

270

Energy

Budget function 270 includes funding for the nondefense programs of the Department of Energy as well as for the Tennessee Valley Authority, rural electrification loans, and the Nuclear Regulatory Commission. The programs supported by this function are intended to increase the supply of energy, encourage energy conservation, provide an emergency supply of energy, and regulate energy production and distribution. CBO estimates that discretionary outlays for function 270 will be about \$3 billion in 2003. That amount continues a recent trend of funding levels for federal energy programs that are much lower than the levels of the early and mid-1990s. Negative balances in mandatory spending for function 270 result from repayment of loans, receipts from the sale of electricity produced by federal entities, and charges for the disposal of nuclear waste.

Federal Spending, Fiscal Years 1990-2003 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Estimate 2003
Budget Authority (Discretionary)	5.6	5.4	5.8	5.8	6.4	6.2	4.9	4.2	3.1	2.9	2.7	3.2	3.2	3.3
Outlays														
Discretionary	4.8	4.4	5.4	5.6	6.4	6.8	6.0	4.9	3.7	3.1	3.0	2.9	3.0	3.2
Mandatory	<u>-1.4</u>	<u>-2.0</u>	<u>-0.9</u>	<u>-1.2</u>	<u>-1.2</u>	<u>-1.8</u>	<u>-3.1</u>	<u>-3.4</u>	<u>-2.4</u>	<u>-2.2</u>	<u>-4.0</u>	<u>-2.9</u>	<u>-2.5</u>	<u>-2.4</u>
Total	3.3	2.4	4.5	4.3	5.2	4.9	2.8	1.5	1.3	0.9	-1.1	*	0.5	0.7
Memorandum:														
Annual Percentage Change in Discretionary Outlays	n.a.	-7.4	22.4	3.0	15.1	5.7	-11.9	-17.7	-24.4	-15.7	-5.4	-2.1	2.7	6.2

Note: * = between zero and \$50 million; n.a. = not applicable.

270-01—Discretionary**Eliminate the Department of Energy’s Applied Research for Fossil Fuels**

(Millions of dollars)	2004	2005	2006	2007	2008	Total	
						2004-2008	2004-2013
Savings							
Budget Authority	505	644	659	674	690	3,172	6,875
Outlays	151	370	549	619	665	2,354	5,954

The Department of Energy (DOE) currently receives over \$600 million in appropriations annually to improve the applied technologies for finding and using fossil fuels (petroleum, coal, and natural gas). Those research programs were put into place when the prices of fossil fuels were controlled and, as a result, incentives for technology development were muted. In a world of partial deregulation and increasingly free energy markets, the value of federal spending for such research and development (R&D) programs is questionable. Eliminating the research programs would save \$151 million in federal outlays in 2004 and \$2.4 billion over the 2004-2008 period.

Supporters of this option contend that energy markets provide suppliers with sufficient incentives to develop better technologies and bring them to market. They argue that private entities are more attuned to which new technologies have commercial promise than are federal officials. Federal programs have had a long history of funding fossil-fuel technologies that, although interesting technically, had little chance of commercial implementation. As a result, much of the federal spending has not been productive.

People who support eliminating the applied research programs also argue that DOE should concentrate on basic energy research and reduce the department’s involvement in applied technology development. They point out that the federal government has a clearer role in developing the basic science for a new energy source because the benefits of such investment are widespread and cannot be captured by individual firms.

Opponents of eliminating the programs argue that they help offset several failures in energy markets and represent a sound investment for the nation. They say, for example, that energy prices do not reflect the environmental damage done by the production and use of fossil fuels. Research that allows coal to be used with less damage to the environment decreases the cost of its use to society. Those research programs could also increase the efficiency of energy use and thereby reduce dependence on foreign oil.

People who oppose this option also point to the continued development of fuel cell technology in these programs. Fuel cells, which have come down in cost, are just a few years away from displacing more conventional energy sources in a wide variety of markets, from cell phone batteries to household electrical use.

RELATED OPTIONS: 270-02, 270-03, and 270-04; Revenue Options 25 and 40

RELATED CBO PUBLICATION: *Causes and Lessons of the California Electricity Crisis*, September 2001

270-02—Discretionary**Eliminate the Department of Energy’s Applied Research for Energy Conservation**

(Millions of dollars)	2004	2005	2006	2007	2008	Total	
						2004-2008	2004-2013
Savings							
Budget authority	521	665	680	695	711	3,272	7,082
Outlays	235	482	617	676	698	2,708	6,449

In 2002, the Department of Energy (DOE) received appropriations of \$640 million for programs to develop energy conservation technologies. Those efforts include the FreedomCAR Partnership (discussed in option 270-07) for automobile research as well as industrial and residential energy-efficiency research. Federal agencies’ involvement in the selection and development of technologies with near-term commercial prospects raises questions about the appropriateness of the current division of labor between the public and private sectors. Eliminating these programs would save \$235 million in outlays in 2004 and \$2.7 billion over the 2004-2008 period.

People who support halting federal spending for energy conservation research and development (R&D) argue that the federal government should stay out of the development of applied energy technology and concentrate on basic research in the underlying science. Specifically, they note that many projects funded through this research effort are small and discrete enough—and, in many cases, have a clear enough market—to warrant private investment. In such instances, DOE may be crowding out or preempting private-sector firms. In other instances, such programs conduct R&D that the intended recipients are likely to find too expensive or esoteric to implement.

Supporters of this option also note that other federal policies encourage the introduction of some of the technologies. For example, federal law sets minimum efficiency standards for appliances and cars. In addition, the tax code favors investments in conservation technologies. Thus, federal R&D programs may duplicate other support.

People who oppose eliminating the programs argue that federal R&D in energy conservation helps offset several failures in energy markets. Current energy prices, they contend, do not reflect the damage to the environment, including the potential for global warming, from excessive reliance on fossil fuels. In addition, they argue that energy conservation will decrease the social costs of producing and using energy and the nation’s dependence on foreign oil. Opponents of eliminating DOE’s programs also encourage cost sharing in some industrial grants, which may raise the rate of private R&D in the field.

(Because energy conservation R&D and the FreedomCAR Partnership overlap, the savings from eliminating both programs would be less than the sum of the figures for the two options. In addition to its own energy conservation programs, DOE separately provides grants to state and local agencies for energy conservation. Those grants are discussed in option 270-04.)

RELATED OPTIONS: 270-01, 270-03, 270-04, 270-07, and 300-11; Revenue Option 40

RELATED CBO PUBLICATIONS: *Causes and Lessons of the California Electricity Crisis*, September 2001; *Electric Utilities: Deregulation and Stranded Costs*, October 1998; and *Should the Federal Government Sell Electricity?* November 1997

270-03—Discretionary**Eliminate the Department of Energy’s Applied Research for Solar and Renewable Energy Sources**

(Millions of dollars)	2004	2005	2006	2007	2008	Total	
						2004-2008	2004-2013
Savings							
Budget authority	315	401	411	420	430	1,977	4,282
Outlays	142	291	373	409	422	1,637	3,899

In 2002, the Department of Energy (DOE) received appropriations of \$386 million to spend on research and development (R&D) for solar and other renewable energy sources. The largest such technology development efforts by far are those for developing alternative liquid fuels from biomass and electricity from photovoltaic cells. Smaller efforts involve electric energy storage and wind energy systems. Eliminating this research would save \$142 million in outlays in 2004 and \$1.6 billion over the 2004-2008 period.

Supporters of this option argue that the federal government should stay out of the development of applied energy technology and concentrate on basic research in the underlying science. Federally sponsored researchers lack the market incentives and information that help researchers in private companies recognize marketable technologies.

Another criticism applicable to DOE’s conservation R&D programs (discussed in option 270-02) is that many of the research projects funded by the renewable energy program are sufficiently small and discrete and have a clear enough market to attract private funding.

Several renewable energy technologies—most notably wind power and photovoltaic cells—are now at the heart of commercial markets. Wind energy, according to industry estimates, currently constitutes a \$6 billion market worldwide and has grown rapidly. Similarly, the photovoltaic market is growing at between 20 percent and

25 percent per year. In such cases, it may be time for an orderly withdrawal of federal support. Given the large U.S. venture capital market, continued federal support may be displacing private funding.

Finally, supporters of this option explain that for liquid fuels derived from renewable resources, especially biomass, the federal tax code already provides incentives for developing the technology. Ethanol fuels receive special treatment under the federal highway tax (see Revenue Option 25). Furthermore, federal regulations authorized by many different statutes favor alcohol fuels, which now usually mean those that are corn-based.

By reducing the costs of alternative energy sources, opponents of this option argue, DOE’s programs have provided some insurance against permanent increases in the price of oil. One 1999 analysis showed that many of the technologies had indeed met their goals to lower costs, although they were not used because costs for conventional energy sources had fallen by even more. Should energy prices rise over the longer term, however, these new energy sources could gradually come into wider use.

Opponents of eliminating the programs also argue that the energy prices consumers pay fail to incorporate the risks posed by the nation’s dependence on fossil fuels. Furthermore, the United States plays the role of international R&D laboratory for less developed countries, which often have much higher energy costs.

270-04—Discretionary**Eliminate Grant Programs That Support Energy Conservation**

(Millions of dollars)	2004	2005	2006	2007	2008	Total	
						2004-2008	2004-2013
Savings							
Budget authority	224	286	292	299	306	1,407	3,044
Outlays	101	207	265	291	300	1,164	2,772

Weatherization assistance grants supported by the Department of Energy's (DOE's) Office of State and Community Programs help low-income households reduce their energy bills by funding such activities as installing weather stripping, storm windows, and insulation. Institutional conservation grants supported by the office help reduce the use of energy in educational and health care facilities by adding federal funds to private and local public spending to encourage local investment in improvements to buildings. The Office of State and Community Programs also supports the energy conservation programs of states and municipal governments that, for example, establish energy-efficiency standards for buildings and promote public transportation and carpooling.

This option would halt new appropriations for DOE's grant programs that support energy conservation activities by the states. Implementing this option would save \$100 million in outlays in 2004 and \$1.2 billion over the 2004-2008 period.

People who support this option question whether the programs actually work and whether the conservation actions they call for are not already promoted by other programs or laws, such as the Clean Air Act Amendments of 1990. The DOE programs duplicate a similar block-grant activity, the Low Income Home Energy Assistance Program, administered by the Department of Health and Human Services. Moreover, federal support for reducing the use of gas and coal through conservation grants conflicts with other federal policies that promote the production and use of those fuels.

People who oppose this option claim that eliminating the grant programs could impose hardships on states that wish to continue their energy conservation efforts. Many states still rely heavily on such grants to help low-income households and public institutions. In addition, the energy savings those programs effect could contribute to reducing greenhouse gas emissions.

RELATED OPTIONS: 270-01, 270-02, 270-03, and 300-11

RELATED CBO PUBLICATIONS: *Causes and Lessons of the California Electricity Crisis*, September 2001; *Electric Utilities: Deregulation and Stranded Costs*, October 1998; and *Should the Federal Government Sell Electricity?* November 1997

270-05—Mandatory**Restructure the Power Marketing Administrations to Charge Higher Rates**

(Millions of dollars)	2004	2005	2006	2007	2008	Total	
						2004-2008	2004-2013
Added Receipts	0	160	160	160	160	640	1,440

The three smallest power marketing administrations (PMAs) of the Department of Energy—the Western Area Power Administration, the Southwestern Power Administration, and the Southeastern Power Administration—sell about 1 percent of the nation’s electricity. Those PMAs sell power to customers at below-market rates.

The power generated by the PMAs comes largely from hydropower facilities that the Army Corps of Engineers and the Bureau of Reclamation have built and continue to operate. Current law requires that those sales be made at cost—a pricing structure intended to ultimately reimburse taxpayers for all of the costs of current operations and a share of the costs of construction and interest on the portion of total costs that has not been repaid. Interest charges are generally below the government’s cost of borrowing. Those lower charges, along with the low cost of generating electricity from hydropower, result in power rates for customers that are significantly below the rates that other utilities charge. Current law also requires that PMAs first offer their power to rural electric cooperatives, municipal utilities, and other publicly owned utilities.

Restructuring would require that those three PMAs sell electricity at market rates to any wholesale buyer. Those higher rates would provide the federal government with about \$640 million in added receipts over five years.

Supporters of the restructuring maintain that the rationale for federal power subsidies is weak. The market power of private utilities is checked by federal and state regulation of the power supply; by federal antitrust laws; and, increasingly, by competition from independent producers. In many cases, neighboring communities—some receiving federal power and some not—have similar characteristics. For households in the regions that the three PMAs serve, federal sales of power meet only a small share of their total power needs; therefore, the impact of increased federal rates on households’ electricity costs would be modest. In addition, bolstering the case for increasing power rates now is the prospect of significant future costs for the PMAs to perform long-deferred maintenance and upgrades. Finally, selling power at below-market rates encourages the inefficient use of energy.

People who oppose the option believe that restructuring could greatly increase electricity rates for the many small and rural communities served by PMAs. Opponents of restructuring also argue that continuing to provide low-cost federal power is necessary to counter the uncompetitive practices of investor-owned utilities and to bolster the economies of certain regions of the country.

RELATED OPTIONS: 270-06; Revenue Options 27, 30, and 31

RELATED CBO PUBLICATION: *Should the Federal Government Sell Electricity?* November 1997

270-06—Mandatory**Sell the Southeastern Power Administration and Related Power-Generation Equipment**

(Millions of dollars)	2004	2005	2006	2007	2008	Total	
						2004-2008	2004-2013
Added Receipts	0	0	1,900	-112	-115	1,673	1,060

Note: Excludes discretionary savings for operations.

The Southeastern Power Administration (SEPA) of the Department of Energy sells electricity from hydropower facilities that the Army Corps of Engineers has constructed and operates. SEPA pays private transmission companies to deliver that power to more than 300 wholesale customers: rural cooperatives, municipal utilities, and other publicly owned utilities. Selling federal power assets would be consistent with the policy goal of increasing efficiency in energy markets.

SEPA's power rates are designed to recover for taxpayers all of the costs of current operations, a share of the costs of construction, and a nominal interest charge on the portion of the total costs that has not yet been recovered. The average revenues from SEPA power are about 2.8 cents per kilowatt-hour (kWh), compared with average revenues of 5.0 cents per kWh for utilities in the region.

Selling assets that directly support SEPA's supplying of electricity would provide the federal government with about \$1.7 billion in added receipts over five years. That estimate reflects sale proceeds of about \$1.9 billion minus a loss of receipts for that period of about \$230 million. Over the 2004-2013 period, added receipts would total \$1.1 billion. Those figures do not include reduced discretionary outlays of about \$75 million annually from ending appropriations to SEPA and the Corps for operations. The estimate of sale proceeds is based on SEPA's most recent audited statement of its assets and liabilities. The Corps's assets that would be transferred include equipment, such as turbines and generators, but not the related

dams, reservoirs, or waterfront properties. The sale would also include rights of access to that equipment and to the water flows necessary for power generation, subject to the constraints of competing uses for the water.

Supporters of this option contend that the original reasons for establishing SEPA—marketing low-cost power to promote competition and fostering economic development—are no longer compelling to many people because of the small amount of power that SEPA sells and because of competitive and regulatory constraints on power rates. Also, selling federal facilities does not mean transferring all functions in managing and protecting the water as a resource. The Corps could retain direct responsibility for managing water flows for all uses, including the upkeep of basic physical structures and surrounding properties. Or, as with other nonfederal dams, the terms of the federal licenses to operate the facilities (issued by the Federal Energy Regulatory Commission) could determine the management of water flows for competing purposes.

People opposed to ending federal ownership believe that nonfederal entities lack the proper incentives to perform all of SEPA's functions. Many Corps facilities serve multiple purposes, managing water resources for navigation, flood control, or recreation as well as for power generation. Opponents also argue that selling SEPA could increase power rates. Although sales by SEPA meet only about 1 percent of the total power needs in the 11 states in which it operates, a few rural communities depend heavily on SEPA.

RELATED OPTIONS: 270-05; Revenue Options 27, 30, and 31

RELATED CBO PUBLICATIONS: *Electric Utilities: Deregulation and Stranded Costs*, October 1998, and *Should the Federal Government Sell Electricity?* November 1997

270-07—Discretionary**Eliminate Federal Funding for the FreedomCAR Partnership**

(Millions of dollars)	2004	2005	2006	2007	2008	Total	
						2004-2008	2004-2013
Savings							
Budget authority	122	156	159	162	166	765	1,648
Outlays	55	113	145	158	163	634	1,503

The FreedomCAR Partnership is a joint federal/private research effort that aims to foster the development of energy-efficient vehicles, primarily by promoting research into fuel cell technology. Fuel cells generate electricity by stripping out the electrons from hydrogen fuel. Recycling the electrons back into the remaining fuel mixture and combining it with oxygen produce air and water vapor emissions.

This program replaces the Partnership for a New Generation of Vehicles (PNGV), which focused on hybrid automobiles (cars with diesel and electric motors). Although the FreedomCAR Partnership will emphasize fuel cell vehicles and the infrastructure needed to support them, it will also sponsor research into combustion and emission systems, lightweight materials, and electronic and battery technologies suitable for energy-efficient automobiles. The FreedomCAR Partnership complements a larger effort, announced in the President's State of the Union address to the Congress, to develop hydrogen-based sources of energy for automotive and other uses.

The Department of Energy (DOE) will assume the lead federal role in the FreedomCAR Partnership. Eliminating funding for the program would save \$55 million in outlays in 2004 and \$634 million over the 2004-2008 period. However, because the FreedomCAR Partnership and DOE's energy conservation and renewable energy programs—discussed in options 270-02 and 270-03, respectively—are related, the savings from eliminating all of those programs would be less than the sum of the figures for the three programs individually.

Supporters of this option point out that the program that preceded FreedomCar, the PNGV, lagged in its efforts to create a production-ready vehicle. Indeed, by early

2003, the only hybrid vehicles available to American consumers were made by Honda and Toyota, two foreign automakers. Hence, the efficacy of yet another domestic research partnership between the public and private sectors in this area is questionable. This option's proponents note as well that domestic automakers have already begun conducting fuel cell research and that competitive pressures on them from their foreign competitors may spur those efforts. In 2002, Honda began leasing a fuel cell-powered vehicle in California, and Toyota made fuel cell vehicles available to government test fleets. Proponents contend, therefore, that economic incentives to undertake such efforts already exist in the private sector and that government financial support would simply represent corporate welfare without inducing greater research.

Proponents also argue that instead of supporting applied research, the federal government could more effectively increase the efficiency of the nation's automotive fleet by raising gasoline taxes, user fees, or both. Such measures would increase the incentives for consumers to purchase energy-efficient automobiles. They might also bring about more productive research, as automakers would have a greater incentive both to conduct research into fuel cell technology and to broaden their research efforts to include other potential sources of automotive fuel efficiency, such as more-sophisticated drive trains and transmissions and lightweight but durable chassis and body materials.

Opponents of this option argue that imperfections in energy markets and environmental considerations make government promotion of energy-efficient technologies desirable, because private-sector incentives to conduct research are less than those of society overall to see such research undertaken. They would argue further that the disparity between private and societal incentives is ex-

cerbated by the fact that, relative to other investment projects competing for private-sector dollars, the possibility of commercializing fuel cell vehicles is far off and fraught with risk. Hence, without government sponsorship, the private sector would underfund research in this

area. From the perspective of the option's opponents, funding the FreedomCAR Partnership brings the future viability of reducing energy consumption through fuel cell technology to a level that more closely corresponds to the interests of society overall.

RELATED OPTIONS: 270-01, 270-02, and 270-03; Revenue Options 27 and 40

270-08—Mandatory**Reduce the Size of the Strategic Petroleum Reserve**

(Millions of dollars)	2004	2005	2006	2007	2008	Total	
						2004-2008	2004-2013
Added Receipts	367	376	386	395	405	1,929	1,929

The Strategic Petroleum Reserve (SPR) is a stock of crude oil, owned by the federal government, that was first authorized in 1975 to help safeguard the nation against the threat of a severe disruption of oil supplies. Consisting of four underground sites along the Gulf of Mexico, the SPR currently holds about 600 million barrels of oil and is about 85 percent full. The Department of Energy (DOE) can sustain a draw from the SPR at a maximum rate of about 4 million barrels per day (or 20 percent of the nation's current petroleum use) for about 90 days. The department has released oil in emergency circumstances only three times: it released more than 17 million barrels during the Persian Gulf War to prop up the U.S. supply, nearly 3 million barrels in fall 2000 to help establish a heating oil reserve for the Northeast in anticipation of a frigid winter, and 500,000 barrels earlier in 2000 to aid a local refinery after a dry-dock accident. The government's net investment in the SPR is about \$17 billion for oil and about \$4 billion for storage and transportation facilities. At a price of \$25 per barrel, for example, that oil is valued at nearly \$15 billion.

This option would require DOE to reduce the size and excess capacity of the SPR by closing the smallest storage site, Bayou Choctaw in Louisiana, and selling the site's 71 million barrels of oil over a five-year period (to minimize the impact of the sale on world oil prices). Receipts from the oil sales would be about \$400 million in 2004 and would total \$1.9 billion over the 2004-2008 period. Appropriations for operating the reserve could be reduced after the site was decommissioned. The option conforms with past Congressional actions: in 1996 and 1997, the Congress directed DOE to sell SPR oil to offset spending

on the reserve and other programs. DOE is currently adding to the SPR's holdings in the absence of new appropriations for purchases. Royalties owed to the federal government by private companies are being taken in kind, rather than cash, and diverted to the reserve (about 23 million barrels thus far). And DOE has entered into exchange agreements with oil companies that have borrowed government oil or used SPR facilities, repaying the government with oil (about 10 million barrels). (This option does not include any budgetary savings from not operating the closed site or from avoiding government losses in those swap programs.)

Proponents of this option contend that reducing the SPR is supported by changes in the reserve's benefits and costs since 1975. Structural changes in energy markets and the economy at large have lowered the potential costs of a disruption of oil supplies and consequently the benefits from releasing the oil in a crisis. The Middle East remains an unreliable source of oil because of continuing tensions in the area. However, the increasing diversity of world oil supplies and the growing integration of the economies of oil-producing and oil-consuming nations lessen the risk of a sustained widespread disruption. Moreover, DOE's experience with selling oil during the Persian Gulf War and at other recent times indicates that the process of deciding to release oil and establishing its price can contribute to market uncertainty, diminishing the benefits of a release. The rising costs of maintaining the SPR also strengthen the case for this option: many of the SPR's facilities are aging and have required unanticipated spending for repairs.

Opponents of closing the site and selling the oil stress logistical and pricing concerns. Closing Bayou Choctaw could reduce DOE's flexibility in distributing oil from a drawdown, especially in the Mississippi Valley. Pipelines from that site connect to refineries that would otherwise be costly to supply. And selling SPR oil could ad-

versely affect domestic oil producers, a concern that prompted the Congress to repeal legislation in 1998 requiring oil to be sold. The President has stated the goal of filling the SPR to its current capacity of 700 million barrels.

RELATED CBO PUBLICATION: *Rethinking Emergency Energy Policy*, December 1994

270-09—Mandatory**Require the Tennessee Valley Authority to Impose a Transmission Surcharge on Future Electricity Sales**

(Millions of dollars)	2004	2005	2006	2007	2008	Total	
						2004-2008	2004-2013
Added Receipts	0	270	270	270	270	1,080	2,430

The Tennessee Valley Authority (TVA) is the largest single producer of electricity in the country and the sole supplier of power to retail utilities, large industrial customers, and federal agencies in large portions of the southeastern United States. The TVA is supposed to set electricity rates on the basis of its costs so that over time, receipts from its sales will be sufficient to pay for routine operations, depreciation of productive assets, and certain other activities. Current rates, however, are not sufficient to pay off the \$4.1 billion that the TVA has invested in certain nuclear power plants that have never been completed.

It may be difficult for the TVA to raise funds to recover the costs of those uneconomic investments, for a number of reasons. First, the TVA's market may be opened to competition at some point, raising the pressure to keep rates low. Second, the TVA recently signed at least one contract that protects its customers from being charged after 2007 for the agency's uneconomic investments. Third, the TVA has other liabilities to cover that it has financed through leasebacks and other nontraditional means. Those arrangements have raised concerns about circumventing the \$30 billion statutory limit on the agency's debt. If the TVA fails to recoup the costs of investments through increased rates, the burden may fall on taxpayers nationwide.

This option would require the TVA to impose a surcharge on electricity transported over its transmission system, regardless of the source, to recover a portion of its past costs. That transmission surcharge would have customers in the TVA's traditional service area pay for the past costs, even if they switched suppliers. The surcharge

would be set to recoup \$2.4 billion of the TVA's \$4.1 billion investment in uneconomic assets over a period of 10 years. (The option would also redefine the TVA's debt limit to include related liabilities arising from long-term contracts and gradually scale back that limit to \$20 billion—or \$5 billion below the current level of outstanding debt—to ensure that revenues collected from the surcharge would go toward lowering the agency's debt burden.) Added receipts would total \$1.1 billion over the 2004-2008 period.

Supporters of this option would contend that a surcharge on transmission services would lessen the possibility that taxpayers—rather than the TVA's customers—were saddled with the cost of its past uneconomic investments. The surcharge would produce additional receipts for the agency over the next 10 years. It would also protect the TVA's sales base because it would apply to all sales of electricity in its historical service area. Many states have authorized similar tariff surcharges to help local utilities recover the costs of investments that became uneconomic with the introduction of competition at the wholesale level.

Opponents of the option might argue that if charges for past investments made the TVA's rates uncompetitive, the region could suffer. They also might argue that requiring a transmission surcharge would constrain the TVA's ability to formulate efficient plans for paying off uneconomic investments. The most efficient solution, for example, might be for the TVA to write off a portion of the \$4.1 billion investment in deferred nuclear assets at taxpayers expense.