

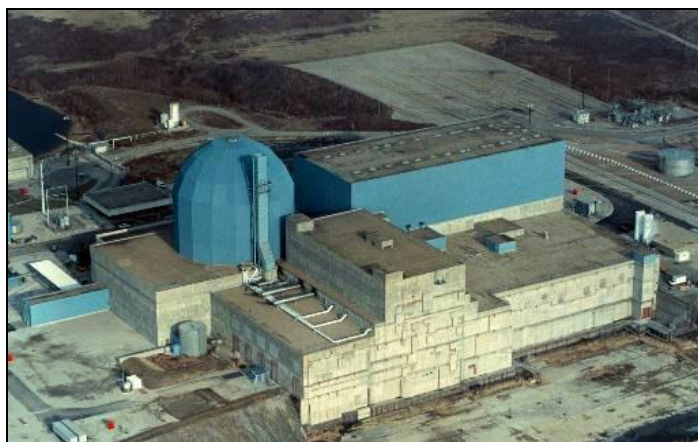


Factsheet #1: Cost

Just the Facts: The Five Fatal Flaws of Nuclear Power

Nuclear power has headlined the energy debate in 2005, largely due to a renewed push by the Bush administration to build new nuclear reactors for the first time in nearly 30 years. But while the debate rages, all the facts aren't being told. Nuclear power is not a solution to our country's energy needs. Here are five key reasons: cost, security, safety, waste, and proliferation.

Despite its promise more than 50 years ago of energy "too cheap to meter," the nuclear power industry continues to be dependent on taxpayer handouts to survive. Since its inception in 1948, this industry has received tens of billions of dollars in federal subsidies but remains unable to compete economically on its own. On April 21, 2005, the U.S. House of Representatives passed an energy bill that included \$6.1 billion in tax breaks and subsidies, as well as other incentives, for the nuclear industry; the Senate is expected to include even more giveaways to this mature, wealthy industry in its version of the bill.¹ Here's what's on the industry's wish list:



Clinton Nuclear Power Plant, Illinois

EXPANSION OF CURRENT PROGRAMS

Limited Liability: The Price-Anderson Act, enacted in 1957 as a temporary 10-year measure to support the fledgling nuclear industry, limits the amount of primary insurance that nuclear operators must carry to \$300 million and caps the total liability of nuclear operators in the event of a serious accident or attack to \$10.5 billion. A serious nuclear accident could cost more than \$600 billion in 2004 dollars² - taxpayers would be responsible for covering the vast majority of that sum. *Price-Anderson for commercial nuclear plants expired as of Jan. 1, 2004 for new reactors only; existing reactors continue to be*

covered. Reauthorizing the Price-Anderson Act to 2025, as the House energy bill does, would extend this subsidy to the proposed new generation of nuclear power plants. The nuclear industry claims that the new designs are "inherently safe." Inherently safe should mean inherently insurable; therefore, nuclear operators should be able to privately insure them.

License Application Costs: The *Nuclear Power 2010* program promotes the building of new nuclear power plants by 2010 by paying for half of the cost to apply for license applications. Through this program, which has received more than \$120 million since FY2001, Exelon, Entergy, and Dominion have received funding for three pending Early Site Permit applications to site new reactors in Illinois, Mississippi, and Virginia, respectively. These companies are also part of two of the three consortia that have indicated that they intend to apply for a combined Construction and Operation License (COL) in 2007. DOE has agreed to provide \$260 million to the NuStart consortium, and the Dominion-led one has asked for \$250 million. The ESP applicants, Entergy, Exelon and Dominion, had combined profits of \$4 billion in 2004. The COL consortia members are among the wealthiest corporations in the world, including Bechtel, General Electric, and Duke Power, with more than \$27.3 billion in combined profit in 2004.³ If the nuclear industry believed that the next generation of nuclear plants is a good



Grand Gulf Nuclear Plant, Mississippi

investment, they would be fully capable of financing both the plants and the research themselves.

Research and Development: The Department of Energy's *Generation IV* program provides funding for up to half the cost of the development of new reactor designs. This program has already received more than \$92 million since FY2001. The research and development costs for a single design are estimated to range from \$610 million to \$1 billion, depending on the type of reactor.⁴ The nuclear power industry has been given more taxpayer dollars for research and development than any other energy sector.

Federal Energy Supply R&D Expenditures, 1948-1998⁵

Energy R&D Program	Total Federal Expenditure (2003 dollars)	Percent
Nuclear Energy	\$74 billion	56%
Fossil Fuels	\$30.9 billion	24%
Renewables	\$14.6 billion	11%
Energy Efficiency	\$11.7 billion	9%

OTHER PROPOSALS FOR SUBSIDIZING NEW PLANTS

Taxpayer-financed New Plant Construction: Despite the industry's current subsidies, the industry wants taxpayers to pay for building new reactors, too. The House bill authorizes \$1.25 billion for research, development and construction to build a new nuclear plant by the end of 2015. The House bill authorizes another \$1.3 billion for a nuclear plant in Idaho to co-generate hydrogen fuel. While hydrogen may one day fuel our cars, using nuclear power to create the hydrogen fails to meet clean energy goals.

"Risk Insurance": President Bush has suggested that the nuclear industry should receive taxpayer money in the event that the regulatory process slows down its plans for building new nuclear reactors. Not only would this be a waste of taxpayer dollars, its implementation would pressure the NRC to rush its review of applications, shortchanging the public of its opportunity to participate in the process and jeopardizing public safety.

Production Tax Credits: In order to attempt to make new nuclear power plants competitive with other sources of energy, the industry is asking for tax credits for the electricity produced by these reactors. This proposal was part of the energy bill that stalled in the Senate last year. According to the Energy Information Administration, a 1.8-cent tax credit for each kilowatt-hour of nuclear-generated electricity from new reactors during the first 8 years of operation would cost **\$5.7 billion** in revenue losses to the U.S. Treasury through 2025.⁶

Loan guarantees and power purchase agreements: To mitigate the high capital costs of building new reactors, the industry wants the federal government to provide loan

guarantees. These will allow the industry to borrow at government treasury bond rates, rather than at rates typically paid by a large utility making a risky investment. The risk of loan default is estimated to be "well above 50 percent."⁷ The Congressional Research Service estimated that the taxpayer liability for loan guarantees covering up to 50% of the cost of building six to eight new reactors would be **\$14-16 billion**.⁸ In addition, the nuclear industry is asking the government to buy 10 years of electricity from these new plants **at above market prices**.⁹

REFERENCES:

1. According to the July 2002 *Business Case for New Nuclear Power Plants*, "without government participation, some risks and costs of new nuclear reactors may remain at unmanageable levels." The report was prepared by Scully Capital Services, Inc., a Washington-based investment banking and financial services firm.
2. *Calculation of Reactor Accident Consequences (CRAC-2)*, Sandia National Laboratory, November 1, 1982.
3. The cumulative profit does not include the following consortium members: Bechtel, Toshiba, and TVA.
4. *A Technology Roadmap for Generation IV Nuclear Energy Systems: Ten Nations Today Preparing for Tomorrow's Energy Needs*. Issued by the U.S. DOE Nuclear Energy Research Advisory Committee and the Generation IV International Forum. Dec. 2002.
http://gif.inel.gov/roadmap/pdfs/gen_iv_roadmap.pdf
5. Data from *Energy Efficiency: Budget, Oil Conservation, and Electricity Conservation Issues*, CRS Issue Brief for Congress, Fred Sissine, Order Code IB10020, Updated September 22, 2004.
6. *Analysis of Five Selected Tax Provisions of the Conference Energy Bill of 2003*, Energy Information Administration, February 2004, p. 3.
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7. Congressional Budget Office cost estimate of S.14, Energy Policy Act of 2003, <ftp://ftp.cbo.gov/42xx/doc4206/s14.pdf>
8. Congressional Research Service, *Potential Cost of Nuclear Power Plant Subsidies in S.14*, May 7, 2003. Requested by Senator Ron Wyden.
9. *Business Case for New Nuclear Power Plants*, Scully Capital Services, Inc., July 2002, p. ES-5.

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