



July 1, 2011

Honorable Fred Upton
Chairman
Committee on Energy
and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

This letter responds to your request for information about the Congressional Budget Office's (CBO's) analyses of the budgetary impact of energy savings performance contracts (ESPCs). ESPCs are a specific type of long-term contract used by federal agencies to procure certain energy services. In particular, you asked us to explain how CBO's estimates of the cost of legislation related to ESPCs take into account any energy cost savings that accrue to the government under such contracts. In its cost estimates for proposals to modify current law related to ESPCs or to establish energy-related goals or requirements for federal agencies that may lead to increased use of such contracts, CBO attempts to take all potential budgetary impacts into account. Because of the long-term nature of ESPCs, however, a significant portion of anticipated effects on net spending related to those contracts are expected to occur well beyond the five- and ten-year estimating windows covered by CBO's cost estimates.

In brief, energy savings performance contracts are a tool, available under current law, that permit federal agencies to enter into long-term contracts for energy-efficiency improvements without having up-front discretionary appropriations to cover the costs of those federal commitments. In CBO's view, entering into such legally binding agreements results in *mandatory spending* (that is, obligations and outlays that stem from budget authority provided in laws other than appropriation acts).

The subsequent savings in energy costs fall in a different budget category. Because energy costs are generally paid from annually appropriated funds, any net savings generated by using more energy-efficient equipment could eventually lead

to a reduction in *discretionary spending*. Such potential net savings to taxpayers depend upon the terms of the ESPCs. Contractors that participate in ESPCs generally receive annual payments from the federal government until their up-front costs are repaid. The Department of Energy (DOE) has estimated that the average length of that “payback period” is about 17 years. During that period, agencies typically retain only a small portion of the projected savings in energy costs. Agencies have discretion in determining the length of the contract and whether to shorten that payback period by deferring or minimizing the savings retained by the government until the contract is completed. Once that period is over, all savings accrue to the government.

Thus, cost estimates related to ESPCs are complicated by two factors: The additional spending falls in one budget category, while potential future savings are in a different category; and much of the added spending occurs during the period covered by such estimates, while most of the savings occur later. Those factors—along with the fact that the federal budget generally records spending year by year on a cash basis—make it difficult to assess, in a comprehensive way, the budgetary impact of federal investments carried out using ESPCs.¹ Although Congressional budget scoring procedures do not permit budgetary effects in those two categories to be combined, CBO could facilitate a comparison of the costs and savings by providing more information about the potential discretionary savings in conjunction with its estimate of the mandatory costs. However, CBO has found that relying on third-party financing is generally more costly to the government than paying for such investments directly.

Following a brief description of ESPCs, the balance of this letter discusses some general principles of budget law and the conventions and practices used to prepare all of CBO’s cost estimates, including those that affect agencies’ use of ESPCs.

What Are ESPCs?

ESPCs are permanently authorized in law and enable federal agencies to enter into long-term contracts (up to 25 years) with an energy savings company (ESCO) for the acquisition of energy-efficient equipment—such as new windows, lighting, heating, ventilation, and air conditioning systems—without an up-front appropriation to pay for that equipment. Because the government does not pay for the equipment at the time it is acquired, the ESCO borrows money from a nonfederal lender to finance purchase and installation on behalf of the federal agency. Upon signing an ESPC, the government effectively commits to paying for

1. There are two major exceptions: the impact of federal credit programs and the Troubled Assets Relief Program (TARP) are recorded on a noncash basis. Specifically, the Federal Credit Reform Act and the law authorizing TARP require that the budget reflect the net present value of anticipated cash flows related to those activities.

the full cost of the equipment as well as interest costs on the ESCO's borrowing for the project.

Installing energy conservation equipment can reduce the federal government's use of energy and thereby generate cost savings. The amount of such savings depends on future energy prices, the weather, and how the facility is used in the future, among other factors.

The ESPC statute (42 U.S.C. 8287) allows agencies to pay for energy conservation equipment and related financing costs over time on the basis of the anticipated and realized reductions in annual utility bills. Specific contractual arrangements can vary, but in general, the ESCO:

- Develops a baseline estimate of energy consumption that would occur in the absence of improvements;
- Estimates the reduction in energy consumption that would result from an ESPC-funded project; and
- Calculates the financial savings for the federal government expected in the future.

Once the new equipment is installed for an agency:

- The ESCO provides periodic reports on the project's performance, which can involve a mix of measured and verified results and performance indicators that have been contractually stipulated; and
- The agency makes annual payments to the ESCO until the contractor's costs are repaid over the life of the contract.

According to DOE, the average length of the payback period for up-front costs is about 17 years.¹ Additional savings beyond that point accrue entirely to the government if the useful life of the equipment exceeds the payback period.

In its most recent annual report to the Congress on activities undertaken by federal agencies to conserve and better manage energy, DOE described the structure and timing of cash flows for ESPCs awarded by the Department of Defense to reduce energy consumption at military installations:

1. Information provided to the Congressional Budget Office by the U.S. Department of Energy, Federal Energy Management Program, June 2011.

“Normally, cost savings are used first to pay the contractor, and then are used to offset other base operating expenses. In some cases, however, installations decided to seek a shorter contract term and defer all government cost savings until contract completion. In these cases, the savings generated by ESPCs help to reduce the energy consumption, but do not reduce the total cost of operation until the contracts expire.”²

The authority for federal agencies to enter into ESPCs was first enacted in 1992 and made permanent in 2007. According to DOE, as of May 2011, federal agencies have used ESPCs to procure \$3.9 billion in energy-efficiency improvements that are expected, once fully operational, to reduce agencies’ energy use by 32.8 trillion British thermal units (Btu) annually. That amount is equivalent to approximately 3 percent of the total amount of site-delivered energy consumed by federal agencies in 2007, the most recent year for which DOE has completed a comprehensive report on federal agencies’ energy conservation and management activities.³ DOE also reports that the ESCOs involved in those contracts have predicted that energy-efficiency improvements will reduce agencies’ energy costs by \$13.1 billion over the life of the contracts.⁴ Of that amount, \$10.1 billion will be used to reimburse ESCOs, with the bulk of payments supporting debt service.⁵ The balance of \$3.0 billion in estimated savings will accrue to the federal government over the lifetime of the equipment and improvements. Whether those savings lead to reductions in overall spending depends on whether future appropriations are reduced accordingly.

How Are Federal Obligations and Expenditures Classified and Recorded in the Budget?

The federal budget generally records the government’s expenditures and revenues on a cash basis. With a few exceptions, cash inflows and outflows are recorded on the budget in the fiscal year during which they occur.

Budget authority—which is the authority to enter into obligations on behalf of the federal government—is recorded in the year it is provided and is divided into two broad classifications: mandatory and discretionary. Mandatory budget authority

2. U.S. Department of Energy, Federal Energy Management Program, *Annual Report to Congress on Federal Government Energy Management and Conservation Programs Fiscal Year 2007*, (January 27, 2010).

3. Ibid.

4. U.S. Department of Energy, *ESPC Quick Facts*, June 8, 2011 (available at <http://www1.eere.energy.gov/femp/financing/espcs.html>).

5. For example, information provided by DOE to CBO on June 8, 2011, indicates that 89 percent of the amount payable to ESCOs under certain ESPCs awarded in 2010 will be used to service debt; the remaining 11 percent will support measurement, verification, and other services provided by the ESCO during the contract period.

and spending result from provisions of law, other than appropriation acts, that authorize agencies to incur obligations without further Congressional action. Discretionary spending is controlled by annual appropriation acts; policymakers decide each year how much money to provide for given activities (such as paying for ongoing expenses for federal programs, including salaries and expenses for staff and energy purchases), and agencies cannot make obligations for such costs unless appropriations are provided.

How Does CBO Estimate the Budgetary Impact of Proposed Legislation?

One fundamental purpose of CBO's cost estimates is to illustrate how legislative proposals would affect the government's net cash position over specified periods of time. Consistent with principles of appropriation and budget law and long-established guidelines used in preparing cost estimates, CBO's analyses of authorizing legislation distinguish between changes in mandatory and discretionary spending on the basis of whether such changes are contingent on the enactment of subsequent legislation.

For proposed changes in mandatory spending—that is, budgetary impacts of authorizing legislation that are not contingent on future legislation—CBO's cost estimates show annual net impacts on the deficit of legislative proposals in the current fiscal year and 10 subsequent years. Other changes in federal spending are contingent on future legislation to fund the activities. In CBO's cost estimates, such changes are shown separately from effects on mandatory spending; they are labeled as changes in authorized spending subject to appropriation, and estimates for them cover the current fiscal year and five subsequent years.

CBO's cost estimates provide information to the Congress, but the House and Senate Budget Committees ultimately determine the budgetary impact of legislation for purposes of Congressional budget scorekeeping, including enforcement of budgetary points of order on the House or Senate floor. The budgetary effect of such proposed changes to mandatory spending is measured against levels in the Congressional budget resolution and against allocations to the authorizing committee that approved the legislation. In addition, such changes are subject to procedures specified in the Statutory Pay-As-You-Go Act (Public Law 111-139).

In contrast, estimated changes in spending subject to future appropriation are not subject to pay-as-you-go procedures because those changes would not come to fruition unless future appropriations were provided accordingly. Subsequent annual appropriation acts are scored with the full amount of the discretionary

budget authority they provide, and those amounts count against allocations set for the appropriation committees.

How do CBO Cost Estimates Account for the Budgetary Impact of ESPCs?

Legislative proposals to amend ESPC authorities would affect both mandatory spending and spending subject to appropriation. CBO's cost estimates for proposals to modify current law related to ESPCs or to establish energy-related goals or requirements for federal agencies that may lead to increased use of such contracting tools attempt to take all potential budgetary impacts into account. Because of their long-term nature, however, a significant portion of anticipated effects on net spending related to those contracts are expected to occur well beyond the five- and ten-year estimating windows covered by CBO's cost estimates.⁶

Effects on Mandatory Spending. The law authorizing ESPCs is unusual in that it allows agencies to sign long-term contracts without having an appropriation to cover the full cost of the government's contractual obligation: instead, when the agreement is approved, agencies need to have an appropriation that covers only one year of the contract's cost. In effect, the law gives agencies indefinite budget authority to cover the full extent of the government's commitments.⁷ Indeed, ESPCs have several elements that, in combination, effectively commit the federal government to paying for the full cost of the equipment, as well as interest costs on the ESCO's borrowing for the project, at the time the contract is signed. For example:

- The government takes legal title to the equipment once it is installed on government property.
- The private-sector lender has the opportunity to substitute another ESCO to operate the equipment and attempt to perform under the terms of the contract in the event that the ESCO fails to deliver the promised savings. Only if the lender chooses to abandon its investment does the government get to keep the improvements at no additional cost.

6. See, for example, CBO cost estimates for: S. 1462, the American Clean Energy Leadership Act of 2009, as reported by the Senate Committee on Energy and Natural Resources (September 30, 2009); S. 3001, the National Defense Authorization Act for Fiscal Year 2009, as reported by the Senate Committee on Armed Services (June 13, 2008); and H.R. 6, the Energy Independence and Security Act of 2007, as cleared by the Congress on December 18, 2007, and signed by the President on December 19, 2007 (February 12, 2008).

7. Congressional Budget Office, *Third-Party Financing of Federal Projects* (June 1, 2005). As the report notes, relying on third-party financing generally increases costs to the government, particularly because interest rates on private debt usually exceed interest rates on Treasury bonds.

- The government would pay cancellation costs specified in the contract should it choose to cancel the contract early for its convenience. That payment would equal the cost of capital investments and other up-front expenditures that were not recovered at the time of cancellation.

Entering into such legally binding agreements constitutes a commitment of government resources without appropriations to cover all of the resulting costs—and thus is a form of mandatory spending, in CBO’s judgment. Hence, consistent with established accounting principles, the budget should reflect such commitments in full as new obligations when ESPCs are signed. Consequently, CBO’s cost estimates for legislation that would authorize agencies to enter into ESPCs reflect its best estimate of the full cost of the commitments that agencies would enter into over the 10-year period following enactment of that legislation.

Effects on Spending Subject to Appropriation. To the extent that ESPCs affect agencies’ energy-related costs, which are typically paid from annual appropriations, the contracts can also result in changes in the need for future appropriations. In the case of ESPCs, annual appropriations for energy do not change initially because they must support continued energy purchases as well as the annual payment to the ESCO, provided that the installed equipment produces the amount of energy savings estimated by the contractor.

In general, if the expected reductions in energy use are realized, the ESCO will be paid from funds appropriated to the agency until the ESCO’s costs—which include the cost of the equipment, financing costs, and a rate of return on investment—are repaid, typically many years after installation. (If energy use is not reduced to the level specified in the contract, payments to the ESCO will be lower, but payments to utilities will be higher.) Once the ESCO recovers its investment, all future savings from reduced energy use accrue to the government, and federal spending could be less if appropriations are reduced accordingly.

The enclosure to this letter provides an illustrative example of cash flows for an ESPC. Estimated savings retained by the government are the difference between the projected savings in energy costs under the ESPC and the required contract payments. (Actual savings would depend on the performance of energy and conservation measures acquired under the contract.) Agencies typically retain only a minimal portion of the projected energy savings in the initial years to shorten the period over which the ESCO’s costs are repaid and limit the total amount of interest paid by the government. After the ESCO’s costs are repaid, further savings are retained entirely by the government. However, the ultimate reduction, if any, in government spending depends on future appropriations; the savings could be used to reduce total spending, or could be used to increase spending for other purposes. And because the payback period of ESPCs averages about 17 years,

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most savings that could be captured through reduced appropriations accrue well beyond the five-year window covered by CBO's estimates of spending subject to appropriation.

More generally, many investments authorized and funded by the Congress affect the need for future discretionary appropriations. Some investments, such as those for energy-efficiency improvements, may reduce the need for future appropriations. Other investments, such as additional investments in military weapon systems and federal infrastructure projects, will have ongoing operation and maintenance costs in subsequent years, thus increasing the need for future appropriations. In either case, only the direct costs of the initial investment are charged to the legislation that provides budget authority for the investment. Subsequent changes in the need for future funding are not directly charged or credited to that initial authority; whether such changes occur would depend on future Congressional action.

I hope this information is useful to you. If you have further questions regarding ESPCs, Megan Carroll and David Newman are the CBO staff contacts for this issue.

Sincerely,

for 

Douglas W. Elmendorf
Director

Enclosure

cc: Honorable Henry A. Waxman
Ranking Member

Honorable Jeff Bingaman
Chairman
Senate Committee on Energy and Natural Resources

Honorable Lisa Murkowski
Ranking Member

Honorable Christopher A. "Chris" Coons

ILLUSTRATIVE CASH FLOW FOR AN ENERGY SAVINGS PERFORMANCE CONTRACT
(In Thousands of Dollars)

Payback Period: 17 Years

Capital and Other Up-front Costs: \$10,000

Useful Life of Energy-Conservation Measures: 25 Years

	Energy Cost Savings ^a	Annual Contract Expenses ^b			Government-Retained Savings ^c
		Interest Payment	Principal Payment	Other Payments	
Year 1	1,250	700	200	250	100
Year 2	1,275	686	234	255	100
Year 3	1,301	670	271	260	100
Year 4	1,327	651	311	265	100
Year 5	1,353	629	354	271	100
Year 6	1,380	604	400	276	100
Year 7	1,408	576	450	282	100
Year 8	1,436	545	504	287	100
Year 9	1,465	509	562	293	100
Year 10	1,494	470	625	299	100
Year 11	1,524	426	693	305	100
Year 12	1,554	378	766	311	100
Year 13	1,585	324	844	317	100
Year 14	1,617	265	928	323	100
Year 15	1,649	200	1,019	330	100
Year 16	1,682	129	1,117	336	100
Year 17	1,716	51	723	343	599
Year 18	1,750	0	0	350	1,400
Year 19	1,785	0	0	357	1,428
Year 20	1,821	0	0	364	1,457
Year 21	1,857	0	0	371	1,486
Year 22	1,895	0	0	379	1,516
Year 23	1,932	0	0	387	1,546
Year 24	1,971	0	0	394	1,577
Year 25	<u>2,011</u>	<u>0</u>	<u>0</u>	<u>402</u>	<u>1,608</u>
Total	40,038	7,813	10,000	8,008	14,217 ^d

a. Total estimated savings are the difference between baseline estimated energy costs and energy costs under the contract.

b. Annual contract expenses cover principal and interest on the ESCO's borrowing for the project and other expenses including: the cost of managing and administering the contract, performing scheduled maintenance on equipment, repairing and replacing associated energy equipment that was not installed as part of the contract, and measuring and verifying energy savings. Some annual contract expenses may be incurred after the payback period if the contractor continues to operate and maintain the equipment for the government.

c. Retained savings are the difference between baseline energy costs and energy costs under the ESPC, less contract payments. Agencies typically retain only minimal savings to shorten the payback period and limit the total amount of interest paid by the government. After the ESCO's costs are repaid, further savings are retained by the government. Because the payback period of ESPCs averages about 17 years, such savings would most likely accrue in years that lie well beyond the five-year window covered by CBO's estimates of spending subject to appropriation.

d. Because most of the savings do not accrue to the government until after the payback period, the present value of government-retained savings would be less than half of the nominal value shown here.
