CONGRESSIONAL BUDGET OFFICE
COST ESTIMATE

May 1, 2003

H.R. 1644
Energy Policy Act of 2003

As reported by the House Committee on Energy and Commerce on April 8, 2003

SUMMARY

H.R. 1644 would authorize funding for several programs aimed at energy production, conservation, and research and development. It would provide permanent authorization for the use of energy savings performance contracts (ESPCs) and expand the use of these contracts. It also would establish a mandate for the use of renewable motor fuels and make several changes to the regulatory framework governing the nation's electricity system. H.R. 1644 would change the requirement that the Department of Energy (DOE) sell certain uranium products in 2003. The bill also would authorize funding to expand the nation's petroleum reserves and to establish a program for hydrogen and other alternative fuel-powered cars.

Most of the bill's costs would stem from changes in discretionary spending. We estimate that implementing H.R. 1644 would cost $2.9 billion in 2004, $26.1 billion over the 2004-2008 period, and $30.1 billion over the 2004-2013 period, assuming appropriation of the necessary amounts.

CBO estimates that enacting H.R. 1644 also would increase direct spending by $94 million in 2003, by $1.9 billion over the 2003-2008 period, and by $3.8 billion over the 2003-2013 period. We also estimate that enacting the bill would increase revenues by $75 million in 2004, by about $680 million over the 2004-2008 period, and by about $530 million over the 2004-2013 period.

H.R. 1644 contains numerous mandates as defined in the Unfunded Mandates Reform Act (UMRA) that would affect both intergovernmental and private-sector entities. CBO estimates that several mandates would impose substantial costs on those entities. CBO cannot determine the cost of all the mandates in the bill because several of the requirements established by the bill would hinge on future regulatory action for which information is not available.

Even though CBO cannot estimate the cost of all of the mandates, we expect that the total cost of private-sector mandates in the bill would exceed the annual threshold established in UMRA ($117 million in 2003, adjusted annually for inflation). That conclusion is based on our analysis of the renewable fuels standard, which would impose substantial costs on the motor fuels industry in 2009, the fifth year the standard is in effect.

Although CBO is uncertain about the cost of several of the intergovernmental mandates contained in the bill, including new security requirements for nuclear facilities and nuclear materials transport, we expect that the aggregate cost of all intergovernmental mandates would not exceed the threshold established in UMRA ($59 million in 2003, adjusted annually for inflation).

ESTIMATED COST TO THE FEDERAL GOVERNMENT

The estimated budgetary impact of H.R. 1644 is shown in Table 1. The costs of this legislation fall within budget functions 270 (energy), 300 (natural resources and environment), 350 (agriculture), 400 (transportation), and 800 (general government).

TABLE 1. ESTIMATED BUDGETARY IMPACT OF H.R. 1644

	By Fiscal Year, in Millions of Dollars					
	2003	2004	2005	2006	2007	2008
CHANGES IN SPENDING SUBJECT TO APPROPRIATION						
Estimated Authorization Level	0	6,963	8,366	8,772	3,810	1,153
Estimated Outlays	0	2,870	6,365	8,148	5,569	3,165
CHANGES IN DIRECT SPENDING						
Estimated Budget Authority	94	210	355	445	499	467
Estimated Outlays	94	175	323	416	471	439
CHANGES IN REVENUES						
Estimated Revenues	0	75	129	172	147	158

BASIS OF ESTIMATE

For this estimate, CBO assumes that H.R. 1644 will be enacted by the end of fiscal year 2003. Additionally, CBO assumes that the full estimated amounts will be appropriated for each year and that spending will follow historical rates for ongoing activities. Table 2 details the components of estimated discretionary spending under H.R. 1644. (Table 3, provided later, details the bill's direct spending and revenue effects.)

TABLE 2. ESTIMATED EFFECTS OF H.R. 1644 ON SPENDING SUBJECT TO APPROPRIATION

	By Fiscal Year, in Millions of Dollars					
	2003	2004	2005	2006	2007	2008
SPENDING SUBJECT TO APPROPRIATION						
Discretonary Spending Under Current Law						
Authorization Level[a]	4,041	2,650	0	0	0	0
Estimated Outlays	4,928	4,023	1,232	244	82	35
Proposed Changes:						
Specified Authorization Level	0	6,546	8,000	8,391	3,616	957
Estimated Outlays	0	2,687	6,127	7,813	5,186	2,850
Estimated Authorizations:						
Loan Guarantees						
Estimated Authorization Level	0	200	200	200	0	0
Estimated Outlays	0	10	80	160	190	120
Energy Conservation At Federal Agencies						
Estimated Authorization Level	0	80	80	80	80	80
Estimated Outlays	0	80	80	80	80	80
Renewable Energy Production Incentive						
Estimated Authorization Level	0	62	21	37	37	41
Estimated Outlays	0	56	20	32	37	40
Grants for Energy Efficient Public Buildings						
Estimated Authorization Level	0	40	42	43	44	44
Estimated Outlays	0	10	33	42	43	44
NRC Fees from Government Agencies						
Estimated Authorization Level	0	5	5	5	5	5
Estimated Outlays	0	5	5	5	5	5
Motor Fuels and Clean Air Act Provisions						
Estimated Authorization Level	0	3	3	2	5	4
Estimated Outlays	0	3	3	2	5	4
Paducah Operations						
Estimated Authorization Level	0	0	0	0	10	10
Estimated Outlays	0	0	0	0	10	10
Other Provisions						
Estimated Authorization Level	0	27	15	14	13	12
Estimated Outlays	0	19	18	14	13	12

Continued

TABLE 2. (Continued)

	By Fiscal Year, in Millions of Dollars					
	2003	2004	2005	2006	2007	2008
Subtotal, Estimated Authorizations						
Estimated Authorization Level	0	417	366	381	184	186
Estimated Outlays	0	183	239	335	383	314
Total Proposed Changes						
Estimated Authorization Level	0	6,963	8,366	8,772	3,810	1,153
Estimated Outlays	0	2,870	6,365	8,148	5,569	3,165
Discretionary Spending Under H.R. 1644						
Estimated Authorization Level	4,041	9,613	8,366	8,772	3,810	1,153
Estimated Outlays	4,928	6,893	7,597	8,392	5,651	3,200

NOTE: NRC = Nuclear Regulatory Commission.

a. The 2003 amount is the sum appropriated for that year. The 2004 figure is the current authorization for the Low-Income Home Energy Assistance Program.

Spending Subject to Appropriation

H.R. 1644 contains several provisions that specify amounts authorized to be appropriated for energy conservation, energy research and development programs, the Low-Income Home Energy Assistance Program (LIHEAP), an expansion of the Strategic Petroleum Reserve, and researching additives in motor fuels. Additionally, the bill would authorize unspecified amounts to be appropriated for incentives to use renewable energy, loan guarantees for certain types of electricity plants, an energy efficiency grant program for public buildings, and several other energy programs, studies, and reports. Assuming appropriation of the necessary amounts, CBO estimates that implementing these provisions would cost $2.9 billion in 2004 and $26 billion over the 2004-2008 period. The following two sections detail the costs of specified and estimated authorizations. (A discussion of direct spending and revenue effects follows the next two sections.)

Provisions with Specified Authorizations

CBO estimates that implementing programs with specified authorizations in the bill would cost about $25 billion over the 2004-2008 period. That estimate assumes that all amounts authorized to be appropriated for these programs—about $28 billion over the next five years— will be provided each year.

The Low-Income Home Energy Assistance Program (LIHEAP). LIHEAP is the largest program that would be authorized by the legislation. The bill would raise the current authorization for LIHEAP and extend authority for the program through fiscal year 2006. Assuming appropriation of the authorized amounts, CBO estimates that implementing this provision would cost about $1 billion in 2004 and $8.8 billion over the 2004-2008 period.

Under current law, a total of $2.65 billion is authorized to be appropriated for fiscal year 2004. These funds include $2.0 billion for the basic formula grant for states to provide energy assistance for low-income households, $50 million for grants to states to develop nonfederal energy resources and for Residential Energy Assistance Challenge (REACH) grants, and $600 million for additional energy assistance for emergency needs. H.R. 1644 would increase the authorization for the basic formula grant for states to $3.4 billion in fiscal year 2004, and extend this authorized level through fiscal year 2006. The extension of the basic formula grant would automatically extend the authorization of emergency funding through fiscal year 2006 at $600 million per year. The emergency funds are made available only after a formal request by the President that includes a designation of the amount requested as an emergency requirement as defined in the Balanced Budget and Emergency Deficit Control Act. (On September 30, 2002, the major provisions of that act expired.) Based on a review of historical experience, CBO expects that only one-half of the emergency funds are likely to receive such an emergency designation.

Other Specified Program Authorizations. The bill also would specifically authorize funds to be appropriated for several other energy related programs. CBO estimates that over the 2004-2008 period implementing H.R. 1644 would cost:

- $9.6 billion for energy-efficiency, conservation, nuclear, electricity, and coal research and development programs administered by DOE;

- $2 billion for programs related to advancing the energy efficiency of vehicles and research on motor fuels, including DOE's FreedomCAR program;

- $1.8 billion for grants through DOE's state energy assistance programs;

- $1.6 billion to fund clean up of the motor fuel additive methyl tertiary butyl ether (MTBE) and to assist producers in eliminating the use of the additive;

- $650 million for expansion of the Strategic Petroleum Reserve to 1 billion barrels from its current capacity of 700 million barrels;

- $80 million for incentive programs to expand the production of hydroelectric electricity;

- $56 million to DOE for a new oil and natural gas recovery program focused on unproven reserves; and

- $30 million to DOE for cooperative research and development efforts with the uranium industry.

Provisions with Estimated Authorizations

Based on information from DOE, Environmental Protection Agency (EPA), other affected agencies, and industry sources, CBO estimates that H.R. 1644 would authorize the appropriation of an additional $417 million in 2004 and $1.6 billion over the 2004-2008 period. H.R. 1644 would authorize DOE to issue loan guarantees to help finance certain electricity generation projects, reauthorize the renewable energy production incentive program, establish new programs to promote energy conservation, and require several studies, reports, and rulemakings concerning energy use and production.

Loan Guarantees. H.R. 1644 would authorize DOE to guarantee loans for certain gasification projects that use coal or other natural resources as a source. Section 6602 would allow DOE to provide a loan guarantee for a 400 megawatt project that uses integrated gasification combined-cycle technology and sells power in deregulated energy markets at competitive rates without subsidies from ratepayers. The bill also would authorize the department to guarantee loans for at least one polygeneration plant that uses petroleum coke gasification technology. (Polygeneration plants typically produce multiple end-products, such as electricity, chemicals, and steam.)

Under credit reform procedures, funds must be appropriated in advance to cover the subsidy cost of such loan guarantees, measured on a present-value basis. CBO expects that gasification and polygeneration projects would be riskier than conventional power plants. Both the coal and coke projects would require large capital investments, ranging from over $500 million for a 400 megawatt gasification plant to $1 billion or more for some of the polygeneration plants being proposed in the United States. In contrast, a conventional natural gas power plant could be built for half that cost. As a result, the gasification and coke projects are financially viable only when operating costs are well below those using conventional fuels. In addition, the new technologies may pose other technical risks. The credit risk posed by such projects also would depend on the terms of purchase agreements for the plant's output.

H.R. 1644 does not impose any limits on the amount or terms of the loan guarantees. For this estimate, CBO assumes that DOE would guarantee investments totaling about $2 billion over the next five years. The subsidy cost of such loan guarantees could vary widely. At worst, the government could absorb all of the risk, effectively converting the loan guarantee into a grant (as occurred in the 1980s for a coal gasification project in North Dakota). For this estimate, CBO assumes that DOE would guarantee projects with a credit risk no worse than projects with bond ratings of CCC from companies like Standard and Poors and Moodys. Projects with this rating typically have a cumulative default risk of more than 50 percent. At the same time, CBO assumes that coal or coke projects are unlikely to be more creditworthy than conventional power plants (many of which have a BB rating—which have a cumulative default risk ranging from 15 percent to 25 percent). Given this range of possible outcomes, CBO estimates that these provisions would result in loans being guaranteed with a 30 percent subsidy, resulting in a cost of about $600 million over the 2004-2008 period.

Energy Conservation at Federal Agencies. H.R. 1644 would amend several energy conservation goals and requirements that apply to the federal government. Most of those goals, such as reducing energy use by 2 percent per year relative to 2000 consumption and purchasing energy-efficient products when economical, are being done under current executive orders. Where practical, the bill would require that hourly electricity meters be installed at all federal buildings by 2010. Such meters would provide data at least once daily and measure hourly consumption of electricity. The data would be available to facility energy managers.

Based on information from the Department of Energy, we assume that it would only be economical to meter 20 percent of the government's inventory of 500,000 buildings and that installing meters would cost, on average, $4,000 per building. We assume that meters would be installed in 20,000 buildings per year until 2008, when the project would be complete. Thus, we estimate that implementing the metering provisions of H.R. 1644 would cost $80 million in 2004 and $400 million over the 2004-2008 period.

Based on experience in the private sector, metering the hourly electricity use of buildings can lead to reduced energy consumption and reduce costs enough to recoup the cost of installing meters within two to four years. It is possible that this requirement could lead to a future reduction in appropriations for federal building energy use, but any such savings would depend on how metering information is used by federal agencies. Additionally, metering can reveal where energy use is high, but capital investment and other changes in how federal buildings consume energy would likely be needed to achieve savings. In any case, any savings are not likely to be significant over the next five years because most of the new metering and required capital investment would not be completed until the end of that period or after 2008.

Renewable Energy Production Incentive (REPI). The REPI program currently provides cash payments to public utilities and electric cooperatives that generate energy using renewable sources. The payment is based on the annual kilowatt-hours of electricity generated using qualified renewable energy sources. Section 7072 of the bill would reauthorize the REPI program for an additional 10 years, and make Indian tribes eligible for the program. Annual funding appropriated for the program has not kept pace with applications for payment from eligible utilities. Specifically, eligible utilities have generated electricity from renewable resources since 1994 in an amount that qualifies for about $43 million in REPI payments that have not been appropriated. Based on information from DOE, CBO estimates that fully funding this program, including the backlog of applications, would cost $56 million in 2004 and $186 million over the 2004-2013 period.

Grants for Energy-Efficient Public Buildings. The bill would authorize the appropriation of such sums as necessary for each of fiscal years 2004 through 2013 for grants to states for the construction and renovation of energy-efficient public buildings. Based on information from DOE about similar grant programs, CBO estimates that the program would cost $170 million over the 2004-2008 period. This amount would allow DOE to provide grants to all 50 states over the next five years.

Nuclear Regulatory Commission Fees and Security Programs. H.R. 1644 would require the Nuclear Regulatory Commission (NRC) to study the potential threats to nuclear facilities posed by terrorists and update the security rules for those facilities. Additionally, it would authorize NRC to charge fees to federal agencies that are licensed by the commission.

According to the NRC, studying new security threats would require testing the reaction of materials used at nuclear facilities to several types of destructive forces. Based on information from the NRC, CBO estimates that such studies would cost $7 million in 2004. The bill also would require a rulemaking to update the design basis threat (DBT)—the attack scenario the nuclear facilities must be capable of defeating. Based on information from the NRC, CBO estimates that updating the DBT rule to meet the new scenarios outlined in the bill would cost $3 million over the 2004-2005 period. Because the NRC has the authority to collect annual charges from its licensees to offset most of the agency's general fund appropriation, the net cost of those provisions would be less than $1 million.

Under current law, the Nuclear Regulatory Commission provides 400 licenses to various federal agencies for the use of nuclear material. H.R. 1644 would allow NRC to charge all government agencies fees for the cost of providing such licensing. Currently, the NRC charges private licensees fees for the costs of issuing licenses to some other government agencies. Based on information from NRC, CBO estimates that such fees would total about $25 million over the 2004-2008 period. Because those fees would come from appropriated funds instead of from the private sector, the government would incur a net cost relative to current law to pay them.

Motor Fuels and Clean Air Act Provisions. Title IX would require the Environmental Protection Agency to promulgate new rules, prepare studies for the Congress, implement new programs related to the renewable content of motor fuels, and air pollution resulting from the use of motor fuels. Specifically, the bill would require that the EPA promulgate rules that require incremental changes to the renewable content of motor fuels. By 2013, gasoline sold to consumers would be required to include, on an annual average basis, 4.2 billion gallons of renewable fuel. The mandate would increase to 5 billion gallons by 2015 and be adjusted each year thereafter. (CBO estimates this would be equivalent to about 2.4 percent of motor fuel usage in 2013.)

Additionally, the bill would require the EPA to conduct annual surveys on market shares of various renewable fuels starting in December 2006. Such a survey could cost as much as $4 million annually if EPA were to undertake a survey of all retail gasoline sales. Overall, based on information from EPA, CBO estimates that implementing the provisions in title IX would cost $3 million in 2004 and $17 million over the 2004-2008 period.

Electricity Regulations. Title VII would require the Federal Energy Regulatory Commission (FERC) to establish several new rules for managing the nation's electricity system and governing the business practices of the electricity industry. Such rules would affect transmission services, construction and siting permits for building new transmission lines, and the reliability of the nation's electricity transmission infrastructure. The bill also would repeal the Public Utility Holding Company Act of 1935, require FERC to take over certain regulatory procedures currently undertaken by the Securities and Exchange Commission, and amend the Public Utilities Regulatory Policies Act.

Based on information from FERC, CBO estimates that implementing these provisions would cost $11 million in 2004 and $47 million over the 2004-2008 period. Such costs would cover additional data processing and storage, additional staff, and travel related to the agency's new duties. Because FERC recovers 100 percent of its costs through user fees, such additional costs would be offset by an equal change in fees that the commission charges. Hence, these provisions would have no net budgetary impact.

Paducah Operations. Section 4030 would authorize DOE to provide uranium enrichment services at the gaseous diffusion plant in Paducah, Kentucky, under the conditions outlined in a June 2002 agreement between the department and the United States Enrichment Corporation (USEC). Under that agreement, DOE could take over the plant if production falls below a certain level or if the company loses certain regulatory certifications for the Paducah plant at specified points in time. The agreement states that DOE could act directly or through contracts to ensure domestic enrichment operations continue.

As explained below, CBO estimates that there is about a 20 percent chance that the firm will be unable to continue operations at Paducah over the next several years. If that were to occur, we estimate DOE would incur a net cost of $40 million to $50 million a year to continue plant operations, based on USEC's current level of expenditures. Thus, CBO estimates this provision would cost about $10 million a year starting in 2007, subject to appropriation of the necessary amounts.

In CBO's view, the probability of DOE intervention in Paducah's operations would largely depend on USEC's financial condition over the next five to 10 years. USEC is the only domestic supplier of enrichment services and has the largest share of the global market. Despite its dominant position, the company faces significant financial challenges. Production costs at the 50-year old Paducah plant are higher than those of other competitors. As a result, USEC's profitability in recent years has hinged on income from the sale of its uranium inventory, not from enrichment services. Once its uranium inventories are gone (sometime after 2005), USEC's profitability will depend on the success of its planned investment in a new facility that would use advanced technologies. That new facility will require an investment in excess of $1 billion. USEC hopes to test the technology by 2005 and obtain financing for a new plant by 2007. Moreover, starting in 2006, the company has to refinance $500 million in debt issued at the time of its privatization. Adding to the firm's challenge is the prospect of additional foreign and domestic competition.

For this estimate, CBO assumes that there is about a 20 percent chance that DOE would take over operation of the Paducah facility, beginning some time after 2006. This estimate is consistent with the assessment of market risk reflected in USEC's bond valuations and credit ratings. USEC's outstanding bonds currently reflect a yield-to-maturity of about 15 percent. Likewise, Standard and Poors and Moodys have given USEC a corporate rating of BB/Ba1, which suggests there is a real risk of default in the future. In recent years, corporate debt rated BB has had a cumulative default risk ranging from 15 percent to 25 percent.

Other Provisions. H.R. 1644 includes several provisions that would authorize various new studies, reports, and activities related to fuel consumption and production. These provisions would require:

- A study of how LIHEAP could be more effective in preventing loss of life due to extreme temperatures;
- A program to study and promote the use of energy-efficient products by the public;
- A program to coordinate the federal government's role in any future construction of a natural gas pipeline in Alaska;
- Studies of how to increase the electricity generation at federal hydroelectric dams;
- A study of methods to reduce the risk of theft or diversion of highly enriched uranium;

- A report on the development and availability of alternative motor fuels and on alternative-fueled vehicle technology;

- A review of the mobile source air emissions models used to administer the Clean Air Act;

- A report on the potential fuel savings resulting from the use of idle reduction technologies in vehicles;

- A study of aviation fuel conservation and emissions;

- A report on the potential for the development of renewable energy on public lands;

- A study of the feasibility and effects of reducing the use of fuel by automobiles; and

- A program to assist in the conversion of various vegetative matter to fuel.

Based on information from the agencies that would be responsible for implementing these provisions, CBO estimates that these activities would cost $19 million in 2004 and $75 million over the 2004-2008 period, subject to the availability of appropriated funds.

Direct Spending and Revenues

H.R. 1644 has five provisions that would affect direct spending and revenues. The budget-year and 10-year costs of these provisions are shown in Table 3. The bill would expand and provide permanent authorization for the use of energy savings performance contracts (ESPCs); establish an electric reliability organization to manage the reliability of the nation's electricity system; establish a mandate for the sale of renewable fuel sold by refiners, blenders, or importers; and change the requirement that DOE sell certain uranium products in 2003.

Overall, CBO estimates that enacting H.R. 1644 would increase directing spending by $94 million in 2003, by $175 million in 2004, and by $3.7 billion over the 2004-2013 period. We estimate that enacting the bill would increase revenues by $75 million in 2004 and by $534 million over the 2004-2013 period. In addition, we estimate that new civil penalties imposed by the bill would result in an increase in revenues of less than $500,000 annually.

Energy Savings Performance Contracts. Section 1006 of H.R. 1644 would provide permanent authorization to use ESPCs and would expand their use. The expansion would allow agencies to use an ESPC to construct replacement buildings by committing to pay private contractors a portion of the budget savings expected from reduced operations, maintenance, and energy costs at such new buildings. CBO estimates that this provision would cost $75 million in 2004, $879 million over the 2004-2008 period, and $2.8 billion over the next 10 years.

Currently, federal agencies can enter into an ESPC, a specific type of long-term contract, for the purchase of energy-efficiency equipment, such as new windows and lighting. Using such equipment can reduce the energy costs for a facility. When using an ESPC, the savings from reduced energy bills are used to pay for the purchase of the new equipment over several years. The commitment to make such payments is made when the ESPC is entered into. Thus, consistent with governmentwide accounting principles, CBO believes that the budget should reflect that commitment as new obligations at the time that an ESPC is signed. Currently, agencies can use ESPCs to purchase new equipment over a 25-year period without an appropriation for the full amount of the purchase price.

TABLE 3. ESTIMATED DIRECT SPENDING AND REVENUE EFFECTS OF H.R. 1644

	By Fiscal Year, in Millions of Dollars										
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CHANGES IN DIRECT SPENDING											
Energy Savings Performance Contracts											
Estimated Budget Authority	0	110	174	212	249	286	359	361	434	436	508
Estimated Outlays	0	75	142	183	221	258	306	354	384	429	459
Electric Reliability Organization											
Estimated Budget Authority	0	100	102	104	106	108	110	112	114	116	118
Estimated Outlays	0	100	102	104	106	108	110	112	114	116	118
Renewable Content of Motor Vehicle Fuel											
Changes in Farm Program Subsidies											
Estimated Budget Authority	0	0	79	129	144	73	2	-97	-118	-169	-210
Estimated Outlays	0	0	79	129	144	73	2	-97	-118	-169	-210
Changes in Uranium Sales Requirement											
Estimated Budget Authority	94	0	0	0	0	0	0	0	0	0	0
Estimated Outlays	94	0	0	0	0	0	0	0	0	0	0
Total Change in Direct Spending Under H.R. 1644											
Estimated Budget Authority	94	210	355	445	499	467	471	376	430	383	416
Estimated Outlays	94	175	323	416	471	439	418	369	380	376	367
CHANGES IN REVENUES											
Electric Reliability Organization (ERO)											
Fees Charged by ERO on Electricity Consumers	0	75	77	78	80	81	83	84	86	87	89
Renewable Content of Motor Vehicle Fuel											
Change in Gasoline Taxes	0	0	52	94	67	77	-37	-56	-22	-208	-251
Total Changes in Revenues	0	75	129	172	147	158	46	28	64	-121	-163

Since 1988, DOE estimates that agencies have entered into ESPCs valued over $800 million. CBO estimates that, because the federal building inventory is aging, those contracts would continue to be used over time at roughly the same rate currently used—$75 million in 2004 and increasing after that. Thus, we estimate that extending the authorization for ESPCs would increase direct spending by about $64 million in 2004 and $1.1 billion over the 2004-2013 period.

H.R. 1644 would expand the use of such contracts to cover the purchase of a new building if the cost of the new building is less than the present value of estimated savings from lower costs of operations, maintenance, and energy consumption. A November 2000 report from GSA's Office of the Inspector General estimates that it would take several billion dollars to bring the federal building inventory up to appropriate operations, maintenance, and energy efficiency standards. Thus, we assume that the opportunity for cost savings that could be generated from reduced operations, maintenance, and energy expenses at new buildings would be significant. We expect that the new authority provided by the bill would be used only in a few cases in the first few years but that, as buildings continue to deteriorate and requirements for energy efficiency continue to increase, the authority would be used at an increasing rate.

DOE has plans to use the new authority under this provision to build a new facility in New Mexico at an estimated cost of $35 million. While the precise number of new facilities planned for construction that could qualify for funding under the authority that would be provided by the bill cannot be determined at this time, CBO estimates that this new authority would be used at least 15 times over the next five years at an estimated cost of about $400 million over the 2004-2008 period. We expect that the use of the funding mechanism would grow after 2008 and that total spending over the 2004-2013 period would be about $1.7 billion.

Electric Reliability Organization. H.R. 1644 would authorize the Federal Energy Regulatory Commission to exercise authority over the reliability of the nation's electricity transmission system through the establishment of an Electric Reliability Organization (ERO). Under the bill, FERC would select an organization to become the ERO based on several criteria, including the ability of the organization to charge fees to end users of the electricity system to cover its costs. CBO believes the ERO's collections and spending should be included in the federal budget because this new entity would conduct inherently governmental activities that could not be undertaken by a purely private organization.

Based on information from the North American Electric Reliability Council (NERC), CBO estimates that the newly formed ERO and its regional affiliates would spend between $75 million and $150 million a year. For this estimate, CBO assumes that spending by the ERO and its regional affiliates would start at $100 million a year and increase by the rate of anticipated inflation. Thus, we estimate that spending by the ERO would total about $100 million in 2004 and $1.1 billion over the next 10 years.

Because the ERO and the regional organizations created by it would be governmental in nature, CBO believes that the collection of these fees should be recorded as revenues in the budget. Based on information from NERC, CBO estimates that net revenues collected by an ERO and its regional organizations would total $75 million in 2004, $390 million over the 2004-2008 period, and $818 million over the 2004-2013 period.

Currently, the federal power marketing administrations, including the Tennessee Valley Authority and the Bonneville Power Administration, pay dues to the regional affiliates of NERC. We would expect that those payments would continue and would increase under the new regulatory scheme established by the ERO. Any increase in those fees would be offset by changes in the rates charged to customers of the federal agencies.

Renewable Fuels Mandate. Section 9101 of the bill would require that motor fuels sold by a refiner, blender, or importer contain specified amounts of renewable fuel. The required volume of renewable fuel would start at 2.7 billion gallons in 2005 and escalate to 4.2 billion gallons by 2013. The bill also would amend the Clean Air Act to eliminate the requirement for gasoline that is sold in certain regions to contain 2 percent oxygen by weight. This provision would lower demand for gasoline oxygenates, including ethanol.

Changes in ethanol production and use has two effects on the federal budget. First, because ethanol-blended fuels are taxed at a lower rate than gasoline, receipts to the Highway Trust Fund from motor fuels would decrease when ethanol use increases. Second, because ethanol is primarily derived from corn, demand for corn would fall or rise with the demand for ethanol. Such changes in the demand for corn would affect the cost of federal farm price and income support payments. CBO expects that most of the fuel produced to meet the requirements under the act would be corn-based ethanol.

CBO expects that the effect of the renewable fuels mandate combined with changes in the Clean Air Act would result in lower prices for corn during the 2005-2008 period and higher prices for corn during the 2009-2013 period. Accordingly, the costs of farm price and income supports would slightly increase in the first few years but fall in the later years of the estimate period. On net, CBO estimates that spending for farm price and income supports would decline by $167 million over the 2005-2013 period due to the elimination of the oxygenate requirement for motor fuels and imposing the ethanol mandate.

We estimate that changes affecting ethanol in H.R. 1644, and thus the Highway Trust Fund, would increase revenues over the 2005-2008 period because the mandated level of ethanol use under the bill would be less than CBO's projection of ethanol use under current law. Under current law, we expect ethanol use to grow as the demand for gasoline oxygenates increases. After 2008, the amount of ethanol use mandated under the bill would exceed the projections in our current-law baseline—leading to a loss of revenues. We estimate that the provision would increase net federal revenues by $290 million over the 2005-2008 period and reduce them by $284 million over the 2005-2013 period.

Change in Uranium Sales Requirement. Section 4030 would affect the disposition of DOE's inventory of marketable uranium, which currently totals about 14,000 metric tons (MTU). Under current law, DOE is required to sell about 3,000 MTU and deposit the proceeds in the Treasury by the end of fiscal year 2003, which CBO estimates will total $94 million. The remaining 11,000 MTU was purchased from Russia in 1998 and is subject to a moratorium on sales until 2009. When material might be sold after 2009 is unknown. The bill would authorize DOE to transfer 9,550 MTU of its uranium inventory to the United States Enrichment Corporation at no cost, notwithstanding the statutory requirement to sell roughly 3,000 MTU.   CBO estimates that enacting this provision would result in forgone sales receipts, thus increasing direct spending by $94 million in 2003.

Civil Penalties. H.R. 1644 also could affect governmental receipts and direct spending by establishing and increasing certain civil and criminal penalties. CBO estimates that any resulting increase in receipts and spending would be less than $500,000 annually. Such penalties would be established for violations of regulations relating to:

- The reporting of data on natural gas markets,
- Nuclear safety at nonprofit institutions,
- Willful destruction of a nuclear facility,
- The reliability of the nation's electricity system,
- Market trading of electricity, and
- The sale of renewable fuels.

INTERGOVERNMENTAL AND PRIVATE-SECTOR IMPACT

H.R. 1644 contains numerous mandates as defined in UMRA that would affect both intergovernmental and private-sector entities. CBO estimates that several mandates would impose substantial costs on those entities. CBO cannot determine the cost of all the mandates in the bill because several of the requirements established by the bill would hinge on future regulatory action for which information is not available.

Even though CBO cannot estimate the cost of all of the mandates, we expect that the total cost of private-sector mandates in the bill would exceed the annual threshold established in UMRA ($117 million in 2003, adjusted annually for inflation). That conclusion is based on our analysis of the renewable fuels standard, which would impose substantial costs on the motor fuels industry in 2009, the fifth year the standard is in effect.

Although CBO is uncertain about the cost of several of the intergovernmental mandates contained in the bill, including new security requirements for nuclear facilities and nuclear materials transport, we expect that the aggregate cost of all intergovernmental mandates would not exceed the threshold established in UMRA ($59 million in 2003, adjusted annually for inflation).

Based on our analysis, we expect that provisions contained in the bill's titles on motor fuels, nuclear matters, electricity and energy conservation would have the greatest impact on intergovernmental and private-sector entities. In addition, several of the bill's provisions would limit state authority to regulate electric utilities and limit the types of legal action the state could bring against manufacturers of certain motor fuels.

Motor Fuels

Renewable Fuels Standard. Section 9101would require domestic refiners, blenders, and importers of gasoline to ensure that gasoline sold or dispensed to consumers in the contiguous United States contains a minimum volume of renewable fuels. The bill also would establish a credit trading program for renewable fuels to allow producers, who use more ethanol than would be required, to sell credits to producers who would be in deficit. Excess credits from one year can be used in the next. CBO expects that the renewable fuels requirement would be met in 2005 through 2008 without additional costs to the industry. Assuming that producers do not generate excess credits in 2008, the costs of complying with the renewable fuels requirement in 2009 would be substantial in that year. CBO estimates that the direct costs of the renewable fuel requirement on private-sector entities would rise to about $140 million in fiscal year 2009, the fifth year that the mandate is in effect.

Safe Harbor. Section 9102 would shield motor fuel manufacturers and other persons from liability for a defect in design or manufacture of a motor vehicle fuel containing Methyl Tertiary Butyl Ether (MTBE) or renewable fuel. That protection would be in effect as long as the fuel is in compliance with other applicable federal requirements. The provision would impose both an intergovernmental and private-sector mandate as it would limit existing rights to seek compensation under current law. Effective on the date of enactment, the provision would have no impact on existing claims or court determinations or settlements. Because of the lack of information on both the number of claims that would be filed in the absence of this legislation and the associated outcomes of those claims, CBO cannot determine the cost of this mandate.

VOC Region Consolidation. Section 9104 would consolidate the regional regulations that limit the emissions of volatile organic compounds (VOCs) from gasoline, effectively applying the more stringent standards for gasoline sold in the southern United States to that sold in the north. Meeting the more stringent standards would impose a private-sector mandate. While CBO expects that the mandate would raise the cost of producing gasoline for the northern United States, we anticipate that refiners also would experience some offsets due to decreased distribution costs. Without more information about the magnitude of those offsetting effects, CBO cannot determine the net cost of the mandate.

Nuclear Matters

Increase in Retrospective Premium. Under current law, in the event that losses from a nuclear incident exceed the required amount of private insurance, NRC licensees (both public and private) are assessed a charge to cover the shortfall in damage coverage. Section 4003 would increase the maximum retrospective premium from $84 million to $94 million, as well as increase the maximum annual premium from $10 million to $15 million. CBO has determined that raising both the maximum total premium and the annual premium would increase the costs of an existing mandate and would thereby impose both intergovernmental and private-sector mandates under UMRA.

Because the probability of a nuclear accident resulting in losses exceeding the amount of private insurance coverage is low, CBO estimates that the annual costs of complying with the mandates (in expected value terms) would not be substantial over the next five years. Moreover, because less than 5 percent of nuclear facilities are publicly owned, CBO does not expect significant costs would be incurred by state or local governments.

Security Upgrades. Sections 4011 and 4012 would direct the NRC to issue new security regulations for the transport of nuclear materials and the operation of nuclear facilities. Under current law, the NRC collects annual fees from its licensees to offset a major portion of its general fund appropriation. Assuming an appropriation level of amounts necessary to cover the cost of developing the new regulations, CBO expects that an additional $10 million in fees over the 2004-2005 period would be collected from NRC licensees. The duty to pay those fee increases would be considered both a private-sector and an intergovernmental mandate under UMRA.

Further, the duty to comply with the new regulations governing nuclear material transport and facility operations would constitute both private-sector and intergovernmental mandates. Under H.R. 1644, the rules would be based upon future study by the NRC and consultation with other federal, state, and local agencies. At this time, the agency could not give any indication as to the scope of the new regulations. Consequently, CBO cannot determine the costs of compliance. However, based on the small number of public nuclear facilities and the security upgrades that have already occurred in response to the events of September 11, 2001, CBO expects that the cost of those requirements would not be large for state and local governments.

Electricity

Mandatory Reliability Standards. The bill would require users of the bulk-power system to comply with standards that the electric reliability organization, to be designated by the Federal Energy Regulatory Commission, establishes. Those users include intergovernmental entities such as municipally owned utilities as well as private sector entities, including utilities, nonutility generators, and marketers. Currently, the North American Electric Reliability Council (NERC), a voluntary organization, promotes electricity reliability. According to several representatives of the electricity industry, virtually all public and private-sector users of the bulk power system voluntarily comply with NERC standards. For those entities, the mandate would impose no significant, additional costs in the short term relative to current practice since the ERO is not expected to significantly change current standards. In the future, market conditions may prompt the ERO to impose stricter standards to maintain reliability. In that case, costs for entities that could otherwise elect to disregard NERC standards under current law could increase substantially.

Mandatory Assessments. The bill would direct the ERO to assess fees to cover the costs of implementing and enforcing ERO standards. Those fees would be considered a mandate under UMRA. The bill does not specify who would pay those fees, only that the fees should take into account the relationship of costs to each region and reflect an equitable sharing of those costs among all electric energy consumers. Although there is some uncertainty about how fees would be assessed, the most likely scenario is that the ERO would assess fees on its members, which is the current practice of NERC. Those members include both public and private entities.

CBO estimates that the incremental increase in NERC collections for the proposed compliance, monitoring, and enforcement activities would be about $60 million for each of fiscal years 2004 through 2008.

Regulatory Fees. The bill would require FERC to assume certain regulatory procedures that are currently under the jurisdiction of the Securities and Exchange Commission. Under current law, FERC has the authority to collect fees from investor-owned utility companies to offset its costs. The duty to pay those fee increases would impose a private-sector mandate on those entities. Based on information from FERC, CBO expects that an additional $37 million in fees would be collected from investor-owned utilities over the 2004-2008 period.

Energy Conservation

Section 1045 would direct the Secretary of Energy to prescribe energy conservation standards restricting standby mode energy consumption of household appliances. According to industry sources and DOE, up to 9,000 types of household appliances could be affected by this provision, and further, many such products may require significant modification to meet the standard for energy consumption in standby mode. DOE could not say how they would implement this provision, and CBO cannot determine the products that would be affected. We therefore cannot estimate the cost to the industry of meeting such a requirement. If DOE applies standards to the majority of products potentially affected, costs to industry could be substantial.

Preemptions

Section 7012 would authorize FERC to issue construction permits for electric transmission facilities in 'interstate congestion areas' when a state has not acted on or has rejected a permit request.

Section 7031 would preempt state authority to take action to ensure the safety, adequacy, and reliability of electric service within that state if the state's actions are inconsistent with the federal reliability standards.

In addition, the provision in section 9102 that shields motor fuel manufacturers and other persons from certain liability would impose an intergovernmental mandate by limiting the application of state law.

These preemptions of state authority would impose no additional duties on state governments that would result in additional spending.

PREVIOUS CBO ESTIMATES

On April 7, 2003, CBO transmitted a cost estimate for H.R. 1346, the Federal Government Energy Management Improvement Act, as ordered reported by the House Committee on Government Reform on March 20, 2003. Provisions in that legislation and in H.R. 1644 relating to the use of ESPCs and metering hourly electricity use in federal buildings are the same, and the estimated costs are the same.

On April 8, 2003, CBO transmitted a cost estimate of the direct spending and revenue impact of H.R. 6, as introduced on April 7, 2003, a bill to enhance energy conservation and research and development, to provide for security and diversity in the energy supply for the American people, and for other purposes. (H.R. 6 was amended and passed by the House of Representatives on April 11, 2003.) That estimate provided direct spending and revenue effects for three provisions also in H.R. 1644: the permanent authorization and expansion of ESPCs, the renewable fuels mandate, and the establishment of an ERO. Our estimate for those provisions is identical in H.R. 1644 and H.R. 6. Additionally, we have included in the cost estimate for H.R. 1644 an increase in direct spending related to uranium sales that are required under current law. That provision was in H.R. 6 but was omitted from the cost estimate. An estimate of the cost of the uranium sales provision is in this cost estimate for H.R. 1644.

On April 15, 2003, CBO transmitted a cost estimate for H.R. 238, the Energy Research, Development, Demonstration, and Commercial Application Act of 2003, as ordered reported by the House Committee on Science on April 2, 2003. That bill contains several provisions similar to those in H.R. 1644, including loan guarantees and certain other energy research and development programs. The two estimates are identical where provisions are identical.

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