Testimony of Kateri Callahan, President
Alliance to Save Energy

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Reducing Government Energy Waste

Introduction

The Alliance to Save Energy is a bipartisan, nonprofit coalition of more than 120 business, government, environmental and consumer leaders. The Alliance's mission is to promote energy efficiency worldwide to achieve a healthier economy, a cleaner environment, and greater energy security. The Alliance, founded in 1977 by Senators Charles Percy and Hubert Humphrey, currently enjoys the leadership of Senator Mark Pryor as Chairman; Duke Energy CEO James E. Rogers as Co-Chairman; and Senators Jeff Bingaman, Susan Collins, Larry Craig, and Byron Dorgan along with Representatives Ralph Hall, Edward J. Markey, and Zach Wamp as its Vice-Chairs. Attached to this testimony are lists of the Alliance's Board of Directors and its Associate members.

The Alliance has promoted effective federal energy management for many years. Our Federal Energy Productivity (FEP) Task Force will soon be joined by a new Board committee dedicated to fostering dramatic energy savings throughout the federal government. Thus the Alliance is pleased to testify at a hearing on energy use in government buildings.

Federal Energy Use and Waste

The United States federal government is the single largest consumer, and the single largest waster, of energy in the world. In 2005 the federal government overall used 1.6 quadrillion Btu of "primary" energy (including the fuel used to make the electricity it consumed), or 1.6 percent of total energy use in the United States. Taxpayers in this country paid $14.5 billion for that energy.

Almost half of that energy, and more than half of the cost, was for vehicles and equipment, primarily for military planes, ships, and land vehicles. The rest, 0.9 quadrillion Btu at a cost of $5.6 billion, was for heating, cooling, and powering more than 500,000 federal buildings around the country. Roughly 5 percent of the building energy use is at General Services Administration buildings, of particular interest to this committee.

Repeated efforts over the last two decades have resulted in dramatic savings, but large cost-effective savings remain available. Overall federal primary energy use decreased by 13 percent from 1985 to 2005, and the federal energy bill decreased by 25 percent in real terms, an accomplishment made even more impressive and important given the 27 percent jump in fuel

prices in the U.S. in 2005. Federal "standard" buildings reduced their primary energy intensity (Btu per square foot of building space) by about 13 percent, while "site" energy (measured at the point of use, excluding electricity system losses) declined by 30 percent ("Standard" buildings are those not exempted due to industrial uses or national security needs). Congress and the president have set even more aggressive targets for future savings that could yield well over $1 billion in energy cost savings each year from buildings alone.

It is important to place this savings potential in context. The federal government is the largest energy consumer, and it could play a unique role as a market transformer through the early adoption of new efficient technologies and practices. Unfortunately, addressing federal energy use is but one of many congressional actions that are necessary to solve the many critical energy issues facing our country. The federal government accounts for just two percent of U.S. oil use and a similar portion of greenhouse gas emissions. This is a small percentage of the overall contribution of the U.S. to energy consumption and greenhouse gas emissions, but is significant when you consider that the U.S. accounts for one quarter of the total energy used and one quarter of the total loadings of CO_2 emitted by the world. A number of federal policies and funding decisions, such as appliance efficiency standards, tax incentives, and energy-efficiency research and development must be undertaken – in addition to ending federal energy waste – if we are to ensure Americans a sustainable energy future.

Notwithstanding the need to do more, the federal government's own potential is significant, the potential taxpayer savings are worth pursuing, and it is valuable to establish the government as a successful role model for state and local governments as well as the private sector. There is extraordinary interest in Congress right now in addressing federal energy use, from greening the Capitol buildings to reducing the need for fuel supply convoys in Iraq. I will talk first about implementing, overseeing, and funding the policies that are already in place, and then about new initiatives to make the government even more efficient.

Meeting Current Federal Requirements and Targets

There already are a number of targets, standards, and requirements intended to reduce energy use by federal agencies. Together they already set a reasonably ambitious agenda for reducing energy use, at least in standard federal buildings, but achieving that agenda remains problematic. Among the more important of these are:

- Agencies are required to install in federal buildings all energy and water conservation measures with payback periods of less than ten years by 2005 (Energy Policy Act of 1992, Sec. 152). This has not been fully accomplished.

- All new federal buildings must be designed to achieve energy use at least 30 percent below the national model building energy codes (EPAct 2005, Sec. 109), if such improvements are cost-effective. The Department of Energy (DOE) just issued interim final rules in December 2006.

- Agencies must purchase efficient Energy Star or FEMP-designated products unless not available or not cost-effective (EPAct 2005, Sec. 104). DOE has not yet issued final regulations to implement this provision.

- All federal buildings should be metered for energy use by 2012, using advanced meters that record electricity use by time when practicable (EPAct 2005, Sec. 103). DOE issued guidelines in 2006, but limited the metering requirements to electricity use, excluding natural gas, steam, and hot or chilled water. Most agencies have prepared implementation plans.

- Each agency is to reduce the energy use intensity of its buildings by 3 percent per annum, or 30 percent by 2015 (Executive Order 13423). Agencies mostly met earlier targets culminating in a 30 percent reduction between 1985 and 2005; howver, total energy use reductions have been smaller as energy-intensive facilities are excluded from these targets and as the savings targets are interpreted as applying to site energy and thus exclude losses from the growing use of electricity.

- Each agency is to reduce the water use intensity of its buildings by 2 percent per year or 16 percent by 2015 (EO 13423). This is the first water efficiency quantitative target for federal buildings.

- Each agency is to reduce the petroleum-based fuel use by its vehicle fleet by 2 percent per year through 2015 (EO 13423).

The most important issue for reducing federal energy use is to implement fully the policies that are **already in place, like those listed above,** for federal building standards, procurement requirements, savings targets, cost-effectiveness guidelines, and others. Energy use and decision-making are dispersed among many people at dozens of federal agencies. Agency leaders, of course, have many mission responsibilities, financial constraints, legal requirements, stakeholder demands, and impending crises that compete for attention. Energy efficiency must be adopted as a primary goal and embodied in action throughout the government if we are to meet the targets already established.

For example, while procurement of energy-efficient products has been required since a 1991 Executive Order and by law in EPAct 1992, that requirement has never been fully implemented in the Byzantine process of federal procurement. Product specifications in competitive solicitations and negotiations for GSA schedules often do not include the efficiency requirements. GSA product schedules still include inefficient and outdated equipment, including inefficient air conditioners, refrigerators, lighting, and other products.

The requirement in the new Executive Order 13423 that each agency appoint a senior civilian officer to be in charge of implementing the Order may help focus attention on energy efficiency. However, government officials may be held responsible for an energy-efficiency project gone awry, but no one is ever held responsible for wasted energy or for inaction; the amount of project savings may be debated, but no one ever measures the energy not saved by failing to make new buildings “green” or replace old equipment with the best new technologies.

We believe Congress’s first duty and most important role in improving federal energy management is effective and sustained oversight. Through requiring regular reports as called for in the legislation discussed below, questioning agency heads at hearings, sending letters to agencies in committee jurisdictions, and/or initiating Government Accountability Office studies,

Congress can focus the attention of key officials at all agencies on energy use, and demand accountability for meeting energy savings and cost-effectiveness targets.

Funding for Federal Energy-Efficiency Measures

Energy-efficiency measures save taxpayers money in lower federal energy bills, but usually require an up-front cost. The government should look at total life-cycle cost, i.e., equipment/product purchase price plus estimated costs of energy use over the life of the product, not just first cost, when making decisions on new buildings, retrofits, equipment and vehicle purchases, weapon design, and more. This life-cycle-cost perspective is used for some large capital and military systems procurements, but not all. And agencies trying to use this approach face hard limits on the availability of appropriated funds to pay the up-front costs for energy efficiency, and many competing priorities.

Billions of dollars of investment will be needed to meet the current energy targets and reap the associated energy savings. However, in recent years annual appropriations for energy efficiency, water conservation, and renewable energy projects in existing federal buildings have ranged from only about $100 million to $300 million. Funding for energy efficiency through appropriations must be increased. If we do not provide more funding for energy-efficiency measures, not only will we risk not meeting the energy targets, but also agencies will spend even more money on energy bills. We must invest more to save more.

Increased funding also is needed for DOE's Federal Energy Management Program (FEMP), the primary expert resource and coordinator for energy managers throughout the federal agencies, and the office responsible for rules, guidelines, and reports to implement the many legal mandates. FEMP funding has been cut for years, despite increasing responsibilities, and its technical resource base of expert contractors has been greatly curtailed. More funding and more management attention are needed to restore this vital program.

But if we focus only on increasing appropriations, while we wait we will be letting money escape out the windows (and the poorly insulated walls). That's why Congress has allowed private, third-party financing so agencies can upgrade buildings with no up-front cost to the government. Energy Service Companies (ESCOs) finance and help implement energy-saving projects through Energy Savings Performance Contracts (ESPCs). The contractor is paid out of the resulting stream of energy bill savings. By law, the savings must be at least as great as the contractor payments—if the savings are not realized, the contractor does not get paid. Many electric and gas utilities also offer financing for energy-efficiency projects through Utility Energy Service Contracts (UESCs), as well as offering rebates and technical assistance to federal agencies as part of their demand-side management (DSM) programs. Similar to ESPCs, utility investments under UESCs are repaid from the utility bill savings due to the projects.

ESPCs and UESCs used to provide more than $500 million per year for energy-efficiency investments in federal buildings. But in September 2003 authority to enter into new ESPCs lapsed, and despite being re-authorized by Congress in 2004 and 2005, the use of these innovative and effective financing tools has not recovered to these levels. In fiscal year 2005 ESPCs provided $97 million, and UESCs $76 million.

There are a number of barriers that have prevented ESPCs and UESCs from reaching their full potential. Ultimately, successful use of such instruments now requires a champion --a committed official who is willing to "stick his neck out" – to overcome bureaucratic bottlenecks; lack of support; and the threat of audits and/or other scrutiny. If the projects fall short of goals at all, they are criticized. In contrast, appropriated projects receive comparatively little oversight. And, as I said before, there is no systematic process of oversight for facilities in which the improvements are never made and that are allowed to simply go on wasting energy. In short, government energy managers are neither financially nor professionally rewarded for energy savings, nor is there much risk in failing to seize energy-saving opportunities. Proper oversight of ESPC and UESC contracts is needed, but there must also be recognition of the major costs of inaction, with a focus on maximizing savings rather than on requiring perfection in all activities.

New Federal Energy Savings Initiatives

Clearly, the greatest need right now is oversight and funding of existing federal energy management policies and programs, many of which have been initiated within the last two years and not yet fully implemented. At the same time, new legislation to expand the scope of federal energy management and to make the federal government a true example of leadership in energy efficiency would certainly help to stop energy waste and to set an example that will encourage savings by other levels of government and the private sector. In addition, some clarification of existing policies could be helpful. It is important that any new initiatives not reduce attention and funding for existing activities, but complement these activities. And, of course, in order to be effective, Congress must also carefully oversee implementation of any new bills it may enact.

The Public Buildings Cost Reduction Act of 2007 would be an excellent start and would meet the criteria outlined above, i.e., expand the scope of the current policies; establish the federal government as a successful model for others to emulate, and complement rather than compete with existing funding and activities. The Alliance to Save Energy Board, Associates and staff applaud Senators Boxer and Inhofe for their bipartisan work to design a meaningful bill that could expedite and expand energy savings by the federal and local governments.

The bill proposes to "front-load" energy savings (i.e., require most of the savings to occur in the first five years) from the eight-year targets established in the new executive order for the small but important segment of federal buildings managed by the GSA. It facilitates the attainment of the proposed goals by identifying approaches to achieving the necessary savings, including a manager for each facility, an overall plan, and lighting standards and replacement program. The bill also would authorize the Environmental Protection Agency to implement a $120 million grants program to assist local governments in achieving energy savings in their own buildings.

The Alliance believes that additional measures would greatly enhance the potential of wringing out energy waste by the government. For example, almost all of the current federal requirements and programs address energy use in federally owned buildings, but most exclude "energy intensive" facilities that house industrial processes, as well as other "exempt" facilities, often for national security reasons. This focus neglects more than half of all energy use by the federal government, mostly in transportation and mobile equipment. Also overlooked is the energy use and potential savings by federal contractors, many of whom perform "outsourced" functions that would alternatively be the direct responsibility of a federal agency. Among the potential ways

(most of which likely are not in the jurisdiction of the Committee) for capturing these savings are:

- Establishment of a government-wide energy savings target or a savings target for all vehicles and equipment ("mobility") energy. In addition to the target for federal buildings, the latest Executive Order 13423 includes energy savings targets for fleet vehicles. However, these fleets are responsible for less than ten percent of federal oil consumption. In addition, the executive order rescinded the only target that directly addressed greenhouse gas (GHG) reductions for the federal sector: Executive Order 13123 previously called for a 30 percent GHG reduction from federal buildings, from 1990 to 2010. If Congress chooses to reinstate a similar performance target for federal agencies, it should apply to energy-related GHG emissions from all federal energy use, including buildings, vehicles, and equipment.

- Imposition of energy saving requirements for buildings leased by the federal government. The current building standards and energy-saving targets apply only to government-owned buildings. However, the government also leases a large number of buildings, many of which are built specifically for use by federal agencies based on long-term lease commitments. One way or another, the government pays for the energy used in these buildings, and it should demand that they be energy-efficient. Other buildings, such as privatized military housing, also are built for the government and often with government assistance, and should be required to be energy-efficient as well.

- Imposition of smart growth or locational efficiency requirements. In addition to the impact of building design on the actual energy use, the location of federal buildings can have a dramatic impact on the energy use of employees in commuting and other driving. The impact is often multiplied as federal buildings often attract additional residential and commercial development and infrastructure. Moving federal facilities to far suburbs or other areas outside of cities encourages sprawl, more driving, and greater oil use. A required transportation energy impact assessment could influence decisions on where to locate major new or expanded federal facilities.

- Directive to encourage federal contractors to improve their own energy efficiency. Some industry leaders, including Wal-Mart, are not only reducing their own energy use dramatically but also requiring their suppliers to improve efficiency, both to lower costs and reduce environmental impacts. Federal agencies could encourage and assist their large contractor base to reduce their own energy use thorough procurement preferences or requirements.

- Application of standards and savings targets to Congress. Congress could take an important symbolic step by applying all the agency energy savings targets and requirements to its own buildings, vehicle use, and procurement – making the Capitol complex a model for energy efficiency.

Successful federal energy management also can further vital federal goals by influencing others to use energy wisely. The federal government could:

- Challenge state and local governments and major businesses to match the federal commitment to energy efficiency. Many federal programs, including ESPCs and procurement requirements, have been models for other levels of government. The federal government should challenge other major energy users – both public and private – to commit to aggressive energy savings goals and policies at least comparable to the federal ones.

- Support state and utility energy-efficiency and demand-management programs. Many federal facilities have taken advantage of state and utility energy-efficiency programs, and the federal market has been essential to building the important infrastructure of energy service companies and other energy service providers. Utility DSM programs have been among the most effective public tools to reduce energy use, and all agencies and agents representing the federal government should strongly support cost-effective utility DSM programs and associated surcharges to pay for them.

Conclusion

While federal energy management is only a piece of the solution to the economic, environmental, and security challenges from energy use in this country, the federal government is the single largest energy user and could be the most influential model in the nation and for that matter, in the world, for using advanced energy-efficient technologies and practices. Congress has an important role to play. First, sustained congressional oversight is needed to focus agencies' top management attention on maximizing energy savings. Second, sufficient funding is needed to pay for the necessary initial costs to achieve long-term savings, along with continued support for alternative financing mechanisms. Third, new legislation could expand the scope and savings of federal energy management activities. The Public Buildings Cost Reduction Act of 2007 is an important first step. These actions will save taxpayer dollars and help save the planet at the same time.