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Why Public Opinion about Nuclear Energy is Changing

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Buzz: Nuclear Energy is “Cool”



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NUKES! HOT REACTORS

1979 was a tough year for nuclear power—remember Three-Mile Island and *The China Syndrome*? In fact, it pretty much stopped the atomic clock for a generation—but that's about to end. In the spring, the head of the Nuclear Regulatory Commission began mumbling about the need for 100 new reactors, an energy consortium quietly nominated six candidate sites for two new nuclear plants, and President Bush speechified at one of those sites for the urgent revival of nuclear power.

Next month the two winners will be named (several of the nearby towns are actively campaigning to be selected), but the renuking debate is already being joined in earnest. The pro-nuke line: If you're serious about global warming, you've got to go radioactive because fossil fuels are like a car engine running in a garage—a consideration that has already won over such eco-minded notables as Greenpeace cofounder Patrick Moore, Stewart Brand of *Whole Earth Catalog* fame, and Gaia hypothesist James Lovelock. The anti-nuke retort: We still have no idea what on Earth to do with the mountains of nuclear waste already generated—now we want to make more!—B.D.

So Nuclear Energy is Cool

- This is a big change
- What's behind the change?
- How do people feel about building new nuclear power plants?

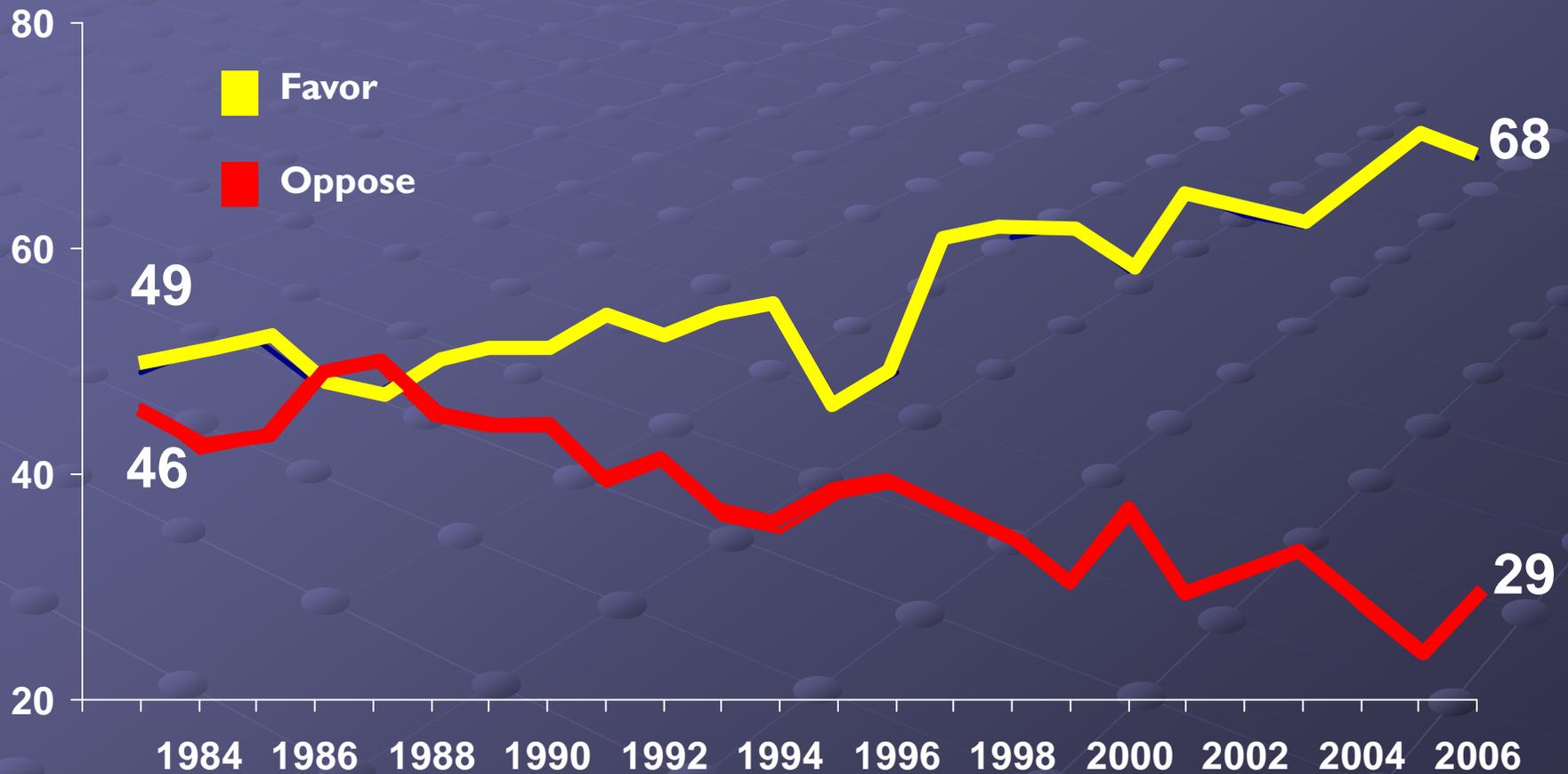
Public Opinion Surveys



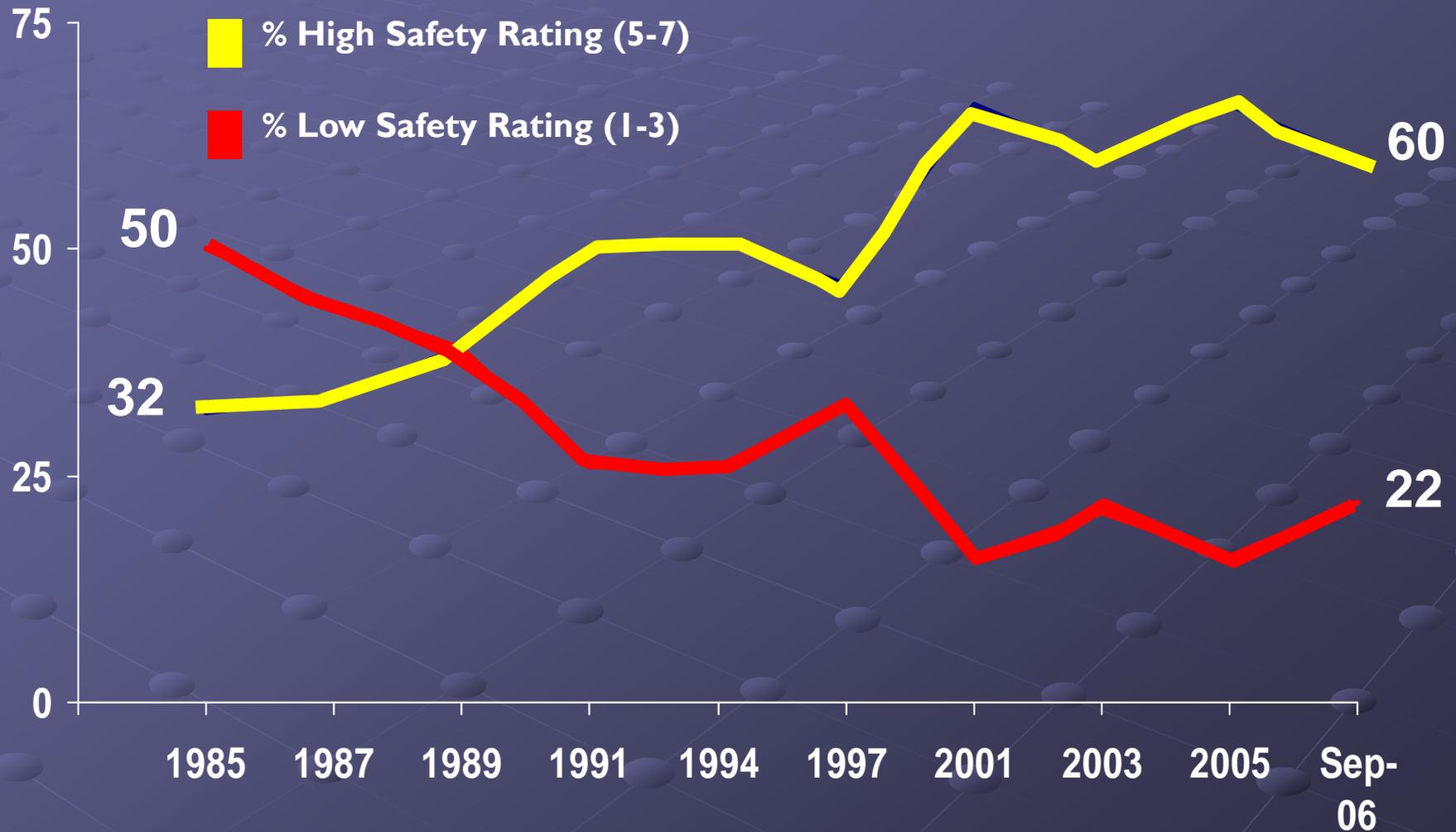
- 23-year trends, latest Sept 2006
- National random samples of 1,000 U.S. adults age 18+
- Interviewed by phone
- Margin of error plus or minus three percentage points

Changing Attitudes

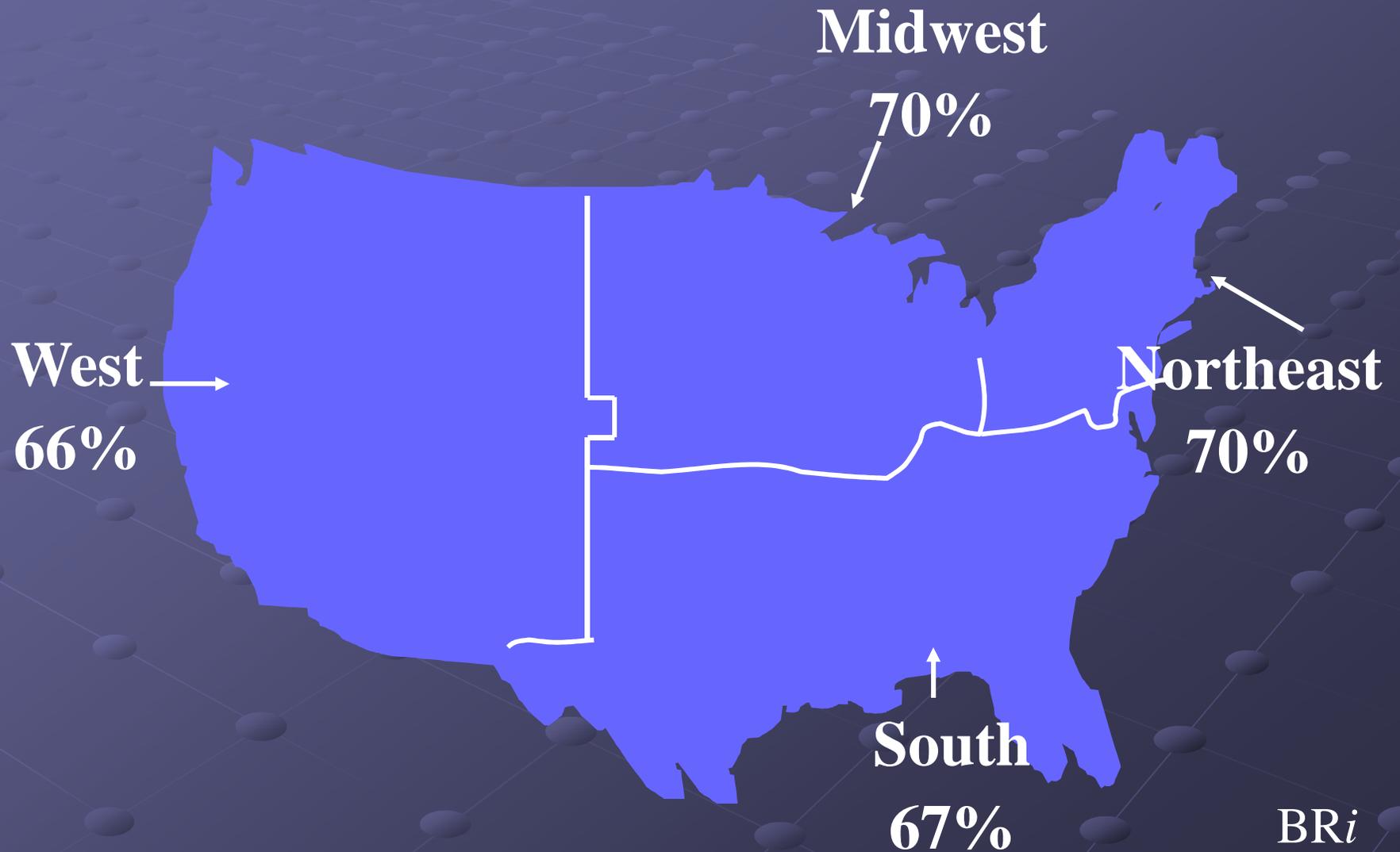
68% Now Favor Use of Nuclear Energy



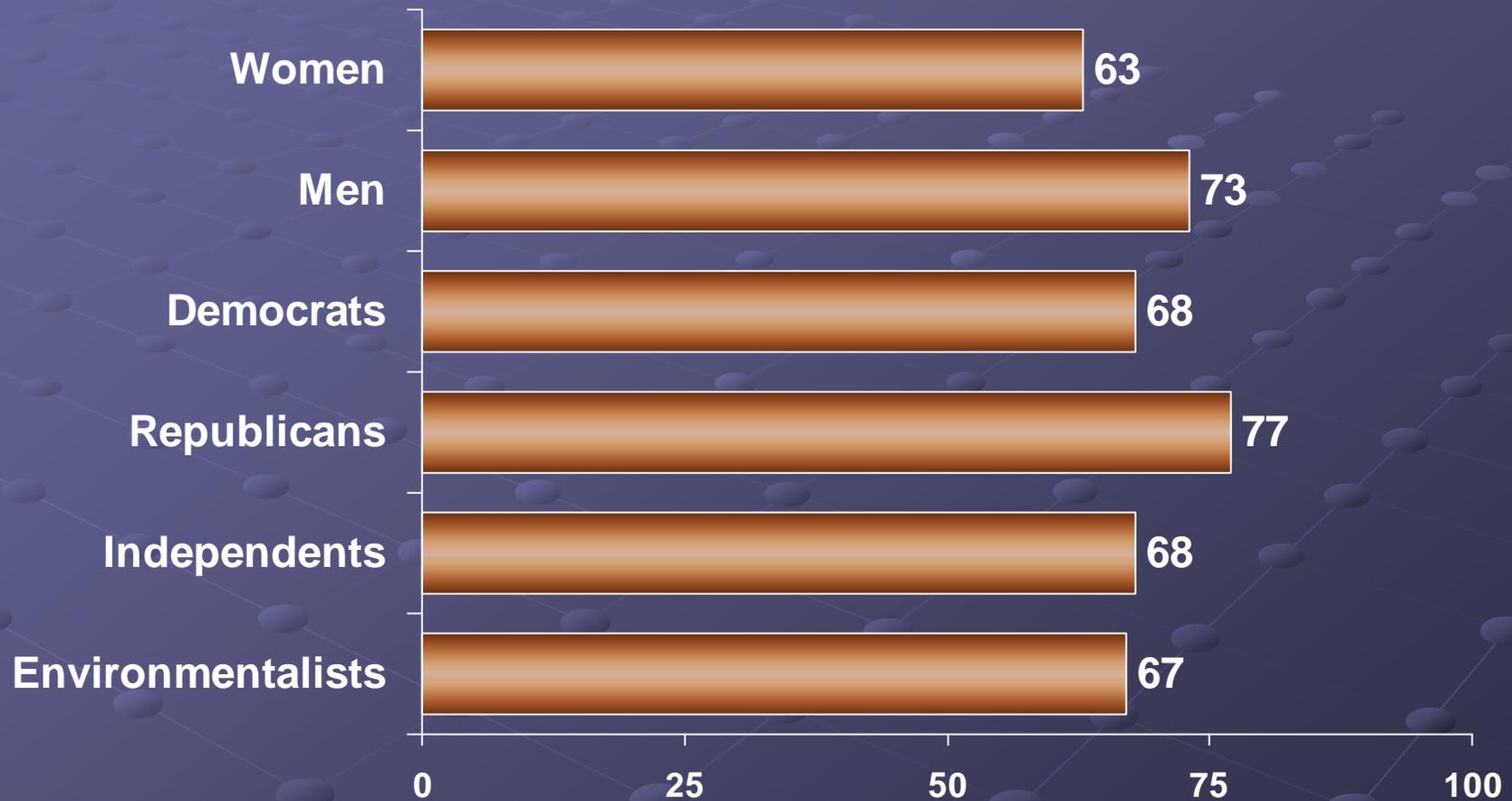
Changing Perceptions of Nuclear Power Plant Safety



All Regions Favor Use of Nuclear Energy



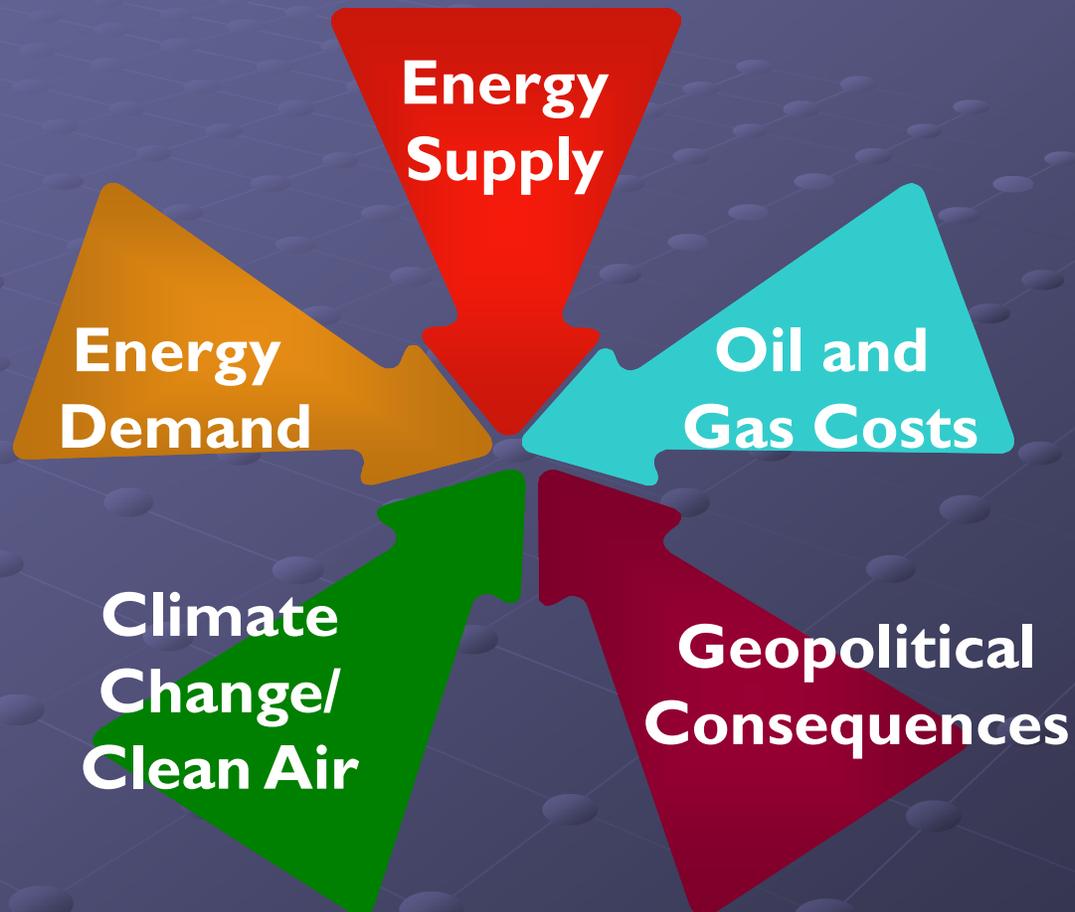
All Subgroups Favor Use of Nuclear Energy



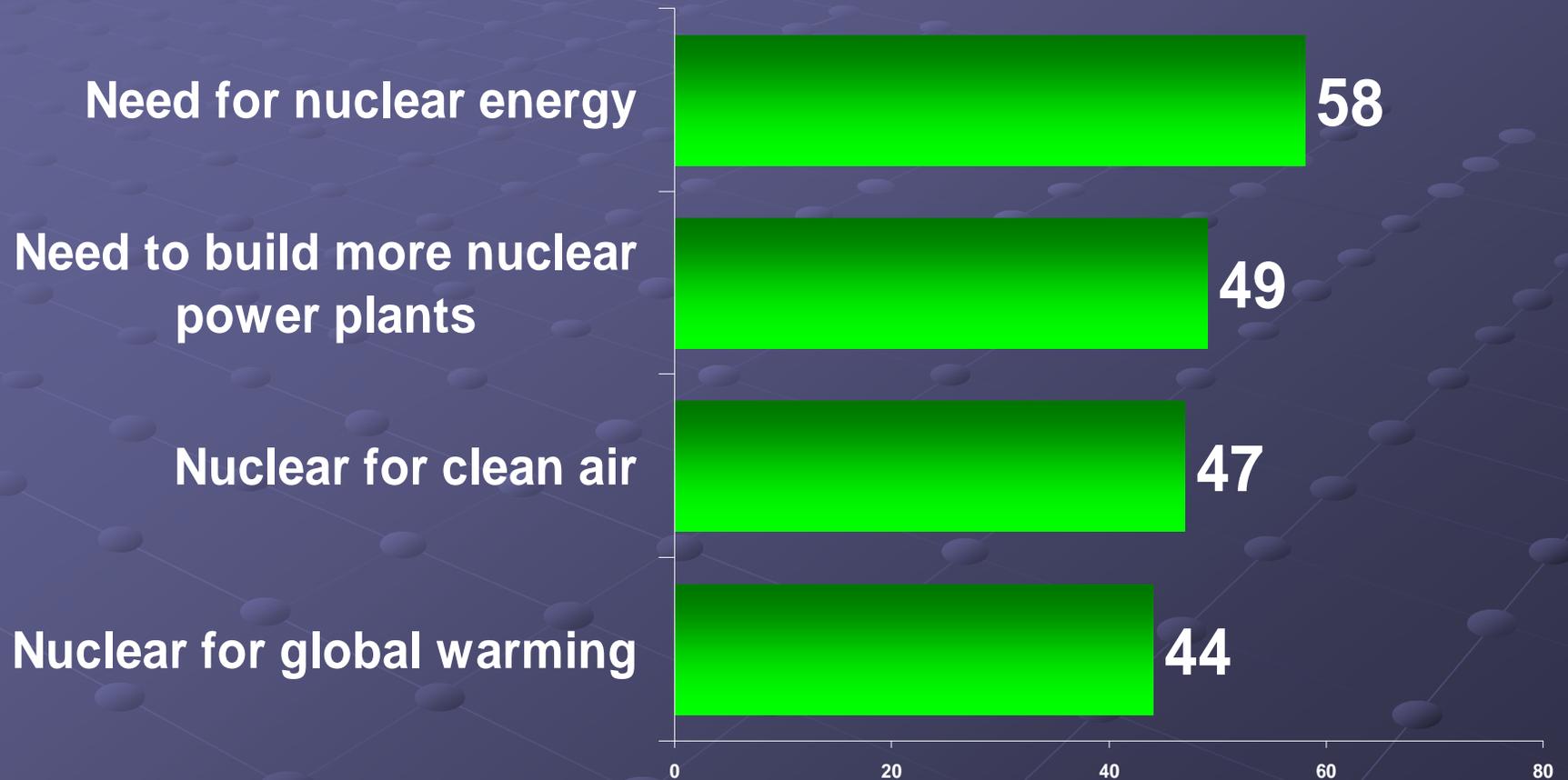


What's Behind the Change?

Changing Times



High Awareness of Hearing About Nuclear Energy Topics in Past Year



Buzz About New Nuclear Power

The New York Times

Nuclear Power's Second Act

USA
TODAY

Time for Nuclear Power

REUTERS

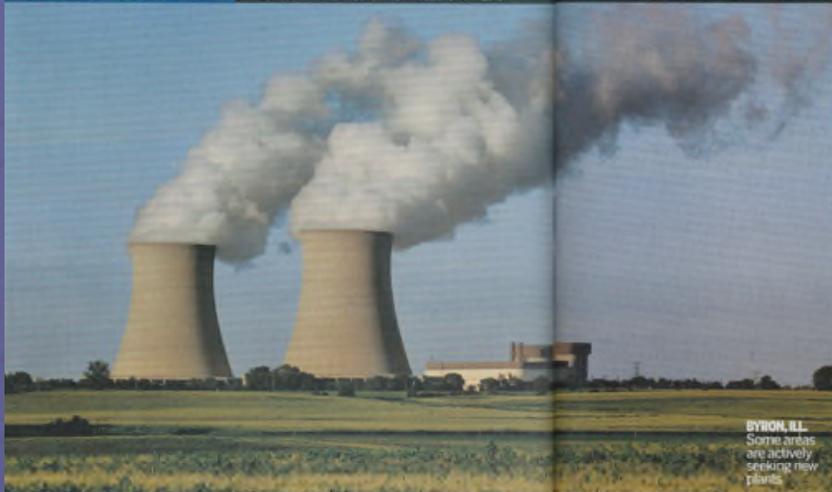
Record Gas Prices Breathe Life Into Nuclear Power

The Boston Globe

Hot Properties: Nuclear Power Plants

Buzz About New Nuclear Power

Industries Nuclear Power



BYRON, ILL.
Some areas
are actively
seeking new
plants.

Maybe in My Backyard

High fuel prices and global warming are making nukes an easier sell

HOBBLLED BY IMAGES OF Three Mile Island and Chernobyl, staggering costs, and opposition from enviros and politicians, nuclear power once seemed destined to go the way of the dodo. "Just five years ago, utility executives were saying they wouldn't be caught dead even talking about a new plant," recalls Massachusetts Institute of Technology nuclear engineer Andrew C. Kadak. U.S. utilities were shutting reactors, and Germany planned to pull the plug on its facilities.

Today, nukes are on the verge of a global comeback. A new plant is under

construction in Finland, the first in Europe since 1991. France, which already has 58 plants, says it will build 30 more. China plans to spend \$50 billion on atomic energy construction by 2020. In the U.S., where 103 existing reactors have become cash cows, a dozen companies are seriously considering building new plants. And the energy bill signed by President George W. Bush on Aug. 8 has billions of dollars in subsidies. "Things have never looked better," says Dan R. Keuter, vice-president for business development at Entergy Nuclear in New Orleans.

What's fueling this resurgence? In a word, economics. Rising natural gas and

coal prices are starting to make nukes look inexpensive. Another factor is global warming. Not only do new restrictions on emissions of carbon dioxide increase the costs of fossil fuel-generated electricity, fears of climate change have softened opposition among some enviros. While the government must still solve problems of waste and security, says Steve Cochran of Environmental Defense, "given the challenge of climate change, the world needs to be open to every low carbon initiative—including nuclear power."

Construction in the U.S. won't start tomorrow, however. There are still major uncertainties. Natural gas prices must stay high to make nukes economical. With increasing imports of liquefied natural gas, that's not a sure thing. Utilities must also convince Wall Street that the long delays and huge cost overruns that doomed N-power in the 1980s won't happen again.

As a result, companies say they won't order a new plant until they are sure they can get a license from the Nuclear Regulatory Commission, a process expected to take four to five years. "At the very earliest, we are looking at construction starting around 2010," says Adrian Heymer, director of new plants deployment at the Nuclear Energy Institute. Since construction would take four to five years, electrons from the new nukes couldn't start flowing until 2014 or 2015 at the soonest.

It could be longer than that. John W. Rowe, chairman and CEO of Exelon Corp., believes that a new generation of reactors is essential. But even though Chicago-based Exelon is the nation's biggest nuclear utility, with 17 reactors, Rowe says the risks are still too great to order new plants now. "While the stars and moons are moving in the right direction, they're not there yet for us," he says.

New nukes won't come on line until 2014—at the earliest

FRUSTRATION FACTOR

THE LACK OF immediate action frustrates Washington politicians, who crafted energy legislation that, among other things, was designed to make nukes nice again. The bill offers government loan guarantees so that banks won't demand a risk premium when financing new reactors, and a production tax credit. It also provides up to \$2 billion to cover costs associated with regulatory delays. That's on top of changes Congress made in the licensing process in 1992. "For anyone who says there is still too much regulatory uncertainty, I have to question how serious they are," says one Senate staffer. Congress has "piled yet one more security blanket on the pile of blankets," he says.

Industry execs insist that new plants will be built, but say they are getting there one step at a time. "No one would make a decision to order a plant now," explains Michael J. Wallace, executive vice-president of Constellation Energy Group. The Baltimore utility and others, however, are already partway there. Entergy, Exelon, and Dominion have filed applications with the NRC to get three sites licensed for new reactors. Reactor makers Westinghouse, General Electric, and Areva, which is building the Finland

plant, have filed or will soon file applications to get new designs certified by the agency. A group of eight U.S. power companies, called NuStart Energy Development, is working on applications for construction and operating licenses for the GE and Westinghouse designs.

Meanwhile, the public has become more accepting. The percentage of Americans who favor nuclear power jumped from 46% in 1995 to 70% in May, 2005, according to Bisconti Research. Some communities are actually backing new plants. In Calvert County, Md., where Constellation Energy has proposed adding a new reactor to an existing facility, "we are doing everything we can to see that kind of investment made in the county," says David Hale, president of the county board of commissioners.

There have also been technological improvements. The basic approach hasn't changed, but new designs are easier to build and operate—and better able to handle problems. They are "more safe by an order of magnitude," says MIT's Kadak. The industry expects progress on the waste front as well. New radiation exposure limits proposed by the Environmental Protection Agency for the Yucca Mountain repository in Nevada in early August could pave the way for the facility to eventually accept waste.

Add it up, and nukes no longer look like dodos. "What we are seeing is an economic change that is beginning to overwhelm the construction and licensing risks," says Thomas A. Christopher, CEO of Pratomore ANP Inc., a unit of France's Areva. A new 1,000-MW plant is expected to cost at least \$1.5 billion. That compares with \$1.2 billion for a new coal plant or \$500 million for a gas-fired facility, which is quicker to build. But utilities have learned to run reactors more efficiently, making existing nukes cheap producers of power.

Now they figure that with natural gas prices tripling and coal prices doubling over the past five years, new nuke plants will be gold mines. "What we have to do is build the first two to six plants and prove to Wall Street that we can do it on schedule," says Entergy's Keuter. If that happens, the mid-21st century could be a new Atomic Age. ■

—By John Carey in Washington, with bureau reports

Nukes: Gaining Acceptance

Are you in favor of nuclear power as a source of electricity?



Nuclear Industry Communicating More Actively

NUCLEAR.

Electricity & Clean Air
Today & Tomorrow.



Kids today are part of the most energy-intensive generation in history. They demand lots of electricity. And they deserve clean air.

That's why nuclear energy is so important to America's energy future. Nuclear energy already produces electricity for 1 of every 5 homes and businesses. And our 103 nuclear power plants are emission free so they help keep the air clean.

We need secure, reliable sources of electricity for the 21st Century—and we also need clean air. With nuclear energy, we can have both.



Nuclear energy is the most reliable source of electricity.

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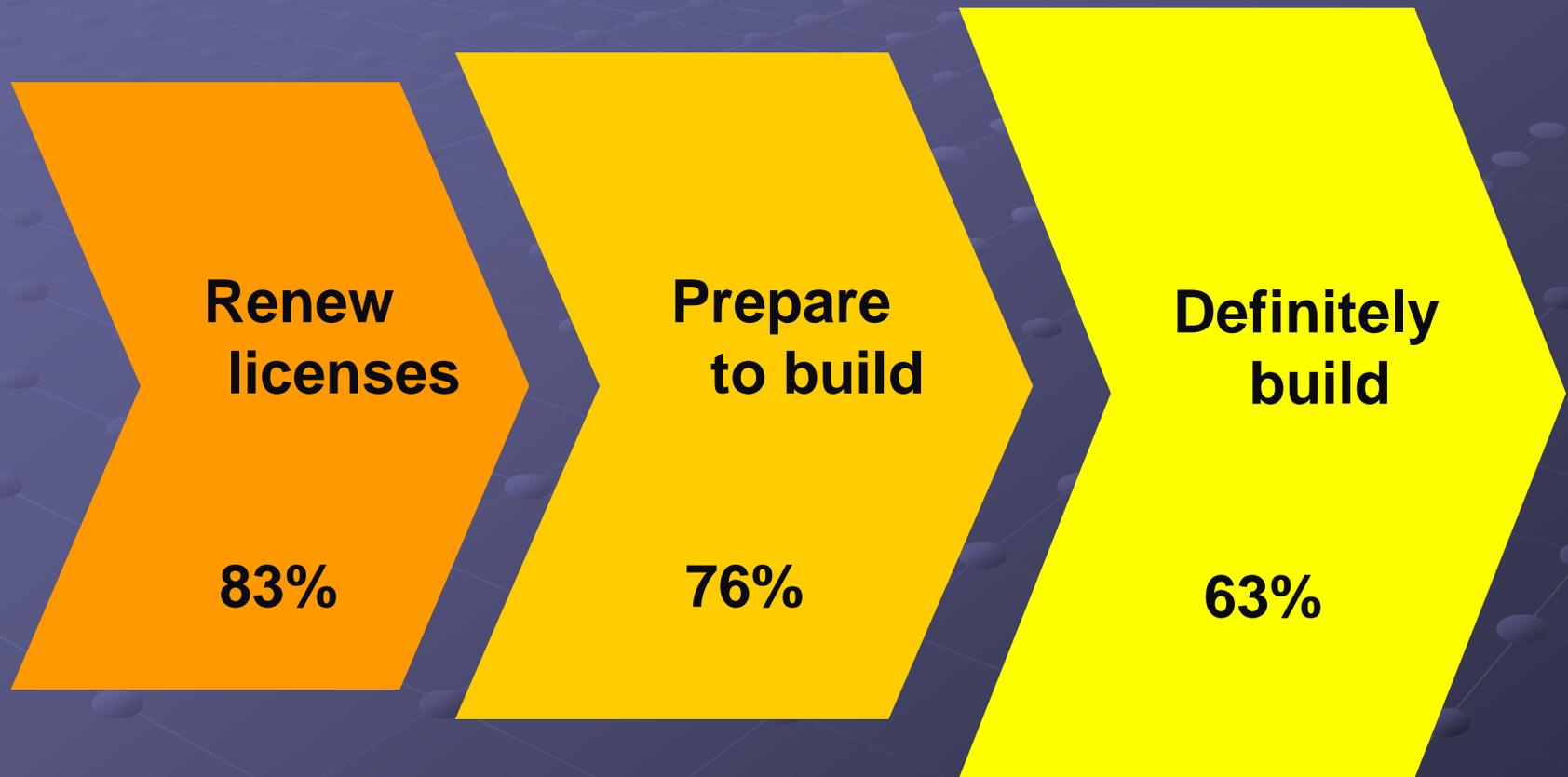
Workforce Engaged



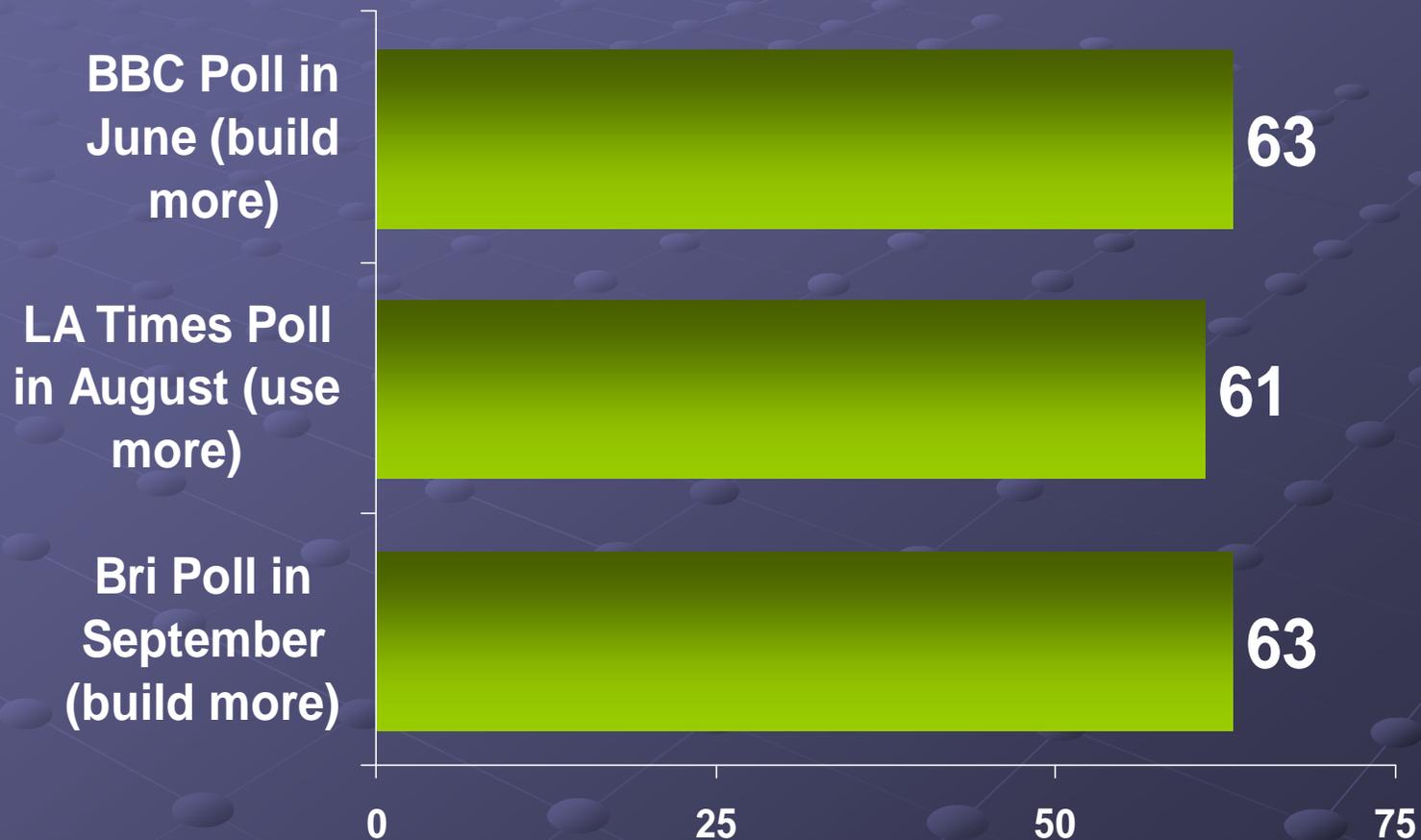


What about New Nuclear Power Plants?

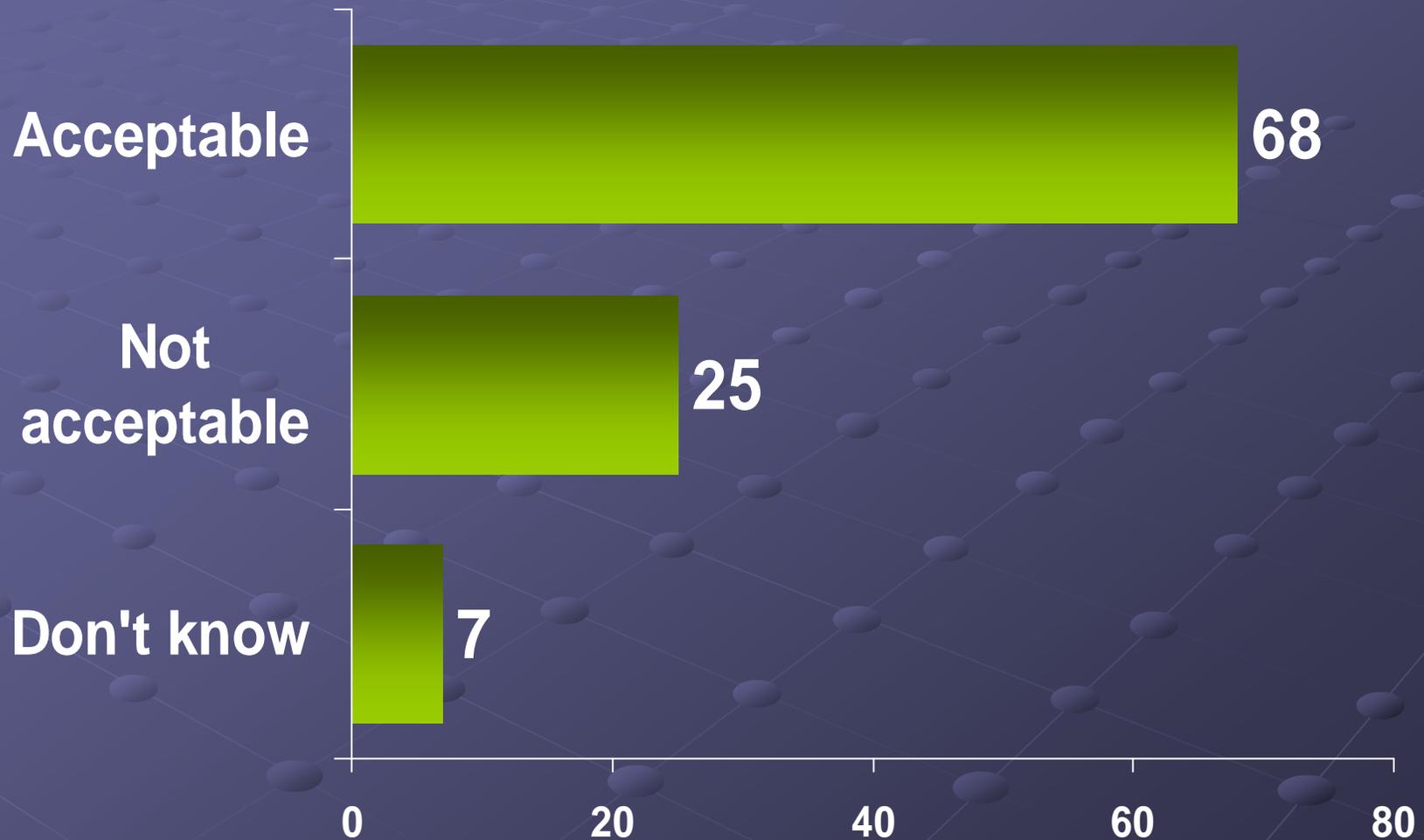
NEI Poll, September 2006:
Public Support for Nuclear Power Plants



3 National Polls in 2006: 61-63% Favor Building More Nuclear Power Plants or Using More Nuclear Energy



Majorities Said New Reactor Acceptable at Nearest Plant Site



National Survey in 2005 of Nuclear Power Plant Neighbors

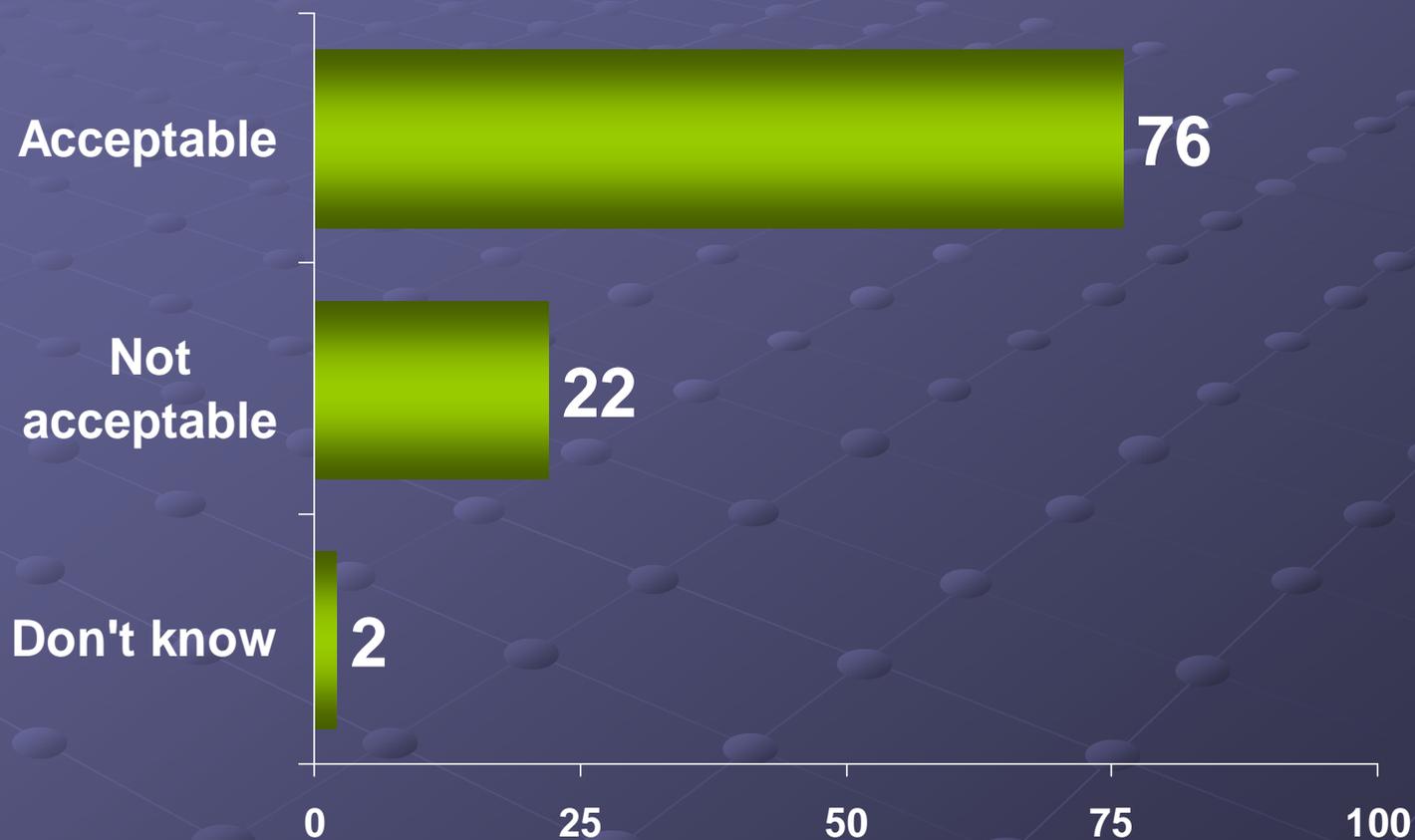


- Residents within 10-mile radius of plants
- 18 adults at each of the 64 sites
- 1,152 total
- Electric company employees excluded

87% of Plant Neighbors Have Favorable Impression of Plant



76% of Plant Neighbors Said New Reactor Acceptable at Nearest Plant Site



Determinants of Support

- Perception of need: energy for quality of life, less dependence on fossil fuels, global warming
- Perception of nuclear energy's benefits to meet the need
- For plant neighbors: familiarity
- For everyone: safety first

Electric Companies Planning for the Future

- Americans like planning for the future
- They like an energy mix
- There is growing support for nuclear energy
- Steps toward about 30 new reactors
- Preparing now for when she's 10

