as during the period of 1980s energy abundance.

Proximity. When the historic tsunami hit Japan in March 2011, the world watched with horror the meltdown of the Fukushima Daiichi nuclear power plant that was struck by the tsunami. The tsunami itself killed 16,000 to 18,000 people and wiped out large swaths of towns and villages. The nuclear power plant meltdown resulted in no known direct casualties but forced large-scale evacuations due to the radiation released. TV footage of devastation conflated

³ <http://www.presidency.ucsb.edu/ws/?pid=11067>

what was due to the tsunami and what was due to the nuclear power plant meltdown. Iconic images such as a beautiful little girl wearing a mask as protection against Fukushima radiation could not help but remind one of Hiroshima and Nagasaki.

In a national survey by the Associated Press with GFK in July-August 2011, the Japanese public volunteered that the two most important problems facing the country were 1) the nuclear power plant accident and 2) the earthquake and recovery—in that order. The survey found that 55 percent wanted nuclear power plants in Japan to be decreased, 4 percent wanted them to be increased, and 35 percent wanted them left the same.

Nearly five years later, in December 2015, opinions had not become more favorable, according to a survey of the Japanese public by NHK, Japan's public broadcasting company: 71 percent wanted nuclear power plants to be decreased or eliminated, 3 percent wanted them to be increased, and 26 percent wanted them left the same.

Far from Japan, however, the impact was less severe and less durable. A WIN-Gallup poll in 47 countries in April 2011 just after the Fukushima Daiichi disaster found an average of 49 percent feeling favorable to nuclear energy. By respondents' own estimation, 57 percent had been favorable to nuclear energy before the accident. That is a decline but a moderate one.

In the U.K., trend data from national polls by Ipsos MORI showed a decline of 12 percentage points in favorable impressions of nuclear energy from November 2010 before Fukushima (40 percent) to June 2011 after Fukushima (28 percent). By December 2011, the decline was completely erased and favorability was back at 40 percent.

Similarly, trend data in the United States from national polls by Bisconti Research showed a decline of eight percentage points between February and September 2011. The decline was erased by September 2013.

The same can be said of the impact of the Chernobyl accident on April 26, 1986. The accident caused panic in Europe. Medical researchers in Greece calculated that 23 percent of early pregnancies in May were terminated by abortion.⁴ The International Atomic Agency estimated that fear of Chernobyl radiation caused 100,000 to 200,000 abortions in Europe as a whole.⁵

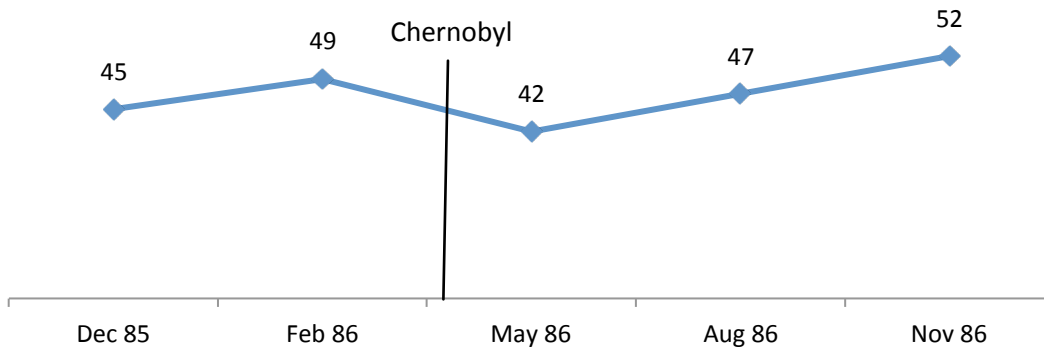
In the U.S., instead, the percent favoring nuclear energy changed little—from 49 percent in February 1986 to 42 percent in May 1986 (after the accident) to 52 percent in November 1986. See Figure 2. Proximity was undoubtedly a part of the difference between reactions in Europe and the U.S.

⁴ D. Trichopoulos, X. Zavitsanos, C. Koutis, and P. Drogari. The Victims of Chernobyl in Greece: Induced Abortions After the Accident, *British Medical Journal*, Volume 295, 31 October 1987, 1100

⁵ Newline: Lessons of Chernobyl, Part II, *Journal of Nuclear Medicine* 1987; 28:933-42

Figure 2: Percent Favor Nuclear Energy Before and After the April 1986 Chernobyl Accident

“Overall, do you strongly favor, somewhat favor, somewhat oppose, or strongly oppose the use of nuclear energy as one of the ways to provide electricity in the United States?”



Source: National Surveys by Cambridge Reports for USCEA/NEI

Perception of control. Public confidence in the handling of an accident makes a large difference. If a situation appears to be out of control, the public becomes more fearful and loses trust in the ability to manage the technology in general. It is said that the reason people feel safer driving a car than flying in an airplane is that the sense of control is greater in the car. The case of nuclear energy is similar to that of the airplane in that the public has no control but wants to feel that those in charge do have control. Quick, clear, and constant communications about what is being done to fix a problem are essential to demonstrate competency and control.

The Associated Press-GfK survey of the Japanese public in July-August 2011 found that 89 percent approved the way the Self-Defense Forces handled the tsunami and nuclear accident, but other responsible parties received poor ratings. Disapproval numbers were 81 percent for Tokyo Electric Power Company, 75 percent for the Nuclear and Industrial Safety Agency (likely an unknown agency to the public but with a name indicating a certain responsibility), and 82 percent for “the nuclear regulatory agency.”

Teachable moment. An accident offers a “teachable moment.” An accident creates an attentive audience that is not normally available for nuclear energy communications.

In March 1986 a group of nuclear energy experts, communicators, and researchers met at the U.S. Council for Energy Awareness (USCEA, later a part of the Nuclear Energy Institute) to develop test messages for communicating with the public about the safety of nuclear power plants. One expert bemoaned the fact that it was so difficult to communicate about containment—the layers of protection that would keep an accident safely contained. Containment seemed to be too technical a topic.

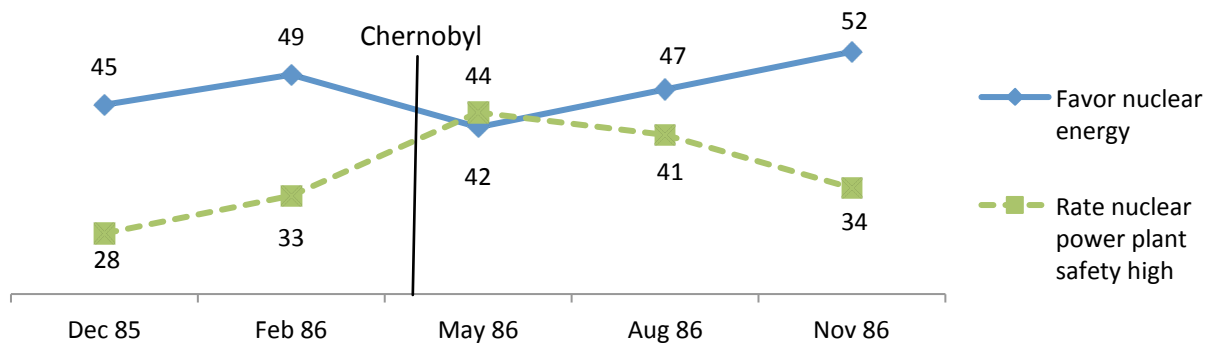
The message test was scheduled to begin at the time the Chernobyl accident became known to the world (end of April 1986). The researchers quickly revised the messages to include a lesson from Chernobyl—that the Chernobyl plant did not have containment like U.S. plants.

Based on the clear impact of that message in the overnight testing, USCEA immediately launched a multi-faceted campaign, including national advertising by Ogilvy & Mather, to explain how the Chernobyl plant was unlike U.S. nuclear power plants. As a result, the public learned a great deal about the safety of America’s nuclear power plants that they did not know before. The first two surveys after Chernobyl found that confidence in nuclear power plant safety actually increased. See Figure 3.

The Nuclear Energy Institute’s extensive long-term tracking of public opinion on nuclear energy also includes a question about nuclear power plant safety that has been asked since 1984. The question asks respondents to rate the safety of nuclear power plants on a 1 to 7 scale, with 7 being very safe and 1 being very unsafe. Americans’ high rating of nuclear power plant safety rose from 33 percent in February 1986 to 44 percent in May 1986 after the accident. See Figure 3. The number returned to 34 percent by the end of the year, but never declined below pre-Chernobyl levels.

Figure 3: Percent of the U.S. Public Who Favor Nuclear Energy and Percent Rate Nuclear Power Plant Safety High Before and After the April 1986 Chernobyl Accident

“Thinking about the nuclear power plants that are operating now, how safe do you regard these plants? Please think of a scale from “1” to “7,” where “1” means very unsafe and “7” means very safe. The safer you think they are, the higher the number you would give.” Percentages



Source: National Surveys by Cambridge Reports for USCEA/NEI

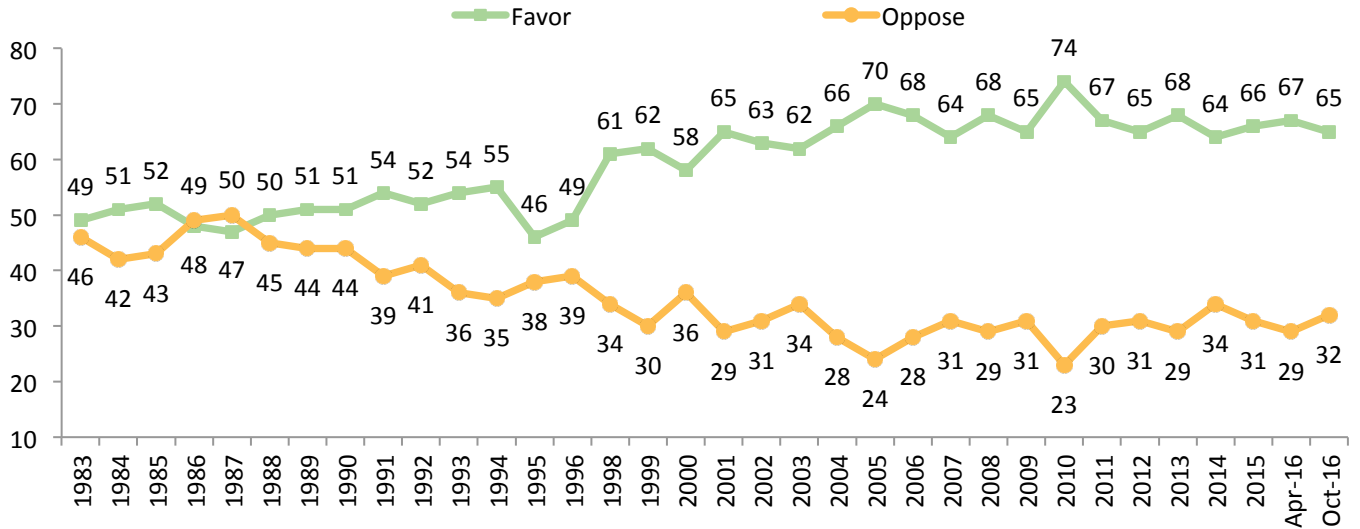
Changeable Public Opinion

Public opinion about nuclear energy is highly changeable depending on which face—promise or peril—comes to the forefront. Over the past three decades, public opinion about nuclear energy in the U.S. has become more favorable.

Trends show long-term improvement. A tracking question asked for three decades enables a long-term perspective on overall favorability to nuclear energy. See Figure 4. In 1983, half the public (49 percent) favored nuclear energy; by 2016, that number had grown to two-thirds (65 percent). Much of the upward movement is associated with renewed interest in energy that began around the end of the millennium. Problems with electricity supply began to crop up in California and in other locations. Talk of a “nuclear energy renaissance” and nuclear energy’s inclusion in the public discourse as a clean air energy source/climate change solution continued to drive numbers up, especially among women and Democrats. The nadir is associated with a period during the mid-1990s when energy was not a salient concern.

**Figure 4: Percentages of the U.S. Public Who Favor and Oppose Nuclear Energy
Trend 1983-2016: Annual Averages Until 2016**

“Overall, do you strongly favor, somewhat favor, somewhat oppose, or strongly oppose the use of nuclear energy as one of the ways to provide electricity in the United States?”

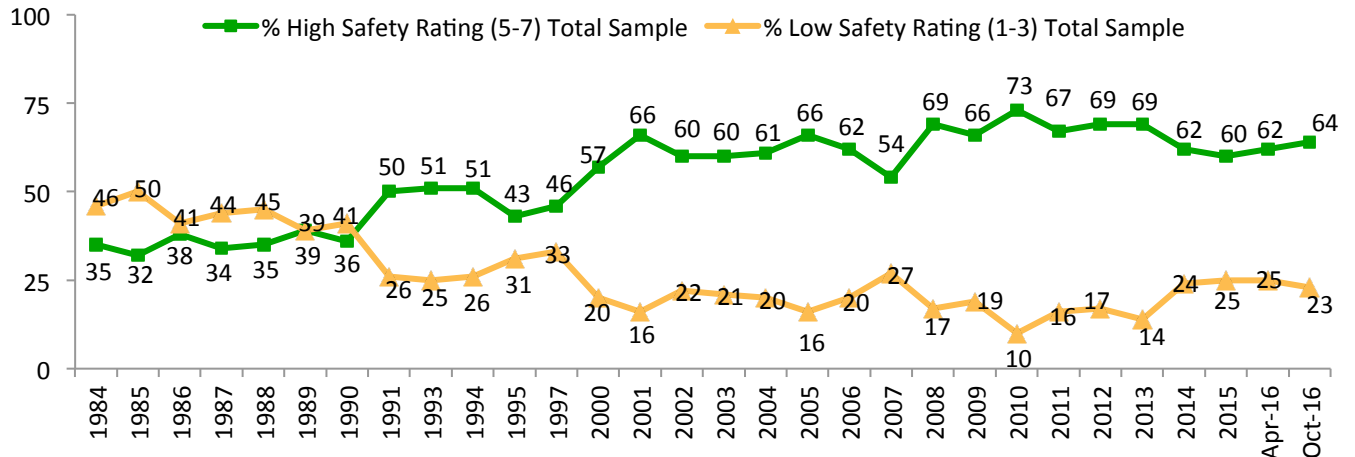


Source: Bisconti Research, Inc. for the Nuclear Energy Institute.

In the U.S., perceptions of nuclear power plant safety underwent a sea change—high safety ratings moved from 35 percent in 1984 to 64 percent in October 2016. See Figure 5. The change in perceptions of nuclear power plant safety that occurred around the start of the millennium, following the upward trend in favorability, is most likely due to the perception that nuclear energy was needed. At that time, renewed focus on energy, the beginning of discussions of a “nuclear energy renaissance,” and attention to nuclear energy’s climate change benefits brought the face of promise forward, while the imagery associated with the face of peril stayed in the background.

**Figure 5: U.S. Public Ratings of the Safety of Nuclear Power Plants
Trend 1984-2016: Annual Averages Until 2016**

“Thinking about the nuclear power plants that are operating now, how safe do you regard these plants? Please think of a scale from “1” to “7,” where “1” means very unsafe and “7” means very safe. The safer you think they are, the higher the number you would give.” Percentages

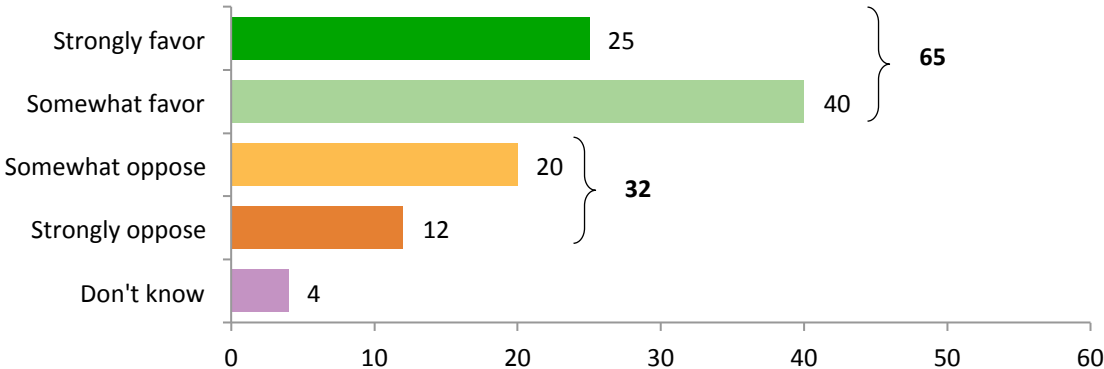


Source: Bisconti Research, Inc. for the Nuclear Energy Institute.

Opinions in the middle. Changeability is also evident in the tendency of the public to take middle positions on nuclear energy. The October 2016 national survey by Bisconti Research found that two-thirds of the U.S. public, 65 percent, favored the use of nuclear energy as one of the ways to provide electricity in the United States. See Figure 6.

Figure 6: U.S. Public Favorability to Nuclear Energy, October 2016

“Overall, do you strongly favor, somewhat favor, somewhat oppose, or strongly oppose the use of nuclear energy as one of the ways to provide electricity in the United States?” Percentages

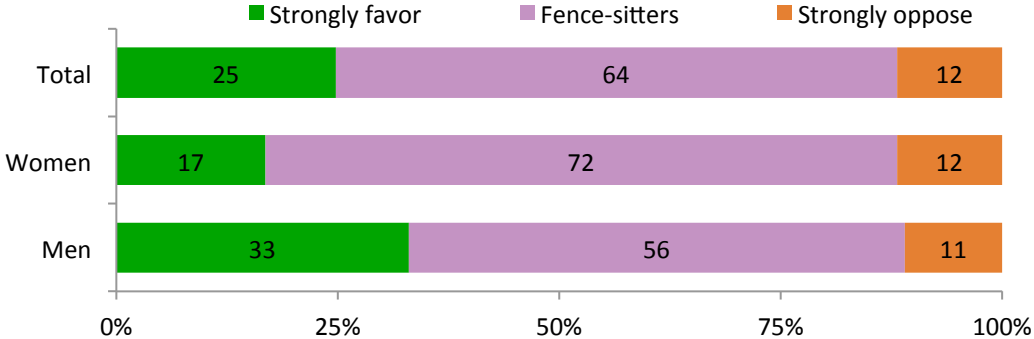


Source: Bisconti Research, Inc. with Quest Global Research for the Nuclear Energy Institute.

However, it is also significant that two-thirds of the U.S. could be classified as fence-sitters; 64 percent neither strongly favored nor strongly opposed nuclear energy or did not have an opinion. See Figure 7. Fence-sitters included more women (72 percent) than men (56 percent).

Figure 7: U.S. Public Nuclear Energy Fence-Sitters, October 2016

“Overall, do you strongly favor, somewhat favor, somewhat oppose, or strongly oppose the use of nuclear energy as one of the ways to provide electricity in the United States?” Percentages

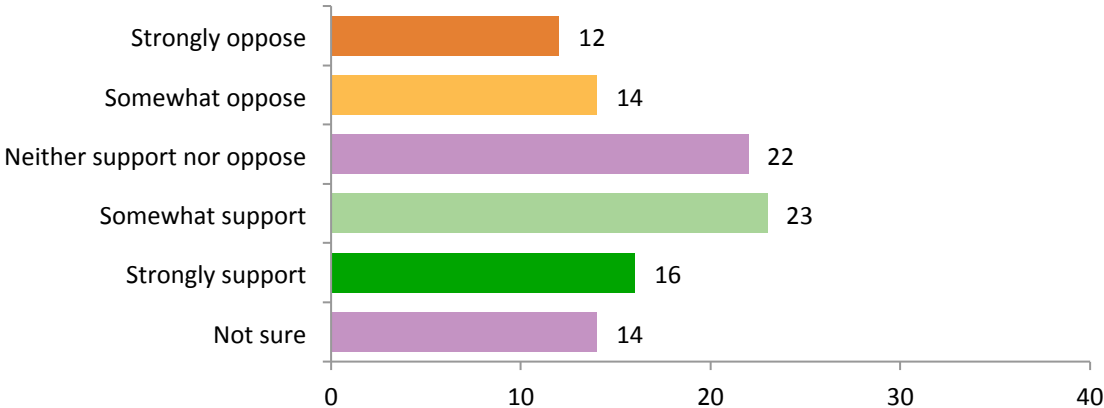


Source: Bisconti Research, Inc. with Quest Global Research for the Nuclear Energy Institute.

A question about nuclear energy in the UT at Austin 2016 Energy Poll included the response option, “neither support nor oppose,” and 22 percent selected that answer; also 14 percent had no opinion. From those poll results, 72 percent could be classified at fence-sitters, as just 16 percent strongly supported nuclear energy and 12 percent strongly opposed. See Figure 8.

Figure 8: U.S. Public Support for Nuclear Energy, January 2016

“Based on what you know, to what extent do you support or oppose the use of nuclear energy?” Percentages

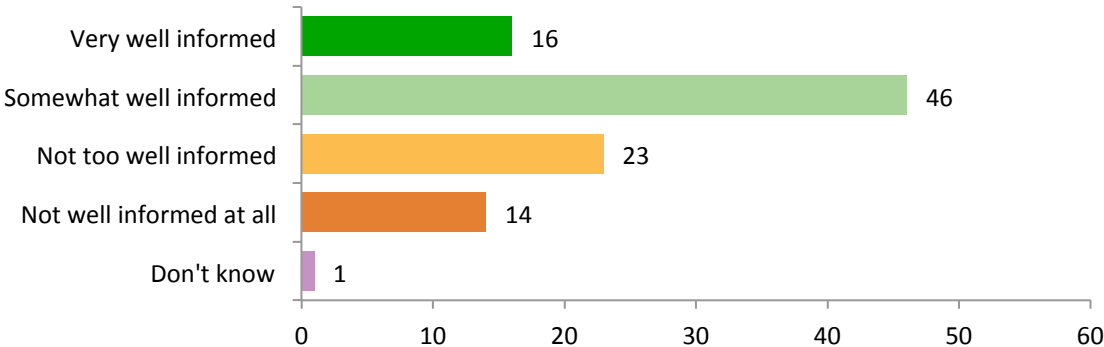


Source: UT at Austin Energy Poll

Few feel very well informed. One of the reasons opinions are so changeable in the U.S. and perhaps elsewhere is that only a small percentage of the public feels very well informed about nuclear energy. Not feeling well informed is one indicator of what Daniel Yankelovich labeled “mushiness.”⁶ Mushy attitudes are changeable and not prone to action on a topic. In October 2016, just 16 percent of the U.S. public felt very well informed about nuclear energy. See Figure 9.

Figure 9: How Well Informed about Nuclear Energy U.S. Public Feels, October 2016

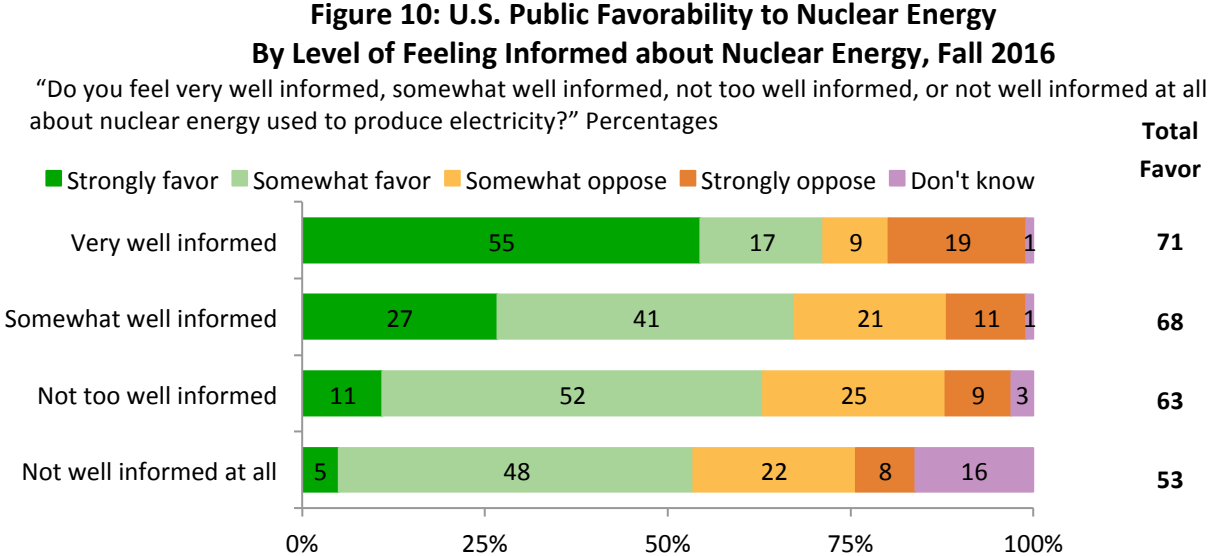
“Do you feel very well informed, somewhat well informed, not too well informed, or not well informed at all about nuclear energy used to produce electricity?” Percentages



Source: Bisconti Research, Inc. with Quest Global Research for the Nuclear Energy Institute.

⁶ Daniel Yankelovich. *Coming to Public Judgment: Making Democracy Work in a Complex World*, Syracuse University Press, Syracuse, NY, 1991

The vast majority (71 percent) of those who felt very well informed about nuclear energy were favorable. At the extremes, 55 percent of the “very well informed” group strongly favored nuclear energy, compared with 19 percent who were strongly opposed. See Figure 10.



Source: Bisconti Research, Inc. with Quest Global Research for the Nuclear Energy Institute.

Assuming that activism depends on confidence in one’s own opinions, one can calculate potential activists on either side as follows (as of Fall 2016):

- 9 percent pro (feel very well informed and strongly favorable)
- 3 percent anti (feel very well informed and strongly unfavorable)

Bringing Clarity to the Face of Promise

Because public opinion about nuclear energy is largely unformed and uninformed, external influences shift the way people see the technology. These external influences include:

- **Negative external influences:** accidents and incidents, energy abundance, opposition from a respected opinion leader, industry focus on problems such as waste, plants shutting down, perception that solar and other preferred sources will be sufficient.
- **Positive external influences:** no accidents or incidents, energy shortages or threats to supply, conflict in the Middle East, support from a respected opinion leader, knowing people who work in the industry, industry talk of a nuclear renaissance, new plants being designed and built, climate change concerns/odd weather patterns.

The inherent advantages of nuclear energy also could be large influences, but they are not well known.

Open-ended questions reveal what is inside the public’s mind when they think about nuclear energy. The fall 2016 survey by Bisconti Research for the Nuclear Energy Institute asked respondents to give three reasons for their opinion about nuclear energy (See Table 1):

- **Reasons for unfavorable opinions** were focused on danger from the plants; 80 percent of those who opposed nuclear energy mentioned some concern about plant safety, including general danger, accidents, and radiation leaks.

- **Reasons for favorable opinions** were less focused. Of those who favored nuclear energy, 28 percent mentioned an environmental benefit, and 27 percent mentioned low cost.

Table 1: Stated Reasons for U.S. Public’s Opinions about Nuclear Energy

“What are the reasons for your personal opinion about nuclear energy? Write in up to three reasons.”

	Those Who Favor Nuclear Energy (N=326)		Those Who Oppose Nuclear Energy (N=149)
Reasons To Favor Nuclear Energy	%	Reasons To Oppose Nuclear Energy	%
Good for environment, clean	28	Dangerous, unsafe, accident, leaks	80
Economical, cheap	27	Don’t need nuclear, use other source, prefer solar, wind	18
Need the energy	13	Bad for environment, polluting	17
Safe	12	Waste is a problem, don’t know what to do with it, no good location	14
Efficient	10	Expensive	7
A good source	7	Cost/depends on cost	6
Reliable, operates 24/7	7	Depends on how it’s controlled/used/managed, if safe	3
Powerful/provides lots of power/powers cities	6	Just don’t approve/don’t believe in it (no other comment)	3
Available, we have it already	6	Bad/don’t like	3
Reduce/eliminate the use of/need for coal/oil/fossil fuels	5	Unreliable	3
Wave of the future	4	Don’t need the energy	2
Provides job opportunities	4	Lack of sustainability	1
Effective/works	4	Can lead to war	1
It’s an alternative	3	Lack of knowledge/don’t know enough about nuclear energy	1
Sustainable	3	Need more information	1
Helpful/useful	3	Depends on how it works/lasts	1
Diversity	2	Other negative comments	7
Regulated/well-regulated	2		
Use nuclear power to do many things	2		
Energy independence, U.S. doesn’t have to depend on foreign oil/countries	2		
New/different/unique	2		
Energy (unspecified)	2		
Ease/convenience	2		
Not a problem so far	1		
Innovative/advanced technology	1		
Things are changing	1		
It’s smart, intelligent	1		
Defense, helps with war or military	1		
Good for the community/country	1		
Other positive comments	8		

Source: Bisconti Research, Inc. with Quest Global Research for the Nuclear Energy Institute.

Not just another option. The fact that the face of promise is not well defined for most people points to the validity of filmmaker David Schumacher’s assertion that a positive new narrative is needed. The nuclear industry in the U.S.—taking an approach that is uncommon for organizations representing an energy source—has for decades promoted nuclear energy as a part of the mix, one of the ways.

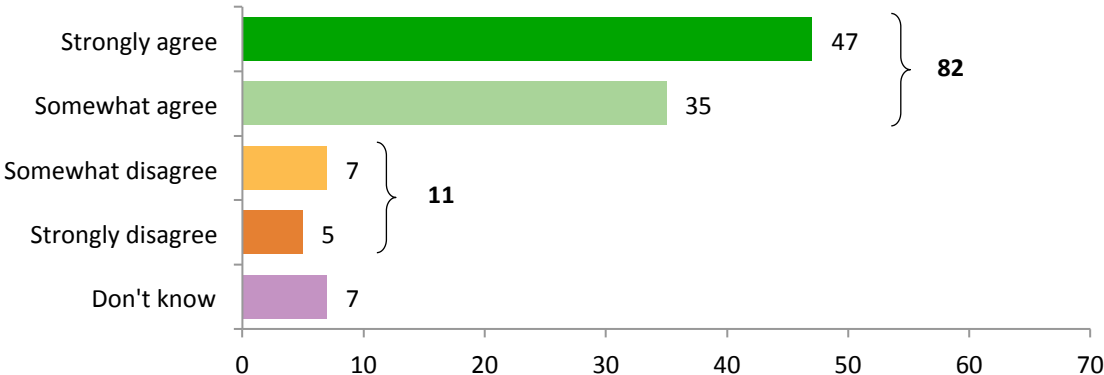
That approach is exemplified by the industry’s key favorability question, designed in 1983, which says: “Overall, do you strong favor, somewhat favor, somewhat oppose, or strongly oppose nuclear energy as one of the ways to provide electricity in the United States?” While an inclusive approach was reasonable, it failed to paint the picture of a vital and unique source of energy—not just another option.

To bring clarity to the face of promise, the narrative should make nuclear energy stand out as vital and unique. A starting point is to determine how nuclear energy should be classified. Nuclear energy belongs to two classes of energy sources: 1) tried-and-true baseload powerhouses and 2) popular clean air energy. As observed by psychologist Amos Tversky, things can be classified with different groups, and the features that the thing has in common with the group in which it is classified predominate while so classified—and change when classified with a different group.⁷

In the case of nuclear energy, classification with solar and wind brings positive attributes to the fore. (Figure 11) There is little resistance to the idea of “taking advantage of all zero-carbon energy sources—including nuclear, hydro, and renewable energy,” as exemplified by the October 2016 Bisconti Research survey. See Figure 11.

Figure 11. U.S. Public Opinion on Taking Advantage of All Zero-Carbon Energy Sources—Including Nuclear, Hydro, and Renewable Energy—to Produce the Electricity We Need While Limiting Greenhouse Gas Emissions

“Do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree: We should take advantage of all zero-carbon energy sources—including nuclear, hydro, and renewable energy—to produce the electricity we need while limiting greenhouse gas emissions.” Percentages



Source: Bisconti Research, Inc. with Quest Global Research for the Nuclear Energy Institute.

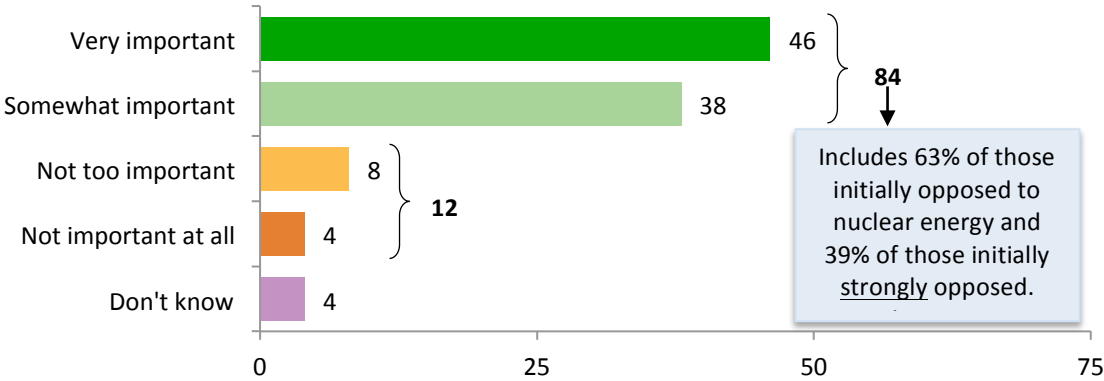
⁷ Michael Lewis, *The Undoing Project*, New York, W.W. Norton and Company, 2017, page 115.

The next step is to show the distinct advantage of nuclear energy as part of that popular clean air group in which it is classified. Nuclear energy produces 62 percent of low-carbon or zero-carbon electricity in the United States and is the only source that provides both clean air and continuous 24-7 electricity. That proposition was presented to respondents of the Bisconti Research October 2016 survey (after opinions had been measured). See Figure 12.

After hearing about the unique benefits of nuclear energy, 84 percent said that nuclear energy should be important in the future. Those who said nuclear energy should be important included 63 percent of those who initially were opposed nuclear energy and 39 percent of those who initially were strongly opposed.

Figure 12: Reliability and Clean Air Combination is Persuasive to the U.S. Public, October 2016

“Nuclear energy produces 62% of low-carbon/zero-carbon⁸ electricity in the United States. And given that nuclear energy is the only electricity source that provides both clean air and continuous 24-7 electricity, do you think nuclear energy should be very important, somewhat important, not too important, or not important at all in the future?” Percentages



Source: Bisconti Research, Inc. with Quest Global Research for the Nuclear Energy Institute.

Clean air and climate change. Nuclear energy’s combination of reliability and clean air benefits fits what the public cares about most in their sources of electricity. The U.S. public rated reliable electricity and clean air most important from a list of nine considerations for the way electricity is produced (Bisconti Research, October 2016). See Figure 13.

The lowest rated consideration involved climate change—largely because of distrust of climate change science among Republicans. However, the fact that nuclear energy represents a uniquely reliable climate change solution has won over critics in the environmental movement, as explained by science correspondent, Miles O’Brien, on PBS NewsHour, April 26, 2016:

“So what has happened, interestingly, even five years after Fukushima, is a lot of people are coming around to the conclusion that in order to truly fight climate change, the type of base load power, power that stays on all the time, at night, that is zero carbon emission, is in fact nuclear.”

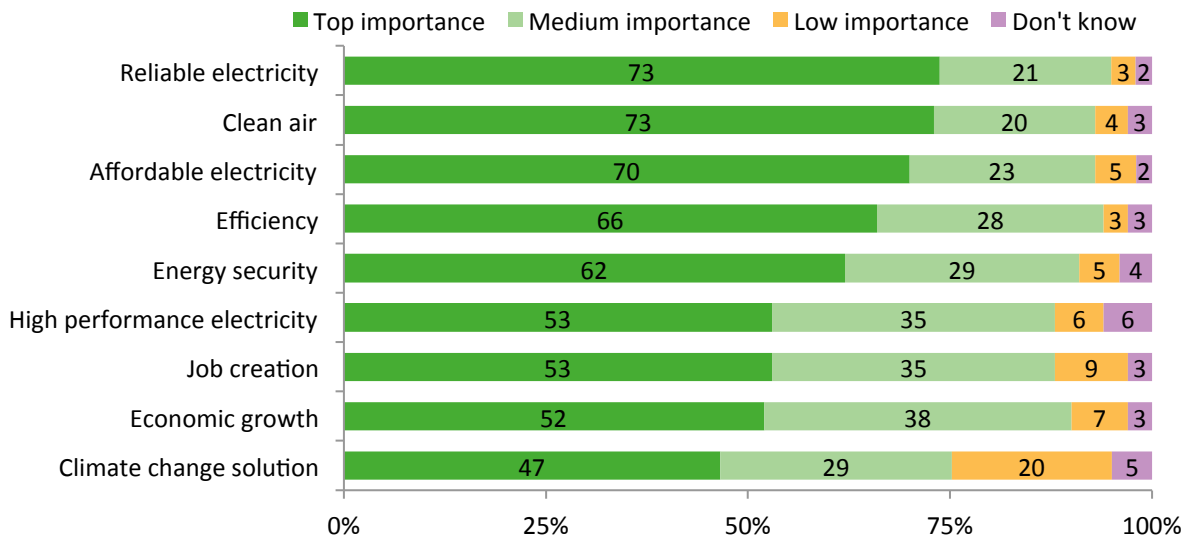
Thus, the narrative that clarifies the face of promise for the largest number of the public is nuclear energy as the reliable clean air energy. For environmentally active elites who can

⁸ The survey used a split sample approach. Half the respondents were asked the question using the term low-carbon, and half using the term zero-carbon. There was no significant difference between the samples.

influence large numbers of other potentially active members of the public the face of promise may become defined by a narrative around that unique status as the zero-carbon baseload source, as Miles O’Brien described.

Figure 13: Importance to the U.S. Public of Considerations for the Way Electricity is Produced, October 2016

“I’ll read some considerations for the way electricity is produced. For each one, please tell me if it is of top importance to you, medium importance to you, or low importance to you.” Percentages



Source: Bisconti Research, Inc. with Quest Global Research for the Nuclear Energy Institute.

Where jobs do and don’t fit into the narrative. From time to time over the past three decades, jobs emerged as a major national issue. Jobs were never a top reason to support nuclear energy, but they were always a top reason to keep plants or other facilities—nuclear or otherwise—operating.

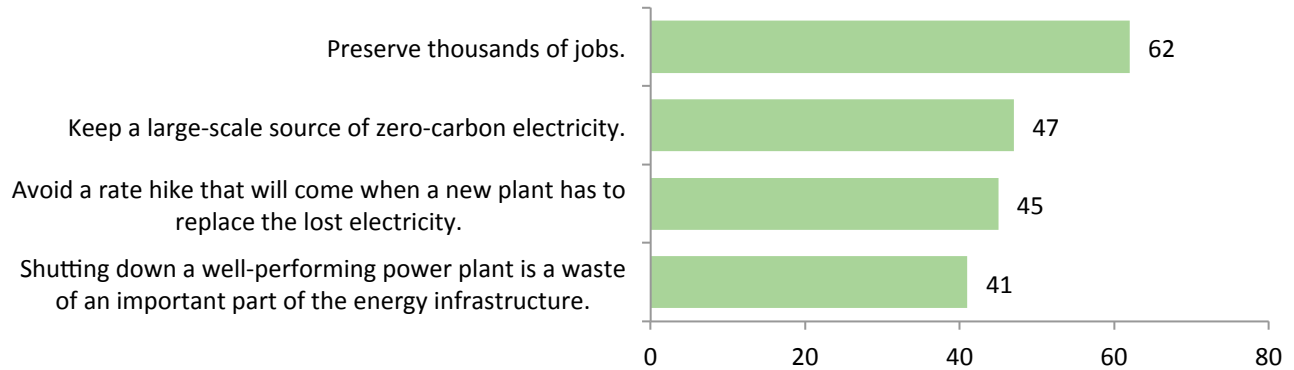
Nuclear power plants became threatened in the past few years due to a combination of low gas prices and incentives to renewables. The Bisconti Research spring 2016 survey for the Nuclear Energy Institute probed opinions on that topic (after measuring attitudes toward nuclear energy).

The survey found that 88 percent opted for a solution to keep the plants open, while 12 percent would “provide no assistance and let the plants shut down if they can’t compete.” Respondents were then asked to select any of four statements that they thought were good reasons to provide assistance to preserve existing nuclear power plants. The most popular reason was to preserve thousands of jobs (62 percent). See Figure 14.

If the goal is to make a case to keep a plant operating, jobs messages are persuasive. Jobs messages can also be powerful in promoting government actions to boost the enterprise, when those elected to office believe that their constituents are most concerned about jobs.

Figure 14: U.S. Public Reasons to Provide Assistance to Preserve Existing Nuclear Power Plants

Select any of the following that seem to you to be good reasons to provide assistance to preserve existing nuclear power plants. You may select more than one answer. Percentages



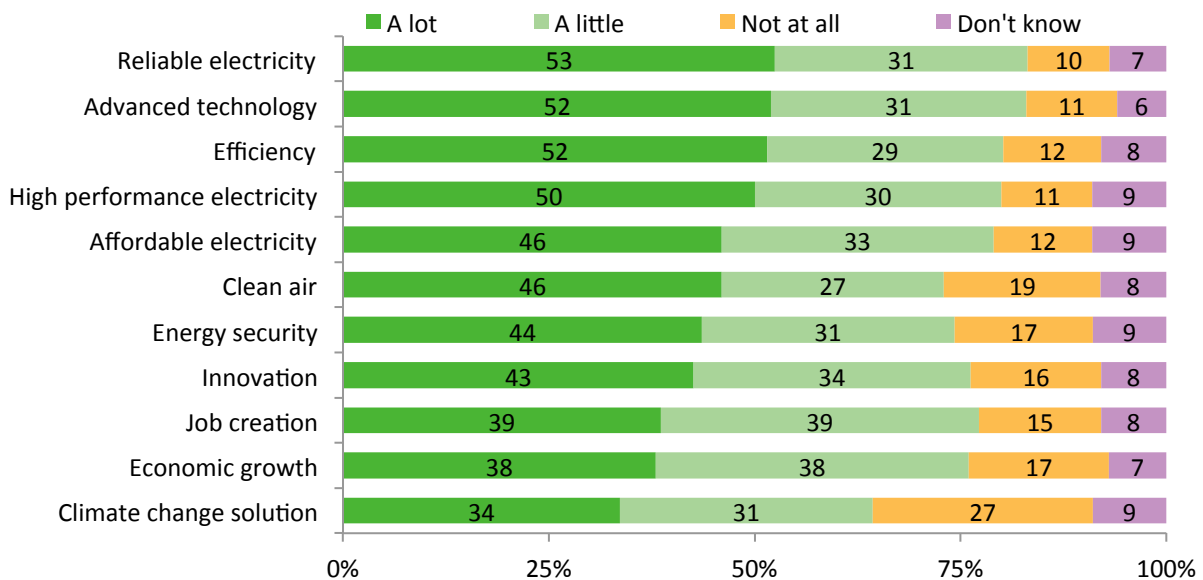
Source: Bisconti Research, Inc. with Quest Global Research for the Nuclear Energy Institute.

If the intent of the narrative is to move the needle and increase favorable attitudes toward nuclear energy, building clear distinctive features into the face of promise is the way to go. Jobs are not a distinctive feature of nuclear energy—all energy sources create jobs.

Reliability and clean air, in addition to being the most important considerations in electricity production are more closely associated with nuclear energy in public surveys than jobs. See Figure 15. “Cognitive dissonance” means that a message does not ring true. There is little cognitive dissonance in explanations of nuclear energy’s reliability-plus-clean-air combo.

Figure 15: Association of Nuclear Energy with Electricity Production Considerations, October 2016

“Do you associate nuclear energy a lot, a little, or not at all with...” Percentages



Source: Bisconti Research, Inc. with Quest Global Research for the Nuclear Energy Institute

Positioning nuclear energy as a major jobs producer without reference to a specific plant or plants could require extra communications to educate the public. The 2016 UT at Austin Energy Poll found that nuclear energy was the source thought to contribute least to U.S. jobs. The percentages of the U.S. public who thought each source created the most jobs were: oil 24, renewable energy (wind and solar) 21, natural gas 15, coal 8, and nuclear 5. Another 28 percent gave no answer.

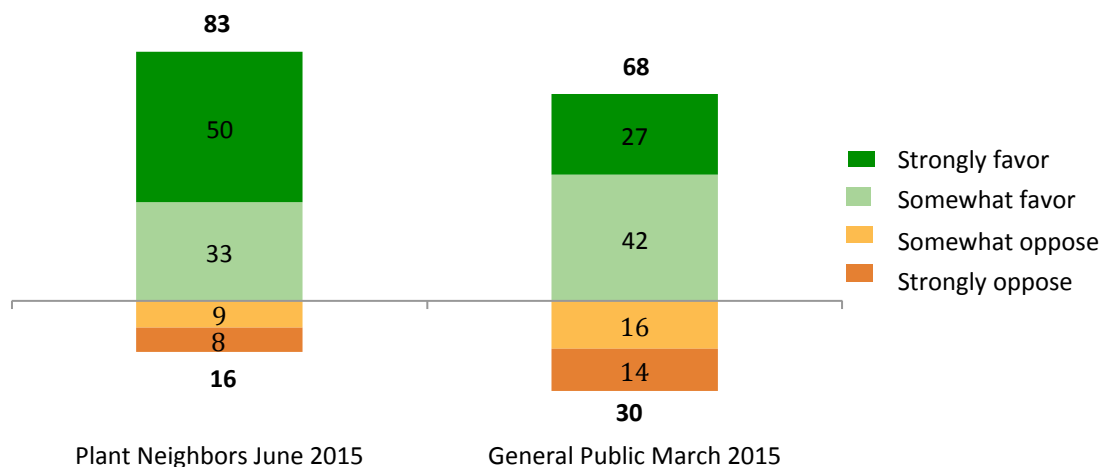
U.S. Nuclear Power Plant Neighbors’ Extraordinary Support; the Power of Familiarity

Familiarity makes a difference, as seen in nuclear power plant neighbor surveys that have been conducted in the United States biennially since 2005. These surveys measure attitudes of residents within the 10-mile radius of all the nation’s operating nuclear power plants, excluding households with anyone who works at a nuclear power plant. The most recent plant neighbor survey, in May-June 2015, included 1,080 nuclear power plant neighbors age 18 and older who were interviewed by telephone and cell phone. These surveys are by Bisconti Research for the Nuclear Energy Institute.

Nuclear power plant neighbors’ attitudes toward nuclear energy—on average across the U.S.—are extraordinarily favorable: 83 percent favor the use of nuclear energy, compared with 68 percent of the general public surveyed at about the same time. Support for nuclear energy among plant neighbors is both broad and deep; 50 percent of plant neighbors compared with 27 percent of the general public were strongly in favor. See Figure 16.

Figure 16: Favorability to Nuclear Energy—Plant Neighbors Compared with the General Public

“Overall, do you strongly favor, somewhat favor, somewhat oppose, or strongly oppose the use of nuclear energy as one of the ways to provide electricity in the United States?”

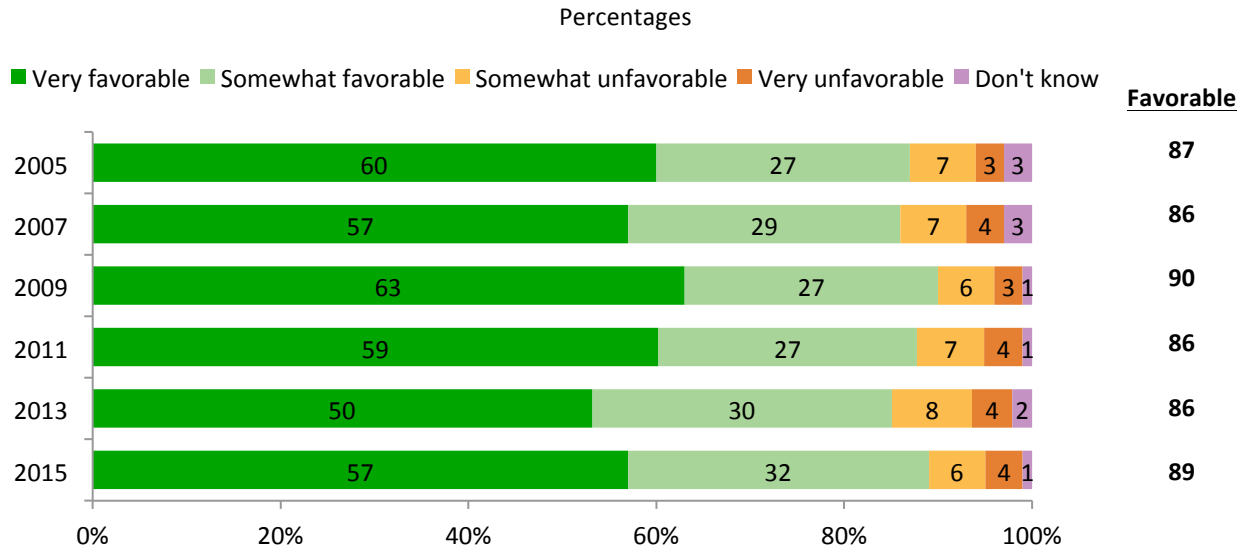


Sources: Plant neighbor survey in May-June 2015 by Bisconti Research with Quest Global Research. General public survey in February-March 2015 by Bisconti Research, Inc. with Quest Global Research. Both surveys for the Nuclear Energy Institute

Good performance is noticed. Nearly 90 percent of nuclear power plant neighbors have a favorable impression of the nearby plant and how it has operated recently. Figure 17. These favorable impressions of the nearby plant are constant over time.

Figure 17: Plant Neighbors’ Constant Favorable Impression of Nearby Nuclear Power Plant

“Thinking of the nuclear power plant closest to where you live, would you describe your general impression of this plant and the way it has operated recently as very favorable, somewhat favorable, somewhat unfavorable, or very unfavorable?”



Source: Bisconti Research, Inc. with Quest Global Research for the Nuclear Energy Institute

Popular support for the nearby plant is widely recognized; 77 percent of nuclear power plant neighbors in 2015 believed that the majority of people in their community had a favorable impression of the plant, 12 percent believed community opinion was unfavorable, and 11 percent were unsure.

A not-in-my-backyard (NIMBY) attitude does not apply, in most cases, to those who actually live close to existing plants. Nationally, 69 percent of nuclear power plant neighbors in 2015 said they would find it acceptable to add a new reactor at the site of the nearest nuclear power plant, in case more electricity were needed. That acceptability was lower in the Northeast (58 percent) than in the Midwest (69 percent), South (73 percent), and West (79 percent).

Familiarity is a large reason for this support. Neighbors see the plant, know people who work at the plant, fish and enjoy parkland near the plant, and appreciate the plant’s contributions to the community. The 2015 plant neighbor survey found:

- 90 percent were confident in the ability of the company to operate the plant safely.
- 83 percent said that the company is doing a good job of protecting the environment.
- 89 percent agreed that the plant helps the local economy.
- 89 percent agreed that there are good jobs for local people at the plant and in businesses that support the plant.
- 81 percent agreed that the company is involved in the community.

Looking Forward

Will the promise that Eisenhower extolled at the start-up of the Shippingport plant continue to be fulfilled? Building public support in the coming years depends on illuminating the face of promise not only with stronger narrative but also with action. As a priority, keeping that face of promise at the forefront assumes safe operations that hold the face of peril in the background.

Action on new plants can help. Other chapters in this volume discuss new plants under construction and in development. When the nuclear industry is building and developing advanced technology, it is seen as thriving. A thriving industry implies a beneficial and safe industry—hence the peaks in favorable attitudes associated with talk about a “nuclear energy renaissance.” Even existing plants benefit from the aura of a thriving industry projected by new plant development—as long as new plant design proponents, in their zeal to market their product, avoid calling existing plants unsafe.

Even with new plant development and stellar performance, it will still be essential to answer this question: Why not just use gas or solar or wind? It will be necessary to show why nuclear energy is not just another option and why it is a vital and irreplaceable part of the energy mix.