

Nuclear power is in

Soaring natural gas prices, blackout fears stir interest in reactors

Associated Press

WASHINGTON — Nuclear power is making a comeback two decades after the Three Mile Island reactor accident.

Soaring natural gas prices, concerns about climate change and fear that California blackouts will spread have made electricity from the atom more attractive, though critics still worry about safety and what to do with radioactive waste.

For the first time in decades, there is serious talk about building a new nuclear power plant in the United States. At least one utility has suggested it may submit a license application to the Nuclear Regulatory Commission within a few years.

This stirring of interest for a new reactor "would have been unthinkable even a year ago," says the commission chairman, Richard Meserve, who has directed a task force to examine how to handle a new license application.

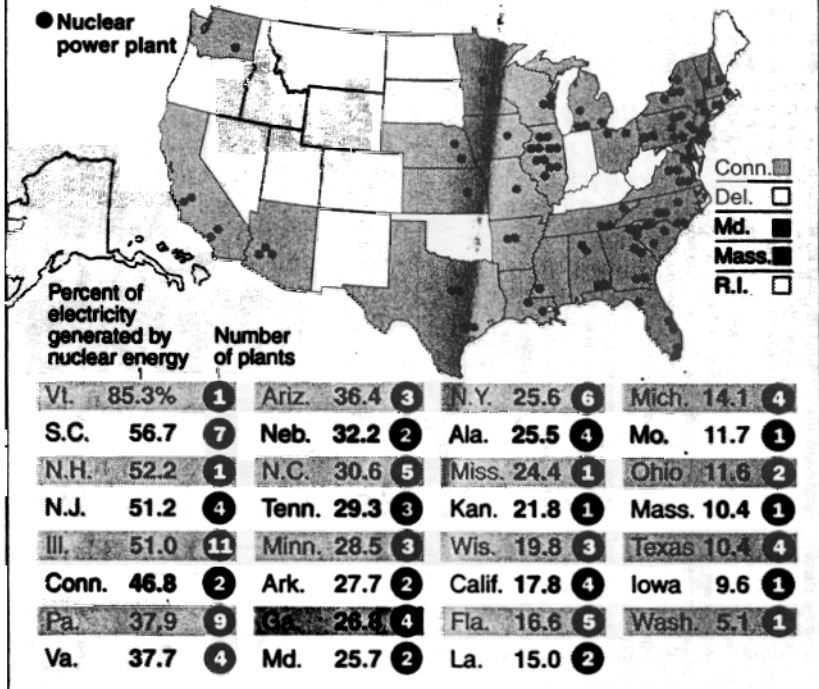
Not since 1973 has an American utility sought to license and gone on to open a new nuclear power plant. Only a few years ago, industry analysts predicted scores of electric power reactors would be shuttered under the economic pressures of electricity deregulation.

Instead, the country's 103 commercial reactors are churning out power at unprecedented efficiency, safety indicators have improved steadily, reactors put up for sale are attracting eager bidders, and the line of applications for 20-year license renewals is growing. Owners of nearly half of the operating plants already have said they will seek extensions when their permits expire. So far, two extensions have been granted.

Nuclear power was stunned

A growing industry

Improvements in efficiency and safety have resulted in a sharp increase in electricity production from the nation's nuclear power plants. Currently, there are 103 nuclear power plants in 31 states.



SOURCE: NUCLEAR REGULATORY COMMISSION

AP GRAPHIC

almost into submission 22 years ago by the Three Mile Island reactor meltdown near Harrisburg, Pa., and was pummeled further a few years later by the Russian disaster at Chernobyl.

Since then, it has struggled to keep itself on life-support while designers worked on what they maintain are safer reactor designs. Now it has caught the attention of the Bush administration as the White House maps out a broad energy blueprint to present to Congress.

Vice President Dick Cheney, who heads the president's energy task force, has been touting nuclear power as essential to America's energy needs. At least some of the 65 new power plants that need to be built annually to meet future elec-

tricity demand "ought to be nuclear," he told an interviewer recently.

"It's the only way to deal with the question of global warming," Cheney argues, a theme pushed by the nuclear industry for several years.

Without a serious accident in years, nuclear power also is gaining acceptance at the grass roots. Half the people queried in a new Associated Press poll support using reactors to produce electricity, compared with 45 percent just two years ago. And 56 percent of the supporters say they would not mind a nuclear plant within 10 miles of their home. Three in 10 opposed nuclear power; the remainder said they were unsure.

Reassessing the Reactor

For Nuclear Power, New Emphasis and Old Doubts

By GUY GUGLIOTTA
Washington Post Staff Writer

At 4 a.m. on March 28, 1979, a pump malfunction set off an alarm at the Three Mile Island Unit 2 nuclear power plant outside Harrisburg, Pa. Within nine seconds, equipment failures and human error caused a dramatic drop in the reactor core water level, setting off the worst nuclear accident in U.S. history.

No one was injured, but the partial meltdown at Three Mile Island, and the far worse meltdown and explosion at Chernobyl seven years later, left deep scars on the American psyche about the dangers of nuclear power. Not a single plant has been ordered since 1973.

Now, however, the Bush administration's plan to increase energy supplies—including nuclear generation—has focused attention on whether the United States might once again turn to the atom to fulfill its electricity needs. The nuclear power industry thinks it's ready. Since Chernobyl, engineers have designed a new generation of nuclear plants they believe will sharply reduce the risk of another Three Mile Island.

Three simpler—and therefore cheaper and safer—versions of the power plants currently in use have been approved by the Nuclear Regulatory Commission (NRC), a crucial vote of confidence for any interested utility.

Moreover, an international consortium has designed a new type of plant that uses hundreds of thousands of billiard-ball-sized "pebbles" of nuclear material instead of a conventional reactor core. It does not have enough radioactive fuel in a confined space to generate the temperatures necessary for the pebbles to explode. In theory, it is meltdown-proof.

But none of these advances has enticed a U.S. utility to order a nuclear plant, and many obstacles persist.

Polls show that public dread endures. About 40,000 tons of radioactive waste from existing reactors are piling up around the country because the Energy Department has not found a permanent repository.

Critics of nuclear power remain skeptical of the new plants' safety. And although the economists are good today, who's to say how long that will last? Even if a utility decided to build a reactor tomorrow, it would take a significant minimum of six to 10 years to bring it on line.

"There's renewed interest, but people are still skeptical that the public will allow nuclear [plants] to be built again," said Stephen T. Lee of the Electric Power Research Institute, the utility industry's research and development arm. "Also, the financial risk is quite large. The private investor will always take the lowest-risk, highest-return option, which, for now, is still gas generation."

U.S. utilities in 31 states operate 103 commercial reactors, which provide about 20 percent of the nation's electricity.

All U.S. plants are either "boiling water reactors" or pressurized water reactors that use uranium-rich fuel rods in a reactor core to create a controlled nuclear chain reaction. The resulting heat changes water into steam that drives the turbo-generators. "Control rods," usually made of boron, are inserted or withdrawn from the core to regulate the pace of the reaction by soaking up excess neutrons.

As with any boiler, the integrity of a nuclear core depends on the ability of operators and instruments to keep the system from overheating. But while a conventional

boiler may blow up in a cloud of fire and soot when it gets too hot, a nuclear core can also spew deadly radioactivity.

The keys to avoiding trouble are many: adequate operator training, fail-safe shutdown measures and careful monitoring of valves, gauges and instruments. This can be difficult, partly because of the machinery's intrinsic complexity, but mostly because U.S. plants are all one-of-a-kind designs with modifications added along the way. Every operating and safety regime had to be tailor-made to the idiosyncrasies of a specific reactor.

In recent years, utilities have markedly improved safety records with better training and by upgrading plant equipment, monitoring procedures and video displays. Between 1987 and 1999, the number of automatic shutdowns per plant dropped from 3.6 per year to 0.6 per year, according to the NRC. The number of safety system failures per plant was cut in half, to 0.8 per year.

In the meantime, the industry prepared three new reactor designs and obtained NRC certification for them. The object was standardization: "Right now there's a lot of highly skilled construction—it's like airports," said James Lake, president of the American Nuclear Society. "We're looking for a way to change to building airplanes. If you can build in one place on an assembly line, it's much, much cheaper."

The three designs—one by General Electric and two by Westinghouse—are based on traditional technology. GE simplified safety systems, reduced the amount of hardware and made the plant easier to operate.

"It's still concrete, steel, welding, pumps and valves," said Steven A. Huck, GE's general manager for nuclear plant projects. "But when you simplify the design, there's much less of it. You can reduce the size of the building, and that means savings."

GE has built two 1,350-megawatt "advanced boiling water reactors" in Japan and has six under construction: four in Japan and two in Taiwan. The two operating plants took four years and three months to build, and "we're predicting 54 months (4½ years) in the United States," Huck said.

Neither of Westinghouse's two designs, both pressurized water reactors, has been built. The System 80-plus, also 1,350 megawatts, is projected to be South Korea's next-generation reactor, and existing plants there have incorporated features of the new system.

The Westinghouse 600-megawatt "AP600" departs more from tradition because it incorporates "passive" safety features based on gravity and other natural forces. Many safety devices are activated without human intervention.

Obtaining certification for the passive safety system was "a fundamental issue" for Westinghouse, said Howard Brunsch, the company's chief technology officer, because the system will allow off-site, modular construction that can be finished in three years.

Critics acknowledge that standardization and simplicity make new-generation plants safer, but reactors are inherently dangerous, so while it's a question of properly managing the risk, you can't make it zero," said David Lochbaum, a nuclear safety engineer with the Union of Concerned Scientists.

The only truly innovative design on the horizon for the U.S. market is the pebble bed reactor. Instead of fuel rods, the pebble bed reactor uses tiny particles of uranium dioxide encased in layers of graphite and silicon carbide and shaped into spheres. These pebbles—320,000 of them—

Managing a Meltdown

A new design for nuclear reactors in theory is meltdown-proof and rarely would be shut down for refueling.

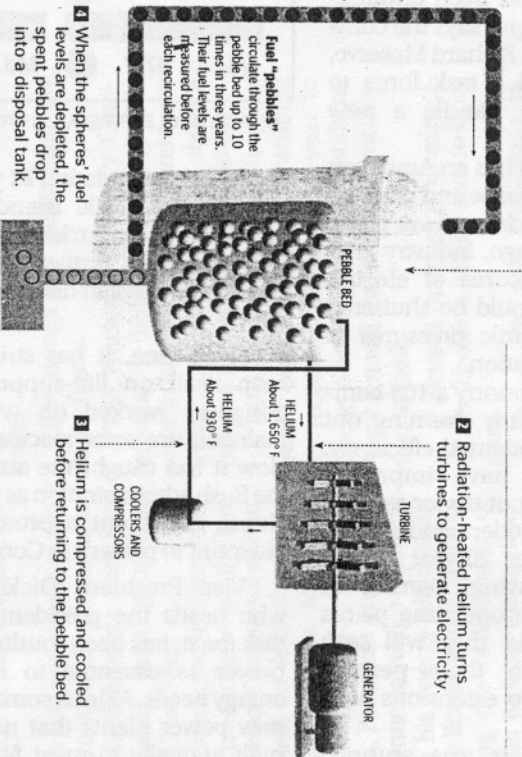
New Design: Pebble Bed Modular Reactor

1 Helium passes through a bed of circulating radioactive fuel "pebbles." The billiard-ball-size spheres have graphite shells and are filled with uranium.

2 When the spheres' fuel levels are depleted, the spent pebbles drop into a disposal tank.

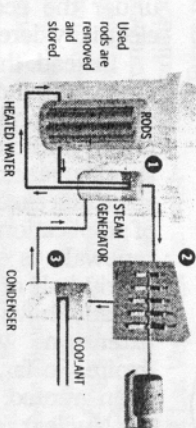
3 Helium is compressed and cooled before returning to the pebble bed.

SOURCE: Nuclear Energy Institute, Exelon Corp.



Traditional Design: Pressurized Water Reactor

- 1 Radioactive rods heat water in the reactor and steam generator.
- 2 Steam turns turbines to generate electricity.
- 3 Steam passes through a condenser and water returns to the steam generator.



NOTE: Water in the reactor and steam generator never mix.

Drawings are schematic.
THE WASHINGTON POST

are poured into a 65-foot cylindrical hopper that is lined with graphite bricks and has a hollow column in the middle. The shape, called an annulus, is like an elongated angel food cake mold.

Once in place, the pebbles initiate a chain reaction. But instead of making steam, the plant pumps helium into the top of the hopper and extracts the heated gas at the bottom, where it drives the turbines.

To shut down the reactor, control rods are inserted through conduits in the graphite bricks. Because the rods cannot run straight through the pebble bed, the reactor must be small—110 to 130 megawatts, vs. 1,000 megawatts or more for a water reactor. But its proponents see small size as an advantage.

"You can build it in a modular fashion and locate it close to transmission lines where you need generation," said Oliver Kingsley, president and chief nuclear officer of the U.S. utility Exelon Corp.

Also, added nuclear engineer Andrew Kadak, who leads a Massachusetts Institute of Technology team developing a pebble bed reactor, smaller makes sense for utilities reluctant to make monster investments.

"What's best: Spend \$3 billion, get the plant in five or six years, or \$100 or \$200 million and get it in 2½ to three years?" Kadak said. Utilities "want to grow incrementally. Our idea is to build a lot of them quickly and get economies of scale that way."

Finally, small size should make the reactor virtually accident-proof. Computer modeling shows that the plant can't generate enough heat to melt the pebbles—even if helium flow is stopped and the control rods are withdrawn.

"You can't have a runaway accident, and that's one thing that's very attractive," Lochbaum said. "But the jury's still out." Graphite can catch on fire, like it did at Chernobyl.

A joint venture that includes Exelon, the South African utility Eskom, British Nuclear Fuel and the South African government, is planning to build a prototype in South Africa and will seek NRC authorization to build a plant in the United States. But the company and the NRC agree it could not come on line before 2007.

"It offers a great deal of possibility," Kingsley said, "but it's still on paper."

By Lester C. Thurow

California's electrical-power crisis tells something about Americans and electric power. When push comes to shove, they aren't willing to simply cut back on their use of electricity.

In California, every solution other than this option seems to generate more interest. Gov. Gray Davis on Monday encouraged consumers to cut their consumption by 7% and promised that the state would do even better, but his "please-use-less-electricity" idea barely made it into most news stories, which were dominated by his tough talk about forming a public power authority to build more power plants and take over others.

Several other states also seem on the verge of power crises. It is clear that Americans are going to use a lot more electricity in the years ahead and that a lot more generating capacity must be built.

But this is in direct conflict with desires to do something about global warming. Global warming has reached the point where a scientific consensus is rapidly emerging. The globe is getting warmer, and human activities — the burning of fossil fuels — are the principal cause.

There are two principal places fossil fuels are used: the burning of oil in cars and trucks, and the burning of gas and coal in the generation of electricity. In both instances, if the green movement wants to solve the problem of global warming, it is going to have to embrace new technologies rather than reject them — its standard operating procedure for the past decade.

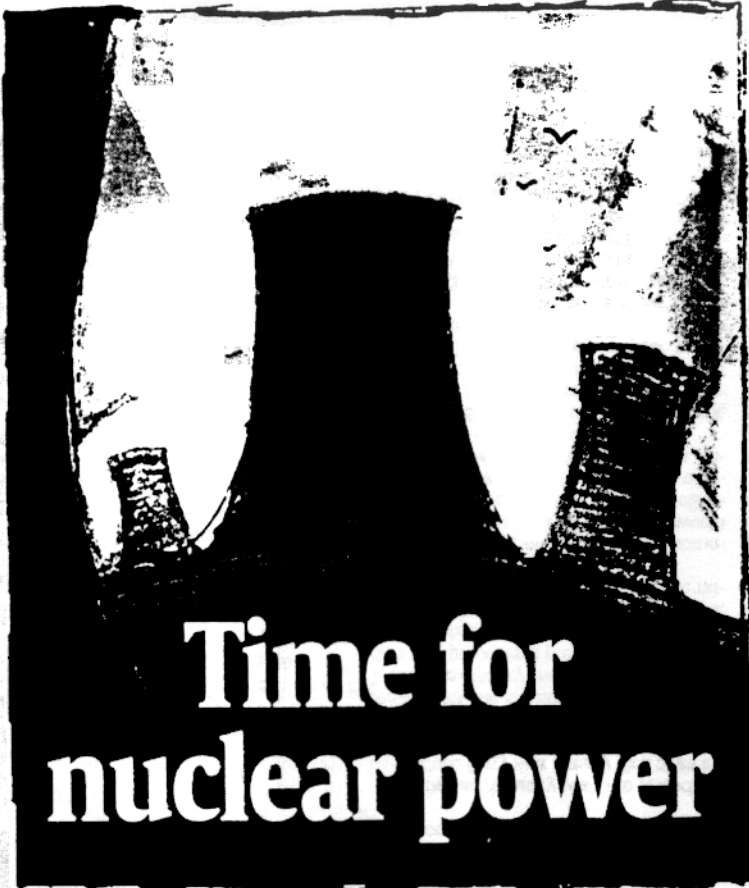
Solving the problems by changing behavior simply isn't an option. Americans are not going to go without electricity, and they aren't going to quit driving. American politicians are not going to force Americans to drive smaller cars by putting higher taxes on gasoline, or to use less electricity by charging more for it.

In the case of electricity, we already have a technical solution at hand. It is called nuclear power — a clean way to generate electricity that does not cause global warming. Yet there is nothing the green movement likes less than nuclear power. In Europe, closing nuclear power plants is at the center of Green Party political platforms.

This ugly choice is going to confront the green movement with a moment of truth. What does it like less: global warming or nuclear power?

There isn't any third way. Solar power simply cannot do what is necessary. There isn't enough sunshine available to provide the electricity needed during the night, during the winter and during cloudy weather. Solar power also takes enormous amounts of space devoted to ugly collectors.

One can wait for fuel cells to be perfected for autos at some point in the future and then hope that they also can be used in the home to generate electricity, but that means doing nothing



Time for nuclear power

by Keith Simmons, USA TODAY

Members of the environmental movement ... don't like global warming, and they don't like nuclear power. But if they want to prevent global warming, they are going to have to embrace nuclear power.

about global warming today.

Nuclear power is one of the few examples in which human sociology has completely dominated hard science. Serious studies consistently show that, to generate the same amount of electricity, more people will die if coal is used than if nuclear power is the energy source.

Remember a year ago when two workers died in a nuclear power plant in Japan? Their deaths were in the headlines of every newspaper in the world. How many people do you think die every day in the coal mining industries of the world?

In America, we kill about 36 per year. In China, they reportedly kill 10,000 per "normal" year. The July 1976 Tangshan earthquake is believed to have killed 200,000 coal miners. Together, China (the world's biggest producer of coal) and America (the world's second-biggest producer) mine half of the world's coal. We don't know the exact death rates elsewhere, but we do know how many millions of tons of coal are produced in different countries. If we assume that the developed world has a death rate per million tons mined equal to that of the Unit-

ed States and that the Third World (India is the world's third-largest producer of coal) has a death rate per million tons mined equal to that of China, 55 people per day die in the world's coal mining industries. Few of those deaths make headlines.

The problem with nuclear power is not that it kills people: it kills very few. Its problem is that humans have a fear of something they cannot see, hear, feel and smell. Humans are used to the idea that a rock can fall on your head and kill you. They have not been able to get used to the idea that an invisible particle they cannot sense can kill them. Nuclear radiation is the ultimate ghost.

But there is another, perhaps more important, dirty little reality about nuclear power that the green movement would rather not talk about. Most of us know with certainty that we will not be the ones killed in a coal mining accident. We don't work in the world's coal mines. Someone else does. They are the ones risking their lives to give us electricity. We don't want to risk our own lives with nuclear power to give ourselves electricity — no matter how small the probabilities may be.

Having spent a few college summers working in an underground copper mine in Montana, my sympathies are with the coal miners. But for most Americans, it swings the other way: It is OK for them to risk their lives to give me the electricity that I want. My death and his death are not equivalent.

The fatality equation is clear. Nuclear power is much safer than coal. It is also safer than natural gas; the number of American deaths in oil and gas exploration is more than twice that in coal mining.

The environmental side effects are equally clear. Coal piles are slightly radioactive. Millions of tons of fly ash have to be dumped somewhere. Burning coal causes global warming. Nuclear power is cleaner.

This leaves members of the environmental movement between a rock and a hard place. They don't like global warming, and they don't like nuclear power. But if they want to prevent global warming, they are going to have to embrace nuclear power.

Like most of us who face such dilemmas, the green movement's forces will end up choosing to be hypocrites. They will talk about non-existent third ways to solve global warming. But since none of these ways is politically viable, they will end up living with global warming. Reversing themselves and admitting that they are wrong on nuclear power would be just too difficult psychologically.

Lester C. Thurow is a professor of economic and former dean of Massachusetts Institute of Technology's Sloan School of Management. He also is a member of the board of contributors of USA TODAY.

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—Allen H. Neuharth, Founder, Sept. 15, 1982

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Today's debate: Nuclear energy

Nuclear power earns fresh look, despite past woes

Our view:

Changes since Three Mile Island argue for Bush plan.

On the surface, nuclear power has had a bad couple of decades. The last permit for a new power plant was issued in 1979. The last new plant went online in 1996. Because of attrition, the number of reactors in service has fallen almost 10% in the past decade.

Yet despite that, the amount of energy generated by those plants has been increasing quietly to almost 20% of the nation's total supply today, from 11% in 1979, with hardly a peep about health or safety problems. So despite some raised eyebrows, the Bush administration is on the right track in reviving nuclear as a potential energy source.

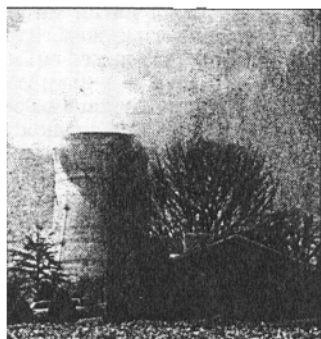
Vice President Cheney, who is fashioning an energy policy due next month, is already championing a return to nuclear power. While several questions would need answers first, the current energy crunch proves the nation needs more power. Why not give nuclear a new hearing?

The debate has been largely foreclosed since 1979, when a reactor at Pennsylvania's Three Mile Island leaked radioactive steam into the atmosphere. And it was hammered shut after the 1986 meltdown at the Soviet Union's crude Chernobyl reactor, an event that killed 40 and exposed hundreds of thousands more to harmful radiation levels.

For all of that, with shortages causing energy prices to spike, the United States cannot afford to reject any potential source of safe, clean, affordable power. And although the nuclear industry still has much to prove and much to live down, it also has made considerable progress toward resolving at least a few of its worst first-generation problems.

Among them was the lack of uniformity among power-plant designs. Unlike France, Canada and other nations, the United States imposed few limits on reactor design. This allowed American utilities to custom-build their plants, with calamitous results.

Because each plant was different, operators were unable to share the cost of training personnel or of developing expensive mod-



1997 file photo by Kalim Bhatt, AP

Worst U.S. nuclear accident: Steam pours from a cooling tower of a nuclear reactor at the Three Mile Island power plant near Middletown, Pa., in February 1979. In 1979, a partial meltdown of the reactor-core fuel caused a release of radioactive material into the atmosphere.

A nuclear timeline

- ▶ 1942: First sustained nuclear reaction, Chicago.
- ▶ 1954: First nuclear-powered submarine, the USS Nautilus, launched.
- ▶ 1954: Congress allows commercial development of nuclear power by private companies.
- ▶ 1957: First American commercial reactor, Shippingport, Pa.
- ▶ 1960-78: Golden Age. 179 construction permits issued; 66 new plants licensed to run at full power.
- ▶ 1978: Last two orders for new nuclear power plants.
- ▶ 1979: Three Mile Island, partial core meltdown.
- ▶ 1986: Chernobyl, Soviet Union, core meltdown.
- ▶ 1996: Last new American plant goes online at Watts Barr, Tenn.
- ▶ 2000: Current status: 103 reactors producing 754 billion kilowatt-hours, about 20% of total national supply.

Source: Energy Information Administration; USA TODAY research

ifications. Federal regulators meanwhile were swamped by the variety. Costs skyrocketed, and amid constant stories about construction flaws, unreliable federal oversight and inadequate safety design, public confidence plummeted.

The learning curve has been steep and punishing: 22 plants closed since 1971; plans for 124 others canceled. Through the 1970s and 1980s, the industry rarely ran above 60% of capacity, and investors, taxpayers, and ratepayers shelled out billions for partially built plants that were abandoned, and finished plants that never went online.

Today, though, remaining plants are running at almost 90% capacity and producing energy at just over half the cost of natural gas, according to the Nuclear Energy Institute, an industry lobby. And they do so while producing virtually none of the gases that cause climate change. This makes them, like alternative energy sources such as the sun and wind, an attractive alternative to plants that burn dirty, costly fossil fuels.

The industry has had less success with its other major milestone: waste disposal. Nuclear plants have generated about 35,000 tons of radioactive waste, most of it stored at the plants in special pools or canisters. But the plants are running out of room, and even if approval is granted this year, a permanent storage facility at Yucca Mountain in Nevada won't open for a decade or more while con-

struction and permitting are completed. Still to be resolved are questions about the transportation of waste, Yucca's capacity and what to do in the interim.

Anxiety over storing spent fuel (which can remain radioactive for tens of thousands of years), combined with lingering fears of a catastrophic accident, continues to inspire strong resistance to nuclear plants. Even in California, where energy prices are jumping 50%, a recent *Los Angeles Times* poll found opposition to more nuclear power plants running almost 2 to 1.

In response, the industry points out that other industries are even more dangerous. No one has ever died as a result of an accident at an American nuclear power plant. But 54,000 have died in civil-aviation plane crashes. Whether such comparisons are fair or not, the fact remains that since 1979, the industry has had an admirable, even enviable, safety record.

Ultimately, of course, the marketplace will decide when nuclear energy returns to favor. And it doesn't seem that will be any time soon. Construction costs are still far too high. It's cheaper and faster to build natural-gas plants. Any Bush plan will also need to fully address the waste issue. That's essential to any expansion of capacity. Still, the nation's energy demands invariably require a mix of energy sources, and there's no compelling reason nuclear shouldn't be a candidate.

Need for nuclear is passé

Opposing view:

It's too costly and too risky. More energy-efficient alternatives exist.

By Amory B. Lovins and L. Hunter Lovins

The nuclear industry wants to resuscitate its product. Sorry — it already died of an incurable attack of market forces.

Overwhelmed by huge construction and repair costs, the industry achieved less than 1/10th the capacity and 1/100th the new orders that proponents predicted, the greatest disappointment in industrial history. Only centrally planned energy systems (Russia, Taiwan, the Koreans, Japan) still propose nuclear plants.

"If a thing is not worth doing," said economist John Maynard Keynes, "it is not worth doing well." Even ignoring risks — proliferation, waste storage and disposal, and unsurmountable accidents — nuclear power is uncompetitive and unnecessary.

After a trillion-dollar taxpayer investment, the energy delivered to consumers by nuclear power is little more than that delivered by wood and waste. Globally, nuclear power produces less energy than renewables. In the 1990s, its capacity rose by 1% a year vs. 17% for solar cells and 24% for wind power.

Enthusiasts claim hypothetical new reactors might deliver a kilowatt-hour of electricity for 6 cents vs. 10-plus cents for post-1980 plants. (Nearly 3 cents pays for delivery to customers.) But super-efficient gas plants or wind farms cost 5 cents to 6 cents;

co-generation of heat and power often cost 2 to 5 cents. The cost of saving a kilowatt-hour through efficient lights, motors and other electricity-saving devices is under 2 cents. They're all getting cheaper. So are the next winners: fuel cells and solar cells — where a pound of silicon can produce more electricity than a pound of nuclear fuel.

Efficient use is the nation's largest and fastest-growing energy source: bigger than oil, growing 3.1% a year. Just electricity efficiency can save four times' nuclear power's output at one-sixth its operating cost.

Those faster, cheaper, safer options emit little or no pollution, and most are climate safe. But replacing power from coal-fired plants with nuclear power, as usually proposed, is the least-effective solution to global warming. Why? Suppose delivering a new nuclear kilowatt-hour cost 6 cents, while saving a kilowatt-hour through efficient use cost 3 cents (both assumptions favorable to the nuclear power industry). Then the 6 cents spent on the nuclear kilowatt-hour could instead have saved two kilowatt-hours through efficiency investments. That's a two-for-one savings.

Nuclear salesmen scour the world for single order; makers of alternatives enjoy brisk business. Let's profit from their experience. Taking markets seriously, not propping up failed technologies at public expense, offers a stable climate, a prosperous economy, and a cleaner and more peaceful world.

Amory B. Lovins and L. Hunter Lovins are co-CEOs of the Rocky Mountain Institute.

Energy plan focuses on production

Cheney's ambitious outline is friendly to oil, critics say

By Richard Benedetto
USA TODAY

Vice President Cheney offered a preview Monday of a Bush administration energy plan that will be long on increased development of domestic oil, natural gas and nuclear power, but short on conservation.

Also missing will be what he called "quick fixes which ... never fix anything": price controls, use of strategic reserves and new federal agencies.

Among Cheney's proposals:

- ▶ Increased domestic production of crude oil.
- ▶ Stepped-up construction of natural gas pipelines.
- ▶ Massive expansion of the electrical power grid.
- ▶ Renewed construction of nuclear, hydroelectric, oil- and coal-fired power plants.

Cheney, a former oil services company executive, called alternative fuels such as ethanol or solar power promising but still "years down the road."

He said the administration will push for oil drilling in the Arctic National Wildlife Refuge. He said advances in technology drastically reduce the risks of harming the environment. But getting that oil to market will likely be years down the road as well.

"As a country, we have demanded more and more energy. But we have not brought on line the supplies needed to meet that demand," the vice president said.

The plan was called "shortsighted" and "leaning too heavily to the oil side" by Rep. Jerry Costello, D-Ill., a member of the House subcommittee on energy. "We need to ... conserve energy and explore alternative fuels such as ethanol and clean-coal technology."

Speaking in Toronto at an annual meeting of the Associated Press, Cheney outlined what may be the most ambitious energy plan since the late 1970s when President Carter promoted conservation to combat Arab oil embargoes.

Cheney said telling Americans to do more with less is not enough. "Conservation may be a sign of personal virtue, but it is not a sufficient basis for a sound, comprehensive energy policy," he said.

Democrats and environmentalists say Cheney's energy plan is more about rewarding contributors to the Bush campaign. Reps. John Dingell of Michigan and Henry Waxman of California have asked federal Comptroller General David Walker to investigate whether private interests are influencing Cheney's Energy Task Force, which has been meeting in secret.

Similar Republican criticism was leveled at the Health Care Reform panel that first lady Hillary Rodham Clinton headed in 1994.

- ▶ States with ample energy eye Calif. firms, 1B
- ▶ Supply fears pump up gasoline prices, 2B

Energy policy renews

battle over nuclear waste

Yucca Mountain, site

of early testing, likely choice for spent fuel repository

Associated Press

LAS VEGAS — Tourists in 1950s Las Vegas donned sunglasses to watch nuclear mushroom clouds over the horizon at the Nevada Test Site.

Today, the city and state fear the prospect of trucks and railroad cars hauling radioactive waste past Las Vegas' glittering new gambling palaces to the Test Site.

"One accident, no matter how minor, could create hysteria," the Las Vegas Chamber of Commerce said in its stand against the federal government's proposed Yucca Mountain nuclear waste repository.

Last week, President Bush called for a national nuclear waste repository as part of his energy plan. Bush also called for licensing new reactors and speeding the re-licensing of existing plants to ease the nation's power woes.

The president did not specifically name Yucca Mountain, but the reference sent shivers through the ranks of those fighting plans to store the nation's nuclear refuse. 1,000 feet beneath a wind-swept ridge, 90 miles northwest of Las Vegas on the western edge of the Test Site.

"There should be no expansion of nuclear power until we have a way to dispose of the waste for years to come without harming the public," said Joan Claybrook, president of Public Citizen, a lobbying group opposed to the Yucca Mountain project.

Since 1987, Yucca Mountain has been the only site studied to become the graveyard for the nation's 77,000 tons of spent nuclear fuel and high-level radioactive research waste.

After \$7 billion worth of study and testing, approval of the Energy Department project is at least a year away.

The earliest the first load of waste could arrive is 2010. The project is expected to cost \$58 billion over 100 years.

But things are happening on many fronts.

The Nuclear Regulatory Commission is holding meetings this week in Las Vegas and the rural community of Pahrump to talk about a construction permit for the site.

The Energy Department is taking public comment before forwarding its recommendation next year to Energy Secretary Spencer Abraham. Abraham will make a recommendation to Bush.

If Nevada opposes it, as expected, the decision will be sent to Congress.

Meanwhile, Sen. Harry Reid, D-Nev., the ranking member of the Senate Committee on Public Works, has been holding up Bush administration nominations to environmental and public works posts until the Environmental Protection Agency sets radiation standards for the site.

"Every nuclear power generator in the country has the ability to safely store the material on site," Reid spokesman David Cherry said Friday.

"We're talking about shipping 77,000 tons of waste so deadly that a particle the size of a grain of sand can cause cancer," he said.

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The Nation

Protected lands hold gas supplies

Clinton plan would block development

By Tom Kenworthy
USA TODAY

At the same time that the Clinton administration is putting the finishing touches on a plan to block most commercial development on nearly 60 million acres of national forest land, the Department of Energy has been cautioned that those lands contain significant reserves of natural gas.

The analysis, prepared for the department in November by a private consulting firm, estimates that

the so-called roadless areas to be covered by the administration's plan could hold as much as 23 trillion cubic feet of natural gas. That is roughly equivalent to a year's supply in the USA.

The potential for significant gas development on national forest lands has led Republican senators and business interests concerned about the recent run-up in gas prices to urge the White House not to block drilling when it finalizes the roadless policy.

In a mid-December letter to President Clinton, five western Republicans led by energy committee chair Frank Murkowski of Alaska said the administration's roadless policy "may have severe implications for the future production of natural gas needed to heat homes, run factories and provide energy to run our new economy."

During interagency meetings on the development of the roadless policy, the Energy Department argued that the plan should include some waivers or exemptions for areas with high potential for oil and gas development. That view was rejected.

"DOE felt it was impor-

tant that this analysis be done and be considered in the final rulemaking, and we're glad that it was," said P.J. Glauthier, deputy Energy secretary.

Another senior administration official said that exemptions were rejected because less than 2% of potential gas reserves in the Rocky Mountain West fall within the roadless areas where development will be blocked. "There is no material impact on oil and gas prospects," the official said. "It's a complete red herring."

In November, after an expedited environmental review, the U.S. Forest Service announced plans to bar road-building and logging

on nearly a third of the lands it manages.

The completed plan, which Clinton might announce as early as Friday, effectively would prevent oil and gas development on nearly 60 million acres of land, once it is implemented fully.

Potential gas reserves in those areas, primarily in the Rocky Mountain West, range from 3.5 trillion cubic feet to 23.1 trillion cubic feet, according to the analysis prepared by Advanced Resources International, an energy consulting firm.

The report might bolster GOP arguments that President-elect Bush should try to reverse the policy when he takes office.