ENERGY EFFICIENCY IMPROVEMENTS IN FEDERAL BUILDINGS AND VEHICLES

HEARING

BEFORE THE

COMMITTEE ON GOVERNMENT REFORM

HOUSE OF REPRESENTATIVES

ONE HUNDRED EIGHTH CONGRESS

FIRST SESSION

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WEDNESDAY, MARCH 12, 2003

HOUSE OF REPRESENTATIVES,
COMMITTEE ON GOVERNMENT REFORM,
Washington, DC.

The committee met, pursuant to notice, at 10 a.m., in room 2154, Rayburn House Office Building, Hon. Tom Davis (chairman of the committee) presiding.

Present: Representatives Tom Davis, Platts, Waxman, Kucinich, Tierney, Van Hollen, Ruppersberger, and Norton.

Staff present: Peter Sirh, staff director; Melissa Wojciak, deputy staff director; Keith Ausbrook, chief counsel; Ellen Brown and Uyen Dinh, counsels; David Marin, director of communications; Scott Kopple, deputy director of communications; Mason Alinger, professional staff member; Teresa Austin, chief clerk; Joshua E. Gillespie, deputy chief clerk; Phil Schiliro, minority staff director; Phil Barnett, minority chief counsel; Alexandra Teitz, minority counsel; Earley Green, minority chief clerk; Jean Gosa, minority assistant clerk; and Cecelia Morton, minority office manager.

Chairman TOM DAVIS. Good morning and thank you all for coming, and I apologize for being a couple minutes late.

The purpose of today's hearing is to assess the Federal Government's progress in adopting policies and practices that improve the energy efficiency of Federal facilities. Every year the Federal Government spends approximately $4 billion to supply energy to Federal facilities, including lighting, air conditioning and heating to its 3.3 billion square feet of office space, and fuel for its fleet of more than 500,000 vehicles.

Over the past 10 to 15 years, a number of laws have been enacted and Executive orders issued to dictate energy standards and policies for the Federal Government. The intent of such mandates has been two-fold. First, the purpose has been to decrease the Federal Government's dependency on energy resources and to slow down the depletion of non-renewable resources; and the second purpose has been to utilize the Federal Government's leverage to set a new standard for energy production and consumption.

For example, GSA, in purchasing new vehicles, is required to purchase cars and trucks that run on alternative fuels such as ethanol, methanol, natural gas, propane, or electricity. This policy is important in terms of getting the Federal Government to be a leader in energy efficiency. Unfortunately, my understanding is that, in reality, agencies have faced challenges in carrying out these man-

dates. I am interested to hear from the witnesses about their experiences with these issues.

In addition, the Federal Government must meet certain energy efficiency standards in construction and renovation projects. I understand that the Government requires all new construction, as well as renovations to older buildings, to comply with environmental standards regarding building materials, construction waste management, energy efficiency, and water conservation.

All of these requirements are important and set valuable standards for industry to follow. However, the testimony provided by the GAO outlines a number of challenges that face Federal construction managers. For example, architects and construction contractors are not often knowledgeable about energy efficient building practices, making it difficult to design and build such facilities. Also, the GAO notes the difficulties agencies face in convincing Congress and other players that the higher initial cost of energy efficient construction practices will end up saving the Government money in the long run through overall improved energy efficiency and reduced costs.

Regarding funding for energy efficiency renovations to Federal buildings, I am interested in hearing more about your experience with Energy Savings Performance Contracts [ESPCs]. I am a strong proponent of share-and-savings contracts as a way to provide Federal agencies with a quick and cost-effective way to accomplish capital-intensive projects. My understanding is that under an ESPC, a private sector energy service company assumes the capital costs of retrofitting a building with energy efficient equipment, then works out an arrangement with the agency to share in the savings realized from the reduced energy costs over the long run. Given the tight fiscal restraints tying the hands of Congress for the foreseeable future, direct appropriations will be harder than ever. I applaud your efforts to utilize all available means of funding.

GAO also reports that 44 buildings in GSA's inventory each had backlogs of more than $20 million in repairs, with the Old Executive Office Building downtown facing $187 million in repairs. In addition to the cost of the repairs alone, these backlogs usually include aging and inefficient plumbing, heating and air conditioning systems, meaning that the energy services used by the buildings are wasting taxpayers' money, adding significantly to the actual cost of delayed repairs. It seems to me that providing Federal managers the flexibility to optimize asset performance as the President has requested in his Freedom to Manage package would help to resolve some of these backlogs. I look forward to discussing this issue with the witnesses.

As most of you know, the comprehensive energy legislation in the 107th Congress reached conference but was never enacted into law. As the Energy and Commerce Committee begins to advance comprehensive energy strategy in this Congress, this committee is going to weigh in on energy-related issues that fall within our jurisdiction, such as energy efficient Federal procurement requirements and standards for Federal buildings. I look forward to working with all of our members, particularly my ranking member, Mr. Waxman, as we craft this aspect of comprehensive energy legislation.

I would like to introduce our panel of witnesses. We have David Garman, the Assistant Secretary of Energy Efficiency and Renewable Energy at the Department of Energy. Among other responsibilities, Mr. Garman oversees the Federal Energy Management Program, which works to reduce the cost and environmental impact of the Federal Government by promoting energy efficiency, water conservation, renewable energy, and green management practices.

I also want to welcome the witnesses from the GSA. Paul Lynch, Assistant Commissioner of Business Operations in GSA's Public Building Service, will be discussing the Government's efforts to adopt energy efficient policies for construction and renovation. William Rivers from GSA's Office of Government-wide Policy will discuss progress in setting environmentally friendly standards for the acquisition and maintenance of Federal vehicles.

Finally, I would like to thank the GAO for submitting testimony for the record for this hearing. For Members that are new to this issue, GAO's testimony provides an excellent overview of the progress being made, the challenges that remain, and thoughts to be considered as we move forward with energy policy regarding Federal buildings and vehicles.

I welcome all of the witnesses to today's hearing and look forward to your testimony.

I would now like to recognize Mr. Waxman, ranking Democratic member of the committee.

[The prepared statement of Chairman Tom Davis follows:]

TOM DAVIS, VIRGINIA
CHAIRMAN

HENRY A. WAXMAN, CALIFORNIA
RANKING MINORITY MEMBER

ONE HUNDRED EIGHTH CONGRESS

Congress of the United States
House of Representatives

COMMITTEE ON GOVERNMENT REFORM
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WASHINGTON, DC 20515–6143

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"Energy Efficiency Improvements in Federal Buildings and Vehicles"
Opening Statement of Chairman Davis
Committee on Government Reform
March 12, 2003 at 10:00 a.m.
2154 Rayburn House Office Building

Good morning and thank you for coming. The purpose of today's hearing is to assess the federal government's progress in adopting policies and practices that improve the energy efficiency of federal facilities. Every year the federal government spends approximately $4 billion to supply energy to federal facilities, including lighting, air conditioning and heating to its 3.3 billion square feet of office space, and fuel for its fleet of more than 500,000 vehicles.

Over the past ten to fifteen years, a number of laws have been enacted and executive orders issued that dictate energy standards and policies for the federal government. The intent of such mandates has been two-fold. First, the purpose has been to decrease the federal government's dependency on energy resources and to slow down the depletion of non-renewable resources. The second purpose has been to utilize the federal government's leverage to set a new standard for energy production and consumption.

For example, the General Services Administration, in purchasing new vehicles, is required to purchase cars and trucks that run on alternative fuels such as ethanol, methanol, natural gas, propane, or electricity. This policy is important in terms of getting the federal government to be a leader in energy efficiency. Unfortunately, my understanding is that, in reality, agencies have faced challenges in carrying out these mandates. I am interested to hear from the witnesses about their experiences with these issues.

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convincing Congress and other players that the higher initial cost of energy efficient construction practices will end up saving the government money in the long-run through overall improved energy efficiencies and reduced costs.

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I would now like to introduce our panel of witnesses. First we have David Garman, Assistant Secretary for Energy Efficiency and Renewable Energy at the Department of Energy. Among other responsibilities, Mr. Garman oversees the Federal Energy Management Program, which works to reduce the cost and environmental impact of the federal government by promoting energy efficiency, water conservation, renewable energy, and green management practices.

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Finally, I would like to thank the General Accounting Office for submitting testimony for the record for this hearing. For Members that are new to this issue, GAO's testimony provides an excellent overview of the progress being made, the challenges that remain and thoughts to consider as we move forward with energy policy regarding federal buildings and vehicles.

I welcome all of the witnesses to today's hearing and I look forward to their testimony.

Mr. WAXMAN. Thank you very much, Mr. Chairman. I want to commend you for holding today's hearing. Issues regarding the Federal Government's use and management of energy in government operations are squarely within the jurisdiction of this committee. I look forward to working with the majority in considering legislation on these issues on a bipartisan basis.

As the single largest energy consumer in this country, when the Federal Government makes efficiency improvements or relies on renewable energy, it can have a tremendous impact. Increased energy efficiency saves the Government money on its energy bills, and it has other critically important benefits as well.

When the Government uses energy more efficiently, air pollution from power plants is reduced. This is important because air pollution from electric power plant emissions is estimated to kill over 30,000 Americans per year, because hundreds of thousands of people suffer from asthma attacks and cardiac and respiratory illnesses due to power plant emissions and because power plants contribute one-third of the mercury emissions in this country, which causes neurological damage, particularly to fetuses and infants.

And when the Government reduces its consumption of gasoline, this directly enhances our national security. Today we are contemplating going to war against a dictator who has funded his weapons programs with oil revenues. We are watching gas prices rise in anticipation of the disruptions such a war will likely cause. Everyone in the country, and especially the Federal Government, has an obligation to do all we can to reduce our dependence on foreign oil by increasing the efficiency of our vehicles.

Yesterday it was reported that the House took a bold step in our Nation's efforts to disarm Iraq: we banned the use of the name "French fries" and "French toast" in the Rayburn Cafeteria. Henceforth, they will be called "Freedom fries" and "Freedom toast."

Well, it is time to stop joking and get serious. We are not at war with France, a NATO ally, and renaming our cafeteria menu won't contribute one iota to enhancing our national security. But today we can make a real contribution to ensuring our energy security and protecting our environment by exploring how the Federal Government can reduce its huge energy consumption.

In the testimony presented today, we will hear how the Federal Government has increased its energy efficiency since energy management requirements were adopted in the 1980's, and I commend the agencies for their progress, but it is important to recognize that we can do much more.

Our entire economy continues to grow more energy-efficient. Over the past 30 years, the amount of energy used to generate a unit of GDP has fallen by 42 percent. Just as computers keep getting more powerful and more compact, our technologies for using energy and generating renewable energy have also continued to improve dramatically.

California's experience during the energy crisis demonstrates the untapped potential of efficiency improvements. In just 6 months, the State reduced its energy consumption by 10 percent. The State achieved these reductions even though California was already one of the two most energy-efficient States in the Nation.

We can achieve tremendous benefits from using energy efficiency and renewable energy resources, but Federal agencies face disincentives to taking full advantage of these opportunities. There are a number of measures that this committee might consider in this area, and I look forward to working with the chairman on developing such measures.

Thank you, Mr. Chairman.

[The prepared statement of Hon. Henry A. Waxman follows:]

Statement of Rep. Henry A. Waxman
Hearing on "Energy Efficiency Improvements in Federal Buildings and Vehicles"
Government Reform Committee

March 12, 2003

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We can achieve tremendous benefits from using energy efficiency and renewable energy sources, but federal agencies face disincentives to taking full advantage of these opportunities. There are a number of measures that this Committee might consider in this area, and I look forward to working with the Chairman on developing such measures.

Chairman TOM DAVIS. Mr. Waxman, thank you very much.

As you know, it is the policy of this committee that all witnesses be sworn before they testify, so if you would rise with me and raise your right hands.

Oh, I am sorry, Mr. Ruppersberger, did you want to make a comment?

Mr. RUPPERSBERGER. No.

Chairman TOM DAVIS. OK, thank you.

[Witnesses sworn.]

Chairman TOM DAVIS. Be seated.

To afford sufficient time for questions, I would appreciate it if witnesses would limit their testimony to no more than 5 minutes. All written statements will be made part of the permanent record. You have a light on in front of you. When it turns orange, that means you have a minute to try to finish up. We have read the testimony and have questions, so your entire testimony is entered into the record. And any Members' statements will be submitted into the record. Thank you.

Why don't we start with you, Mr. Garman, and we will move straight down?

STATEMENT OF DAVID GARMAN, ASSISTANT SECRETARY, ENERGY EFFICIENCY AND RENEWABLE ENERGY, U.S. DEPARTMENT OF ENERGY

Mr. GARMAN. Thank you, Mr. Chairman and members of the committee. I appreciate the opportunity to appear on this important topic of Federal energy management in buildings and vehicles. As the Nation's largest single energy consumer, the Federal Government has an opportunity and the responsibility to lead by example with smart energy management. The Federal Government uses almost one-quadrillion BTUs of energy annually, or a little over 1 percent of the Nation's energy consumption. In fiscal year 2000, we spent approximately $4 billion on energy to heat, cool, light, and conduct operations in a half million Federal office buildings. While we have achieved significant success in energy management, we need to do even better.

Executive Order 13123 calls for Federal agencies to improve the energy efficiency of their buildings, promote the use of renewable energy, and reduce greenhouse gas emissions. Since 1985, the Federal Government as a whole reduced energy use in its buildings by more than 23 percent, measured in 2001. The Government also saved more than $1.3 billion in 2001, relative to 1985, and reduced energy bills, much of which can be attributed to energy improvements.

Executive Order 13123 also requires greater use of renewable energy by implementing renewable energy projects and by purchasing electricity from renewable sources. The goal for new renewable energy use in the Federal Government is currently 1,384 gigawatt hours by 2005, and Federal agencies are reporting that they are producing or purchasing over 600 gigawatt hours of new renewable energy or 40 percent of their goal.

We are also working to meet the goal in the Executive order to reduce greenhouse gas emissions attributed to Federal facilities by 30 percent in 2010, compared to a 1990 baseline. Carbon emissions

from energy used in non-exempt Federal facilities declined 19.4 percent in fiscal year 2001, compared to the 1990 base year.

Let me highlight a few areas of opportunity and describe how the Department of Energy's Federal Energy Management Program [FEMP], is helping agencies to seize these opportunities.

First, the Federal Government designs and constructs new buildings each year, investing at least $11 billion in 2002 for new construction and renovation projects for buildings and facilities. FEMP offers design assistance to Federal agencies for new construction projects and helps ensure that architectural designs, engineering, and building construction practices incorporate energy efficiency and cost-effective strategies. Second, we work to improve the Federal Government's existing building stock. We provide Federal agencies with access to private sector financing through energy savings performance contracts and utility contracts to pay for these upgrades. To date, Federal agencies have already leveraged more than $2.1 billion in private sector investments for these projects. Third, we promote the purchase of energy efficient equipment. FEMP provides product recommendations that, in concert with Energy Star, help direct Federal and other purchases to the most efficient products.

Turning now to the issue of Federal vehicle fleets and alternative fuels. The Energy Policy Act of 1992 requires Federal agencies to purchase alternative fuel vehicles. Over the last 10 years, Federal agencies have purchased over 100,000 alternative fuel vehicles, a large fraction of all alternative fuel vehicles sold in the United States. Over 65,000 of those vehicles are in operation today, an increase of over 10,000 in just 2 years. Alternative fuel vehicles now account for about 14 percent of the Federal Government's total light duty fleet of over 450,000 vehicles.

We are also pursuing significant efforts to increase the energy efficiency of Federal fleet operations. One driver for this is Executive Order 13149, which directs Federal agencies to reduce overall petroleum consumption in fleets by 20 percent by the year 2005. To meet this goal, we are working with other agencies to improve the efficiency of fleet operations, increase the use of alternative fuel, and encourage the purchase of energy-efficient vehicles. We are also working to reduce the overall size of the Federal fleet.

So, Mr. Chairman and members of the committee, we welcome the opportunity to work with all Federal agencies in demonstrating leadership and reducing energy consumption in our buildings and vehicles, and I would be happy to answer any questions the committee has either now or in the future. Thank you, Mr. Chairman.

[The prepared statement of Mr. Garman follows:]

Testimony of David K. Garman
Assistant Secretary
Energy Efficiency and Renewable Energy
United States Department of Energy
Before the
House Committee on Government Reform
Hearing on Energy Efficiency Improvements in Federal Buildings and Vehicles

March 12, 2003

Mr. Chairman, Members of the Committee, I appreciate the opportunity to speak before you today on the important topic of Federal energy management in buildings and vehicles. As the nation's single largest energy consumer, the Federal government has a great opportunity and a responsibility to lead by example with smart energy management. The Federal government uses almost one quadrillion Btus of end use energy annually – that's about one and a half percent of the Nation's energy consumption. In fiscal year 2000, we spent approximately $4 billion on energy to heat, cool, light, and conduct operations in our 500,000 Federal buildings. I am pleased to report that Federal agencies have already achieved significant success in energy management.

Executive Order 13123 calls for Federal agencies to improve the energy efficiency of their buildings, promote the use of renewable energy, and reduce greenhouse gas emissions. The Federal government exceeded the 20 percent reduction goal established for FY 2000, relative to the 1985 base year. More recently in 2001, agencies had reduced their gross square foot energy consumption by more than 23 percent, relative to the base. The government also saved more than $1.3 billion in 2001, on a constant dollar basis, relative to 1985, in reduced energy bills, much of which can be attributed to energy efficiency improvements. EO 13123 requires greater use of renewable energy by implementing renewable energy projects and by purchasing electricity from renewable sources. The goal for new renewable energy use in the Federal Government is 1,384 gigawatthours (GWh) by 2005. Currently Federal agencies are reporting that they are purchasing or producing over 600 GWh of new renewable energy, achieving over 40 percent of the goal. The Order requires a 30 percent reduction in greenhouse gas emissions attributed to Federal facilities by 2010 from 1990. Carbon emissions from energy used in non-exempt Federal facilities declined 19.4 percent by FY 2001 compared to the 1990 base year.

Let me highlight a few areas of opportunity and describe how the Department of Energy's Federal Energy Management Program, otherwise known as FEMP, is helping agencies seize these opportunities. First, the Federal government designs and constructs new buildings each year, and invested at least $11 billion in FY 2002 for new construction and renovation projects for buildings and facilities. FEMP offers design assistance to Federal agencies for new construction projects and helps ensure that architectural designs, engineering, and building construction practices incorporate cost-effective energy efficiency and renewable energy technologies and practices. A second area of opportunity is the Federal government's existing

buildings. We provide Federal agencies with access to technical assistance so that agencies can make wise choices as they consider options for retrofitting and upgrading their buildings. When cost-effectiveness can be demonstrated, FEMP recommends private sector financing, through energy savings performance contracts and utility contracts, to pay for these upgrades. FEMP provides agencies with easier access to these unique contracting vehicles. The third target area focuses on purchasing energy efficient equipment. FEMP estimates that the Federal government purchases of energy-related products are valued at roughly $10 billion annually, of which almost one fifth ($1.8 billion) are building-related equipment and appliances. FEMP provides product recommendations that, in concert with the Energy Star® label, help direct Federal and other purchasers to the most efficient products.

Executive Order 13221, issued by President Bush in July 2001, offers a compelling example of how, by working with industrial partners, the federal government's purchasing decisions can pull the market for energy efficient products. To help implement E.O. 13221, which requires the federal government to purchase products that use minimal standby power, FEMP initiated negotiations with office product manufacturers. As a result, office product manufacturers are introducing significant design changes that dramatically reduce the standby power of products used by consumers and businesses throughout the world. Through prudent product specifications and purchasing criteria, the federal government is encouraging the development of more energy efficient and renewable energy products and services.

Lawrence Berkeley National Laboratory estimates that by 2008, if the new reduced standby power devices have become widespread, the federal government should save approximately $14 million in annual energy costs. U.S. consumers should save approximately $300 million in annual energy costs. The federal government will save electricity equivalent to the amount needed to power over 20,000 homes, while U.S. consumers will save electricity equivalent to the amount needed to power approximately 350,000 homes. Savings are expected to continue to grow as low standby products become standard in the market.

As a large purchaser, the federal government has influenced private sector manufacturing and design decisions throughout the economy, and will continue these efforts, especially in the electronics industry. In addition, FEMP's alternative financing, technical assistance, outreach services help agencies obtain innovative technologies, leverage new partnerships with the private sector, set an example for the nation in energy management, and, as a result, improve our energy security and the environment.

FEDERAL FLEETS AND ALTERNATIVE FUELS

The Energy Policy Act of 1992 (EPAct) requires Federal agencies to purchase alternative fuel vehicles. Over the past 10 years, Federal agencies have purchased over 100,000 alternative fuel vehicles, a large fraction of all alternative fuel vehicles sold in the United States. Over 65,000 of those alternative fuel vehicles are in operation today, an increase of over 10,000 in just two years. Alternative fuel vehicles now account for about 14 percent of the Federal light duty fleet of about 450,000 vehicles, including the U.S. Postal Service and the Defense Department.

We are also pursuing significant efforts to increase the energy efficiency of Federal agency fleet operations. One driver for this is Executive Order 13149, which directs Federal agencies to reduce overall petroleum consumption in fleets by 20 percent by the year 2005. To meet this goal, we are working with other agencies to improve the efficiency of fleet operations, increase the use of alternative fuel, and encourage the purchase of energy efficient vehicles. The Administration has also requested that agencies reduce the size of their fleets. While fleets for some agencies performing law enforcement and security activities are expected to increase, these increases will be more than offset by decreases in other agencies' fleets, as agencies begin to manage their fleet resources more efficiently.

CONCLUSION

Mr. Chairman, Members of the Committee, we welcome the opportunity to work with all Federal agencies in demonstrating leadership and reducing energy consumption in buildings and vehicles.

This completes my prepared statement. I would be happy to answer any questions you may have.

Chairman TOM DAVIS. Thank you very much.

Mr. Lynch, thanks for being with us.

STATEMENT OF PAUL LYNCH, ASSISTANT COMMISSIONER OF BUSINESS OPERATIONS, PUBLIC BUILDINGS SERVICE, GENERAL SERVICES ADMINISTRATION

Mr. LYNCH. Good morning, Mr. Chairman. Thank you for the opportunity to present testimony regarding Federal programs for energy efficiency and conservation.

The General Services Administration has a long history of supporting Federal energy efficiency in our facilities. We also recognize the importance of our unique leadership roles as the Government's landlord in demonstrating energy efficiency. GSA's actions in the area of energy efficiency closely follow mandates set forth in Public Law and Executive order. On an annual basis, GSA develops an implementation plan to ensure all energy management strategies are identified and are being pursued. Results are reported to GSA senior management on a quarter basis. Senior management and regional senior management executives have energy performance included as part of their performance evaluation as well.

Since 1985, GSA has reduced energy usage in our facilities classified as standard by approximately 21 percent from the 1985 base year. This was achieved by directly investing in energy conservation opportunities with paybacks of 10 years or less. From 1990 through 2002, GSA invested approximately $316 million in energy projects. Since 1990, GSA has also reduced energy usage in our Energy Intensive, those kinds of buildings identified as industrial and laboratories, by about 37.2 percent from the baseline year of 1990.

GSA also benchmarks performance with comparable Federal facilities. The utility benchmark, established by the Building Owners and Management Association, indicates PBS is operating approximately 34 percent below comparable commercial facilities for the period ending September 30, 2002.

GSA is also proud of its efforts to earn the Energy Star Building Label for our portfolio. To date, GSA has earned the Energy Star Label for 93 of our own facilities and 1 leased facility, with a total square footage of approximately 28 million. This represents approximately 19 percent of our eligible square footage and 15 percent of our facilities.

Our actions can be divided into two broad categories: leadership and management, and energy efficiency performance and implementation strategies. Under management and administration, we created a management infrastructure that focused our time and attention on implementing the goals of Executive orders and law. We have also formed a technical support team consisting of appropriate personnel to help in that process. We also utilize a wide variety of management tools, including award programs, performance evaluations, training and education workshops, and designation of our buildings as showcase energy facilities.

GSA activities in energy efficiency are implemented and managed by our national Energy Center of Expertise. The Center monitors and coordinates energy usage; they develop and implement energy saving projects; they leverage our purchasing power through national contracts; they establish and manage energy sav-

ing performance contracts; and they develop annual implementation plans and strategies to achieve our goals.

I would like to take a minute to introduce Mark Ewing. Mark is the director of the National Energy Center.

Chairman TOM DAVIS. Welcome. Thanks for being with us.

Mr. EWING. Thank you.

Mr. LYNCH. The second broad category is performance and implementation strategies. On an annual basis, we maintain a 10-year audit plan. Every year we are actually auditing 10 percent of our portfolio. These audits identify energy conservation measures that may lead to future energy conservation proposals or viable alternatives.

GSA is also maximizing the use of available alternative financing mechanisms as a strategy. In fiscal year 2002, GSA awarded a total of seven alternatively financed projects. All seven were ESPCs. This brings the total to 23 ESPCs and 19 Utility Energy Savings Contracts currently active and in place. We have also an additional 13 projects that are in various stages of development, anticipating fiscal year 2003 award. The dollars associated with this effort are approximately $179 million.

GSA also considers opportunities for solar and other renewable energy in building design and retrofits. In fiscal year 2002, GSA purchased a total of 24,306 megawatt hours of electricity from renewable energy through competitive power contracts and the use of green power.

Looking toward the future in our capital program, we rely very heavily on the LEED, Leadership in Energy and Environmental Design Silver requirements. Our goal is to bring new buildings into our inventory that are energy efficient, while optimizing the energy performance of our building inventory.

Mr. Chairman, I would be pleased to answer any questions you or other members of the committee may have on this matter.

[The prepared statement of Mr. Lynch follows:]

STATEMENT

OF

PAUL LYNCH

**ASSISTANT COMMISSIONER
OF BUSINESS OPERATIONS**

PUBLIC BUILDINGS SERVICE

GENERAL SERVICES ADMINISTRATION

BEFORE THE

COMMITTEE ON GOVERNMENT REFORM

U.S. HOUSE OF REPRESENTATIVES

MARCH 12, 2003

Mr. Chairman, thank you for the opportunity to present testimony regarding Federal programs for energy efficiency and conservation.

The General Services Administration (GSA) has a long history of supporting and participating in efforts to promote Federal energy efficiency in our facilities. We also recognize the importance of our unique leadership role as the Government's landlord in demonstrating that energy efficiency and sound asset management principles are closely linked.

GSA's actions in the area of energy efficiency closely follow mandates set forth in Public Law 102-486 and numerous Executive Orders, most recently, President Bush's Executive Order 13221, Energy-Efficient Standby Power Devices and Executive Order 13123, Greening the Government through Energy Efficiency.

In fact, GSA annually develops an implementation plan to ensure all the energy management strategies identified in Executive Order 13123 are being pursued. Energy reduction and utility cost reduction goals are tracked as part of GSA's performance evaluation to the President. Results are reported to GSA senior management on a quarterly basis. Senior management and regional senior management executives have energy performance included as part of their performance evaluation.

GSA is making good progress toward achieving our goals. Since 1985, GSA has reduced energy usage in our facilities classified as *Standard* from 83,682 British thermal units (BTU) per gross square foot (GSF) to 66,174 BTU's per GSF. This reduction represents a decrease of 20.9 percent compared with the 1985 base year. The agency achieved this reduction by directly investing in energy conservation opportunities with paybacks of 10 years or less. From 1990 through 2002, GSA invested approximately $316.5 million in energy projects.

Since 1990, GSA has reduced energy usage in our *Energy Intensive* (industrial and laboratories) buildings from 432 thousand BTU per GSF to 272 thousand per GSF. This represents a decrease of 37.2 percent compared with the 1990 baseline.

GSA also benchmarks performance with comparable facilities operated and managed in the private sector. The utility benchmark, established by the Building Owners and Management Association, indicates PBS is operating , federal facilities, 34% below comparable commercial facilities for the period ending September 30, 2002.

Lastly, GSA is proud of its efforts to earn the ENERGY STAR Building Label for our portfolio. To date, GSA has earned the ENERGY STAR Building Label for 93 of its owned facilities and 1 leased facility with a total square footage of 27,896,356 GSF. This represents approximately 19% of our eligible square footage and 15% of our facilities agency wide.

GSA has a well-developed strategy for providing leadership to energy efficiency and conservation. GSA's energy efficiency actions can be divided into two broad categories: 1) Leadership and Management and 2) Energy Efficiency Performance and Implementation Strategies.

Under Management and Administration, GSA has created an energy management infrastructure designating a Senior Agency Official responsible for meeting the goals and requirements of Executive Orders. GSA has also formed a technical support team consisting of appropriate personnel to expedite and encourage the agency's use of strategies identified in Executive Orders. GSA also utilizes a wide variety of management tools including award programs, performance evaluations, training and education workshops and designation of our buildings as showcase energy facilities.

In addition to the technical support team, GSA activities in energy efficiency and conservation are implemented and managed by a national Energy Center of Expertise. The Center, supported directly by GSA associates from all GSA regional offices, is responsible for coordinating energy activities nationally. The Center monitors and coordinates energy usage and activities; develops and implements energy savings projects; leverages our purchasing power through national contracts; establishes and manages Energy Savings Performance Contracts (ESPCs) ; and develops annual implementation plans and strategies to achieve our goals.

The second broad category encompassing GSA's energy efficiency actions pertains to Energy Efficiency Performance and Implementation Strategies. To know our portfolio and needs, GSA maintains a 10-year audit plan in which approximately 10% of all space is audited in any given year. Comprehensive audits are performed by a variety of agents: some are performed by in-house personnel, some by utilities, some by Department of Energy's Save Energy Contractors, and some by architect-engineer contractors. Audits identify energy conservation measures that may lead to future energy conservation proposals or other viable alternatives. GSA associates have a wide array of tools to take

action designed to improve efficiency and conservation of the current and future portfolio. These include energy projects, use of renewable energy (energy produced by solar, wind, geothermal, and biomass power) and sustainable building design.

Direct appropriations for energy savings projects in today's world are difficult to count on. As a result, GSA is maximizing the use of available alternatively financing contracting mechanisms as a strategy. In 2002 GSA awarded a total of 7 alternatively financed projects, all 7 were ESPC Projects. This brings the total to 23 ESPCs and 19 Utility Energy Savings Contracts (UESCs) currently active and in place. GSA currently has 13 projects that are in various stages of development, anticipating FY2003 award for most of these. The total dollars budgeted for this effort are $179.4 Million.

GSA also considers opportunities for solar and other renewable energy in building design and retrofits. When GSA performs an energy audit of a facility, renewable opportunities are identified and implemented if they are life-cycle cost effective. In FY2002, GSA received an estimated 3,207 million British thermal units (MMBtu) in energy use from self-generated projects. Approximately 156 megawatt hours (MWh) of this coming from GSA's 6 Photovoltaic (PV) installations, 1,779 MMBtu coming from GSA's 5 Solar thermal projects and 897 MMBtu coming from 1 completed geothermal project.

GSA has had very good success in purchased renewable energy as well. In FY2002, GSA purchased a total of 24,306 MWh of electricity from renewable energy through competitive power contracts and the use of green power programs offered by local distribution companies. In FY2002 GSA had active competitive power contracts that contained green power components in 6 of GSA's 11 Regions.

Looking toward the future in our capital program, GSA now requires all new buildings and major repairs and alterations projects for existing buildings to conform to Leadership in Energy and Environmental Design (LEED) Silver requirements. The LEED Green Building Rating System™ is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. Members of the U.S. Green Building Council representing all segments of the building industry developed LEED and continue to contribute to its evolution. Our ultimate goal with the LEED program is to bring new buildings into our inventory that are energy efficient, while optimizing the energy performance of our existing building inventory.

In closing, GSA is committed to providing leadership to energy efficiency and conservation. Energy efficiency makes good business sense and helps fulfill our mission. Meeting the 30% reduction goal in our buildings by the year 2005 and 35% by 2010 is hard work. GSA is currently in the process of issuing a national

business strategy to deal with the 2005 and 2010 goals. The strategy will focus on 4 key areas: 1) Efficiency of new buildings entering the portfolio; 2) Leveraging repairs and alterations in existing buildings; 3) Buildings exiting the inventory and 4) Operations of existing buildings.

I would be pleased to answer any questions you or other members of the Committee may have on this matter.

Chairman TOM DAVIS. Thank you, and thank you for being with us.

Mr. Rivers.

STATEMENT OF WILLIAM RIVERS, DIRECTOR OF THE FEDERAL VEHICLE POLICY DIVISION, OFFICE OF GOVERNMENTWIDE POLICY, GENERAL SERVICES ADMINISTRATION, ACCOMPANIED BY BARNEY BRASSEAUX, FEDERAL SUPPLY SERVICE

Mr. RIVERS. Mr. Chairman and members of the committee, thank you for inviting us here this morning to discuss the experience of Federal agencies with the laws and Executive orders mandating energy efficiency in Federal motor vehicles.

My name is William Rivers, from the General Services Administration's [GSA's] Office of Governmentwide Policy, where I am the Director of the Federal Vehicle Policy Division. Also here from GSA is Mr. Barney Brasseux of the Federal Supply Service, where he is the Assistant Commissioner for the Office of Vehicle Acquisition and Leasing Services.

GSA offices share several areas of responsibility in the area of fuel efficiency in Federal vehicles. The Federal Supply Service includes GSA Automotive, which is the mandatory source of supply for all Federal agencies purchasing commercial-design, non-tactical vehicles. GSA Automotive buys about 60,000 vehicles annually on behalf of Federal agencies. Since 1991, we have purchased over 65,000 Alternative Fuel Vehicles [AFV's] for our Federal customers. The Federal Supply Service also includes GSA Fleet, which is a non-mandatory source for Federal agencies that wish to lease vehicles rather than purchase them. GSA Fleet leases about 190,000 vehicles to Federal agencies, which is about one-third of the total Federal fleet; the Postal Service also has about a third, and the remaining third are owned by various agencies.

GSA's Office of Governmentwide Policy is responsible for establishing the regulations under which all Federal fleets must operate. We also serve as an information clearinghouse and spokesperson for the Federal fleet community, and we collect data on Federal agencies' vehicle inventories and fleet characteristics. We also coordinate the responsive of Federal Fleet Managers to issues of common concern. We work with the Department of Energy and the Federal fleet community to enhance and approve the use of AFVs.

Finally, GSA operates a small fleet of approximately 2,000 vehicles for its own internal use, most of which are leased from GSA Fleet.

The requirements of statutes and Executive orders in the area of vehicle fuel efficiency apply to all Federal executive departments. As both a policy and operational function, GSA is a supplier of vehicles to Federal agencies and a coordinator of agencies' efforts to manage those vehicles effectively. However, on matters of governmentwide compliance with energy efficiency, we defer to our colleagues at DOE, which has the statutory authority to monitor compliance of executive agencies with energy efficiency requirements.

GSA has purchased more AFVs produced by the automotive manufacturers than any single organization in this country. In fact, of the 65,000 AFVs purchased by GSA Automotive, GSA Fleet has ac-

quired 58,000 AFVs at a cost of $900 million. Today we have 30,000 AFVs operating in our fleet. We are very proud of our AFV accomplishments.

Many of the issues that we all face today concerning AFVs have changed little since the Federal Government's program started in 1988. Issues such as vehicle type, fuel type, purchase price, resale value, limited driving range, limited infrastructure, incremental cost, and the impact of these issues on agencies' budgets and missions have changed little over the years. For example, dedicated AFVs continue to have limited range and limited refueling and maintenance infrastructure, while bi-fuel and flexible fuel vehicles are often using gasoline because the alternative fuel is either not available or is not economical to use.

Manufacturers have not always offered suitable AFVs. It has taken many years to get the full range of AFVs available today. Federal fleets, for the first time, were able to acquire E85 compact AFV sedans in 2003. For nearly a decade, agencies had to acquire larger, more expensive sedans in significant numbers to meet AFV mandates because cost-effective compact AFV sedans were not available. However, DaimlerChrylser recently announced that they will not offer the E85 flexible fuel minivan for model year 2004 and beyond. The decision to discontinue this model is a major disappointment, since we buy thousands of those vehicles annually.

Federal Government purchases alone are not enough for manufacturers to realize the economies of scale that they enjoy for conventionally fueled vehicles. The 60,000 vehicles purchased annually by GSA account for less than 0.36 percent of the over 16 million vehicles sold in the United States each year.

Many of our Federal partners have made significant strides to comply with AFV minimum fleet requirements, but problems persist. For example, the private sector has not developed a mechanism to adequately capture alternative fuel use data to support AFV fleets. Most of the successful AFVs have been flexible fuel and, to a smaller extent, the bi-fuel vehicles. This is because these vehicles can operate on gasoline when the infrastructure is not available. The dedicated vehicles are more suited for base-type operations, where they do not leave the facility and AFV refueling is provided at the site.

As new technologies come to the market, AFV acquisition goals may become more difficult to reach. For example, agencies do not receive credit for their purchase and use of hybrids under the AFV mandates.

In his State of the Union address, the President has announced an exciting new program, the Hydrogen Fuel Initiative, to complement work ongoing under the Department of Energy's FreedomCAR partnership with the U.S. auto industry. Federal Fleet managers are excited about the possibilities and eager to participate. We look forward to working with you and other interested parties to review the applicable AFV authorities to develop a comprehensive, cohesive AFV policy.

Thank you for the opportunity to testify today, Mr. Chairman. I look forward to answering any questions you may have.

[The prepared statement of Mr. Rivers follows:]

STATEMENT

OF

WILLIAM RIVERS

DIRECTOR OF THE FEDERAL VEHICLE POLICY DIVISION

OFFICE OF GOVERNMENTWIDE POLICY

GENERAL SERVICES ADMINISTRATION

BEFORE THE

COMMITTEE ON GOVERNMENT REFORM

U.S. HOUSE OF REPRESENTATIVES

MARCH 12, 2003

Mr. Chairman and members of the Committee: Thank you for inviting us here this morning to discuss the experience of Federal agencies with the laws and Executive Orders mandating energy efficiency in Federal motor vehicles.

My name is William Rivers, from the General Services Administration (GSA), Office of Governmentwide Policy, where I am the Director of the Federal Vehicle Policy Division. Also here from GSA is Mr. Barney Brasseux of the Federal Supply Service, where he is the Assistant Commissioner for the Office of Vehicle Acquisition and Leasing Services.

GSA offices share several areas of responsibility in the area of fuel efficiency in Federal vehicles. The Federal Supply Service includes GSA Automotive, which is the mandatory source of supply for all Federal agencies purchasing commercial-design, non-tactical vehicles. GSA Automotive buys about 60,000 vehicles annually on behalf of Federal agencies. Since 1991, we have purchased over 65,000 alternative fuel vehicles (AFVs) for our Federal customers. The Federal Supply Service also includes GSA Fleet, which is a non-mandatory source for Federal agencies that wish to lease vehicles rather than purchase them. GSA Fleet leases about 190,000 vehicles to Federal agencies, which is about one-third of the total Federal fleet; the Postal Service also has about one-third, and the remaining third are owned by the various agencies.

GSA's Office of Governmentwide Policy is responsible for establishing the regulations under which all Federal fleets must operate. We also serve as an information clearing-house and spokesperson for the Federal fleet community, and we collect data on Federal agencies' vehicle inventories and fleet characteristics. We also coordinate the response of Federal fleet managers to issues of common concern. We work with the Department of Energy (DOE) and the Federal fleet community to enhance and improve the use of AFVs.

Finally, GSA operates a small fleet of about 2,000 vehicles for its own internal use, most of which are leased from GSA Fleet.

The requirements of statutes and Executive Orders in the area of vehicle fuel efficiency apply to all Federal executive departments. GSA is primarily a supplier of vehicles to Federal agencies, and a coordinator of agencies' efforts to manage those vehicles effectively. In that role, GSA has some experience with the operational aspects of fuel efficiency mandates, as well as some insight into the policy implications faced by Federal agencies generally. However, on matters of governmentwide compliance with energy efficiency, we defer to our colleagues at the DOE, which has the statutory authority to monitor compliance of executive agencies with energy efficiency requirements.

GSA involvement with the Federal Government's Alternative Fuel Program

GSA Fleet has been involved in the Federal government's alternative fuel program since the enactment of the Alternative Motor Fuels Act of 1988 (AMFA). The purpose of the AMFA and the AFV program has been to introduce AFVs into the Federal fleet, demonstrate their effectiveness, and encourage the use of both AFVs and alternative fuels. We have purchased more AFVs produced by the automotive manufacturers than any other single organization in this country. In fact of the 65,000 AFVs purchased by GSA Automotive, GSA Fleet has acquired 58,000 AFVs at a cost of $900 million for our customers to use. Today, we have 30,000 AFVs operating in our fleet. We are very proud of our AFV accomplishments.

AFVs use various types of fuel such as methanol (M85), ethanol (E85), compressed natural gas (CNG), liquid propane gas (LPG), and electricity. AFVs are available as flexible fuel, bi-fuel or dedicated models. The flexible fueled vehicle can use either unleaded gasoline, or some alternative fuel, such as ethanol in the same tank. However, these fuels cannot be used simultaneously. The bi-fueled vehicle is configured with two tanks, to allow the driver to switch fuels, such as gasoline and compressed natural gas. Dedicated vehicles operate on a single fuel or electricity.

GSA Fleet has extensive experience in the day-to-day operation of AFVs. Many of the issues that we all face today concerning AFVs have changed little since the Federal government's program started under the AMFA. Issues such as vehicle type, fuel type, purchase price, resale value, limited driving range, limited infrastructure, incremental costs and the impact of these issues on our customer agencies' budgets and missions have changed little over the years. For example, dedicated AFVs continue to have limited range and limited refueling and maintenance infrastructure while bi-fuel and flexible fuel vehicles are using gasoline, because the alternative fuel is either not available, or it is not economical to use.

Manufacturers have not always offered suitable AFVs. Typically, manufacturers introduced AFV configurations in a small sample of their models. It has taken many years to get the full range of AFVs available today that can satisfy the Federal agencies' missions. The AFVs offered for sale by the manufacturers are primarily flexible fueled E85 vehicles, fueled with ethanol. Federal fleets for the first time were able to acquire E85 compact AFV sedans in 2003. For nearly a decade, agencies acquired larger sedans in significant numbers to meet AFV mandates because cost effective compact AFV sedans were not available. DaimlerChrysler recently announced they would not offer the E85 flexible fuel minivan for model year 2004 and beyond. The decision to discontinue this model is a major disappointment since we buy thousands of these vehicles annually.

While the auto manufacturers are generally trying to expand their AFV product lines, we have been advised that the overall demand for higher cost and dedicated fuel AFVs continues to be low. Federal Government purchases alone are not enough for manufacturers to realize the economies of scale that they enjoy for conventionally fueled vehicles. The 60,000 vehicles purchased annually by GSA account for less than 0.36% of the over 16 million vehicles sold in the United States each year. To put this in perspective, the entire Federal fleet including the Postal Service has 579,500 vehicles or about 0.27% of the 217 million vehicles registered in the United States.

Another issue confronting fleet managers is the cost of AFVs. AFVs generally cost more than their conventional counterparts, especially dedicated and bi-fuel models. In the early nineties Congress provided the funding to pay the incremental cost of AFVs through DOE. This worked well, as DOE and GSA partnered to acquire AFVs for the Federal Fleet. However, beginning in FY1996 and beyond the incremental funding was no longer available, and agencies were directed to fund the incremental costs of AFVs without additional appropriations. This has affected agencies' ability to acquire AFVs.

Many of our Federal customers have made significant strides to comply with AFV minimum fleet requirements through the GSA Fleet program. But, the private sector has not put in place sufficient infrastructure, such as maintenance/repair facilities and refueling facilities, nor developed a mechanism to capture alternative fuel use data to support the AFV fleets. The Federal Government has had limited success getting the private sector to develop the infrastructure to support AFVs in this country. In the early years we partnered with DOE, and many fuel providers such as Sunoco, Conoco, Methanex and others to provide a concentration of AFVs in certain areas as an incentive for the fuel providers to develop the necessary infrastructure. In addition, we worked very closely with the Natural Gas Vehicle Coalition, the National Corn Growers Association and many others to help support the development of alterative fuel infrastructure. However, since we support so many agencies, GSA Fleet's vehicles are, by necessity, widely spread over the country. This decentralization makes it difficult for GSA to generate adequate demand for AFV refueling sites. By contrast, gasoline powered vehicles have a network of over 180,000 locations that sell fuel in this country. We are continually working with the AFV industry to focus their employees' attention on the need to utilize alternative fuel where it is available. In addition, as new technologies enter the market, the infrastructure must be there to support it. Most of the successful AFVs have been flexible fuel, and to a smaller extent, bi-fuel vehicles. This is because these vehicles can operate on gasoline when the infrastructure is not available. The dedicated vehicles are more suited for base-type operations where they do not leave the facility, and AFV refueling is provided at the site.

As new technologies, such as gasoline-electric vehicles and diesel-electric hybrid vehicles, come to the market, AFV acquisition goals may become more difficult to reach. For example, agencies do not receive AFV credits for their purchase and use of hybrids under the AFV mandates, nor should they, because hybrids can contribute to Federal fleet goals for reduced petroleum consumption and increased fuel economy under Executive Order 13149. In light of the potential benefits of hybrids, it may be appropriate to revisit AFV acquisition goals, but we would not want to complicate further the accounting of AFV and AFV credits.

In his State of the Union address, the President has announced an exciting new initiative, the Hydrogen Fuel Initiative, to complement work on-going under the Department of Energy's FreedomCAR partnership with the U.S. auto industry. These initiatives aim to conduct high-risk research and development that may hasten the introduction of advanced automotive and fuel cell technologies. Federal fleet managers are excited about the possibilities, and eager to participate. We look forward to working with you and other interested parties to review the applicable AFV authorities to develop a cohesive AFV policy.

Thank you for the opportunity to testify today Mr. Chairman, and I look forward to answering any questions you may have.

Chairman TOM DAVIS. Thank you all very much. Let me start the questioning over on our side with Mr. Platts.

Mr. PLATTS. Thank you, Mr. Chairman. I will be brief, and, as always, we are trying to be in four different places at one time.

But I appreciate the testimony that has been provided, and I apologize if my couple of questions here were addressed in your statements; I was trying to touch base or look at it real quickly here.

Specifically for GSA, when you make decisions like building leases for space or automobile purchases or leases, in what way do you, if at all, factor in the energy efficiency of building A versus building B; is it just square footage and location, or do you actually take in things like energy cost in the lease decisions, starting with buildings?

Mr. LYNCH. We actually just don't look at the energy cost, what we do is when we go out and lease space, we do include sustainability requirements in our leases. And I think we have more leverage when we actually go out with build-to-suit type leases, where we are actually going to live in that building for 20 years and it is just going to be a Federal tenant. Some good examples of that approach are the EPA in Kansas City, and the EPA lab up in Chelmsford, MA. Those were build-to-suits. We had a whole bunch of green sustainable energy conservation measures in those leases, and we got what we asked for.

On the Federal side, when we go out with new construction now for courthouses or major repair and alterations, we are actually telling our designers and we are also telling our constructors that they have to build and construct to the LEED rating, which is an industry-wide standard established by the Green Building Council. The LEED rating gives them some idea and some parameters as to what we are looking for from a sustainability perspective.

Mr. PLATTS. On the lease side, though, when you are making a decision on dollars, is there additional credit given to a building that you want to lease that is more energy efficient because of not just the cost savings, but the environmental impacts as well, or is that a factor but it is not an absolute benefit?

Mr. LYNCH. It is a factor, but it is not an absolute. I mean, we look at the rental rate compared to the marketplace. We do specify that we are looking for sustainability. We do have some things that we look at in those leases and, again, it all depends on if it is a build-to-suit where we are going to be in that facility versus a 2,000 square foot lease, it is all about leverage and opportunity.

Mr. PLATTS. OK. And how about I guess, Mr. Rivers, on automobiles. When you make decisions and they require X number of four-door sedans, is fuel efficiency of the vehicles factored into that decision?

Mr. RIVERS. Yes, sir. The decision essentially is made by the using agency. GSA provides, in effect, a menu for them either on the purchase side; we have contracts that make a number of vehicles readily available, where we highlight both fuel efficiency and then, if they are alternative fuel, what options are available there. On the GSA Fleet side, we provide a range of vehicles if they actually want the vehicle itself.

But it comes back down to the using agency having to take into account what are the characteristics of the vehicle use and the availability of alternative fuels in an area. Base-type operations probably lend themselves more to use of like a natural gas configured vehicle. Where you are more into the commercial marketplace, it tends to be a flexible fuel vehicle. But those are the decisions agencies have to make; can I get a vehicle of the right type with the right fuel supply being available in that area.

Mr. PLATTS. But many vehicles are just basic gasoline, not alternative fuel.

Mr. RIVERS. Yes.

Mr. PLATTS. Of those that you say you can make available as a fleet for them to choose from?

Mr. RIVERS. That is correct. Agencies have to adhere to the Federal average fleet economy, similar to the CAFE for the commercial sector.

Mr. PLATTS. Right.

Mr. RIVERS. And they have to go through and acquire their vehicles. We are under a requirement to increase mile per gallon average by at least 1 mpg for 2002. Those numbers I think are just coming in.

Mr. PLATTS. So that fleet average fuel efficiency is part of that decision.

Mr. RIVERS. Absolutely, sir. Yes, sir.

Mr. PLATTS. OK.

If I can squeeze one more question in here. GAO is identifying a lot of upgrades, lighting and air conditioning, including, I believe, our congressional printing office. I guess that Congress could do better. How much is out there, is it pretty extensive, the benefits that could be gained, whether it would be upgrading lighting or air conditioning systems? Is that pretty pervasive and we have a long way to go, and we have started a few projects, or have we made a lot of progress from a percentage standpoint of where we are?

Mr. LYNCH. I think there are probably a couple answers to that. I think if you look at what we have accomplished over the last 15 years, I think we have made good progress. That is not to say that there aren't additional projects out there. And the way we are approaching that, we do have an energy strategy. We have looked at our buildings, we audit our buildings; every year we look at 10 percent of our buildings and we identify opportunities. Those opportunities could be a host of things; it could be an energy saving project, it could be us going out and buying green power. There is a whole host of things that we look at. There are definitely opportunities out there. We are taking advantage of a number of tools that we can use; the Energy Saving Performance Contracts, our ability to go out and leverage green power, things like that.

Mr. PLATTS. OK.

Thank you, Mr. Chairman.

Chairman TOM DAVIS. Thank you very much.

We will start the questioning over here. Mr. Van Hollen.

Mr. VAN HOLLEN. Thank you, Mr. Chairman.

Mr. Rivers, in your testimony you said that agencies do not receive the AFV credits for the purchase and use of hybrids under the mandates.

Mr. RIVERS. That is correct.

Mr. VAN HOLLEN. And then you go on to say nor should they because they can contribute to these other fleet goals. I guess my question is why shouldn't they and should we revisit this question. You raise it very briefly in your testimony. Should we revisit it? Because it seems to me if hybrids result in a greater fuel efficiency overall, result in energy savings, why shouldn't we revisit this so that we allow them to be counted.

Mr. RIVERS. I think you bring up an excellent point, sir. When we were giving it as part of the testimony, it was a very narrow view of the increase of alternative fuel usage. Usage of a hybrid would not increase alternative fuel usage, so we can't count it in that alternative fuel legislative area. We do think that they play a very significant role, though, in the reduction of petroleum usage, and we would strongly encourage and certainly be willing to work with Congress in how we can formulate both of those policies working together.

We do think that there are concerns where maybe some of the policies may point us in a little bit different direction. We would like to see one comprehensive, cohesive policy. But right now we address it only because of the alternative fuel arena. Use of hybrids doesn't do that. We do support the use of hybrids, though, because of petroleum reduction, and we would like to see a more comprehensive policy that gets us there.

Mr. VAN HOLLEN. Right. I mean, if we revisited this, do you think that we could structure it in a way where we would actually increase our fuel efficiency of the fleet? In other words, could we revisit this, create the incentive so that you allow the hybrid fuel vehicles to count somehow, and would that not provide us greater energy savings as a Federal Government?

Mr. RIVERS. I think that would be, you know, an excellent approach in terms of what can we do to encourage more use of hybrids. I think that there is a very definite savings. There is also an easier acceptance and use of hybrids than maybe alternative fuels because you have more convenient refueling stations; the infrastructure is certainly there. So, yes, some way that could marry up the use of those two would be something we would certainly support.

Mr. VAN HOLLEN. Thank you.

Thank you, Mr. Chairman.

Chairman TOM DAVIS. Thank you.

And thank you very much.

Mr. RUPPERSBERGER. Just one question on that same subject matter. Do we know how many hybrid vehicles we do have in use in the Federal Government?

Mr. RIVERS. I would have to defer to the Department of Energy; they collect the overall data. But I am not sure if you have hybrids.

Mr. GARMAN. I do, Congressman. Right now there are only eight hybrid vehicles that we know of in the Federal fleet; and there are a couple of reasons for this. No. 1, hybrids are not yet on the GSA schedule. The manufacturers are not getting around to asking the Government to put these vehicles on the schedule. And the reason that they are doing that, manufacturers aren't really making money on hybrids, and they are not very interested in selling that

many more of them at this point, until they get unit costs down a bit.

And if I could just make a comment on a prior question. I think if Congress is thinking about maybe getting proscriptive about mandating hybrid purchases, Congress should take great care in making sure that it is looking at hybrid vehicles that will actually deliver fuel savings. There are hybrids that we expect to be entering the marketplace that have been hybridized not really so much for the purpose of providing fuel savings, but providing other consumer benefits. For example, there is a pickup truck that General Motors will soon be offering. It is a hybrid technically, but what they are really trying to achieve is putting a power invertor and a large battery in there so that a contractor, for instance, you can plug in a Skill saw at 110 volts and drive that off of the truck.

Now, I offer that saying that would be a hybrid, but it might not be the kind of hybrid that would actually deliver fuel savings. So Congress should take great care, if it specifies the purchase of hybrid vehicles, to do so in such a way that it would actually deliver petroleum products.

Mr. RUPPERSBERGER. I think that is an excellent point, because sometimes we get caught up on something that is new, and we have to make sure that we think it out and we research it. The convenience of refueling is an example of that.

In your opinion, where do you think the future is with respect to hybrid vehicles, as the Federal Government needs vehicles to deliver the services in different arenas?

Mr. GARMAN. Well, at the Detroit auto show just this last January, several automakers announced that they would be delivering no less than 12 hybrid models over the next 4 model years or so. You know, I am a hybrid vehicle owner myself, and so I am a great fan of the technology, but there are a couple of things to keep in mind. No. 1, they are more expensive; here is a price differential to be dealt with.

Chairman TOM DAVIS. How much of a price differential are we talking about?

Mr. GARMAN. Estimates are as much as $4,000. I think as the manufacturers get more and more hybrid vehicles into the marketplace, that unit cost differential will come down. I know in the trade press General Motors was talking about a price differential down to $1,500 in the 2005 timeframe. And that is one of the reasons why the President and the National Energy Plan proposed a tax credit, to equalize that cost between hybrid vehicles and convenient vehicles.

Mr. RUPPERSBERGER. Do you use a hybrid vehicle. Where do you refuel?

Mr. GARMAN. It is a gasoline/electric hybrid, so I refuel at the gas station. It generates the electricity it needs on board the vehicle through a combination of regenerative braking; when you brake the vehicle it is actually generating some electricity for the nickel metal hybrid battery on board, and also there is a kind of integrated generator/alternator or electric motor alternator in the drive train that also uses the gasoline power of the engine to recharge the battery, it lets the gasoline engine shut down at stoplights and shut down when you are creeping along in city traffic.

Mr. RIVERS. If I could also add to that. Hopefully the availability of hybrids will become more prevalent for the Federal community. We have been able to just make some awards to both Toyota and Honda so that their hybrids are going to be available to the Federal agencies to purchase off GSA automotive contracts.

Chairman TOM DAVIS. OK. Thank you.

Let me ask a few questions. First of all, we have 165,000 alternative fuel vehicles in the fleet, is that right?

Mr. RIVERS. I think 65,000 are currently in the fleet.

Chairman TOM DAVIS. 65,000. Isn't that what I said?

Mr. RIVERS. It was 100,000 that had been purchased.

Chairman TOM DAVIS. 65,000 currently in the fleet, 100,000 purchased. How much more did those vehicles cost, on average, than a normal gasoline-powered vehicle?

Mr. RIVERS. Mr. Brasseux, would you like to?

Mr. BRASSEUX. It varies specifically, Mr. Chairman, regarding the particular vehicle.

Chairman TOM DAVIS. Why don't you move up to the microphone so we get it all recorded and everything?

Mr. BRASSEUX. A dedicated CNG vehicle or a hybrid vehicle would have a substantial incremental cost, it could go all the way up to $7,500 to $8,000. Some of the E85 vehicles that are out there on the market today have very little incremental cost at all, which is why the vast majority of what we have in our fleet are E85 vehicles, because their incremental cost is low.

I could get back to you for the record on an average.

Chairman TOM DAVIS. I am not trying to upset the program.

Mr. BRASSEUX. I understand.

Chairman TOM DAVIS. I guess my point is simply every time we use the procurement system to get other societal goals, there is a cost, and I think it is important. This is a great hearing to understand what it is costing; and probably not that much in the scheme of a budget that runs into the hundreds of billions. And what are we accomplishing in terms of our greater goals of trying to get these vehicles into wider use? I think we would all like to wean ourselves from gasoline and oil. I always note that the stone age didn't end because they ran out of stones; the stone age ended because there were new technologies developed. And I think that will eventually happen here, and we want to encourage that to happen; that is the purpose behind the Government setting an example, but there is a cost to it. And as we take a look at tight budgets and everything else going on, I think we need to have an honest discussion over what is happening not just with the additional costs we pay, but what is happening out in greater society to encourage the private sector individuals to use these vehicles and Detroit to do it. So that is kind of my point.

Now, the vehicles we are buying now, there is not much incremental cost?

Mr. BRASSEUX. Well, again, it depends on the vehicle type. Since we have been buying these vehicles, since 1991, I think GSA Fleet has purchased approximately 57,000 alternative fuel vehicles. The total incremental cost for those vehicles is about $90 million over that timeframe, to give you a general idea.

Chairman TOM DAVIS. OK. But today it is a much smaller increment now.

Mr. BRASSEUX. Again, depending on the vehicle type. A hybrid vehicle has a substantial incremental cost.

Chairman TOM DAVIS. Right.

Mr. BRASSEUX. I have indicated CNG has a substantial incremental cost.

Chairman TOM DAVIS. Which ones don't?

Mr. BRASSEUX. E85's, the ethanol vehicles do not.

Chairman TOM DAVIS. Oh, the ethanols do not. The Speaker will be happy to hear that.

How much do you save on fuel with the ethanol?

Mr. RIVERS. Actually, there has not been a fuel savings by using ethanol.

Chairman TOM DAVIS. In fact, it is more, isn't it?

Mr. RIVERS. That is correct.

Chairman TOM DAVIS. Is that because of economy of scale, you think, more than anything else?

Mr. RIVERS. It certainly comes into play on that. I think part of it also then becomes the energy content of a gallon of E85 is not the same as a gallon of unleaded gasoline, so in effect you are going to have to buy more fuel to go the same distance; you know, you may take a 10 or 20 percent hit in terms of fuel efficiency. But a relative scale for 2002, and again, obviously, this is data given current gasoline prices, but the Government paid an average of $1.23 a gallon for unleaded gasoline, a combination of unleaded gasoline and diesel; and our alternative fuel reported payments were about $1.50 a gallon, and the overwhelming majority of that was ethanol.

Chairman TOM DAVIS. And ethanol does not have the same mpg?

Mr. RIVERS. That is correct. There is somewhat of a hit.

Chairman TOM DAVIS. So when you factor that in, what is it, a 10 percent hit, 20 percent hit? Can you ballpark it?

Mr. GARMAN. Mr. Chairman, we estimate that use of E85, 85 percent ethanol in a vehicle, is 30 percent more expensive per mile; and that factors in both the additional cost of the ethanol and the lower energy content on an equivalent Btu basis.

Chairman TOM DAVIS. Now, let me ask this. If ethanol were more widely distributed, if we had more cars that contained it, would the costs come down significantly, do you think?

Mr. GARMAN. We can't legislate the laws of physics that change the energy content in the ethanol, so on a per mile basis ethanol would still be more expensive.

Chairman TOM DAVIS. But the production cost of ethanol, particularly with gas prices going up, could all of a sudden look better.

Mr. GARMAN. There are opportunities for cost savings in economy of scale in ethanol.

Chairman TOM DAVIS. More difficulty is where do you fill up your tank with ethanol.

Mr. GARMAN. Right. And most of our ethanol today is made from corn, and there is pretty much an upper limit. You know, to put it in perspective, we can probably produce about 5 billion gallons a year of ethanol from corn, and right now I think we are around 3.7. And that may sound like a lot until you realize we use something on the order of 133 billion gallons of gasoline each year and

around 33 billion gallons of diesel each year. So there is a limit to how much ethanol that we can produce from corn.

Chairman TOM DAVIS. What else could you produce it from?

Mr. GARMAN. We are working on technologies to produce it from cellulosic materials such as the wheat straw, the corn stover, things that are currently left in the field. We want to be able to take that cellulosic material and, through the application of some enzymes and other technology, break that down and have a great new source of alcohol type fuels.

Chairman TOM DAVIS. These are all good policies, but you have just totaled up probably in the hundreds of millions the additional amounts we are paying for these programs, and if we can reach wider societal goals and governmental goals and try to get wider usage of this and the like, then it is clearly worthwhile. But if we are not going anywhere, then it is just an added structure. I mean, do you have any sense of that?

Mr. GARMAN. I do. I mean, you are right. Alternative fuel vehicles have not really taken off in the consumer market. People are not clambering to buy compressed natural gas vehicles.

Chairman TOM DAVIS. It is just hard to fill it up.

Mr. GARMAN. Right. Now, there are excellent niche markets. Urban buses are excellent places; in airports, both the tugs and the passenger buses that shuttle between. These are excellent niche markets, and this is where we are really seeing natural gas vehicles, for instance, come into play in a pretty large way.

To get consumers to change, you have to offer them something that is dramatic and that is exciting in an alternative fuel vehicle. We drove here to the hearing this morning in an alternative fuel van and, you know, it drives and it feels and it looks like a regular van except you will pay a little bit more up-front, you will have a lower resale value, and you will have a harder time filling it up. That is not exactly inspiring consumers.

Chairman TOM DAVIS. It is patriotic, though.

Mr. GARMAN. And believe me, we do advertise. We have a big sign on the side that says "Clean Air Van." But you are right. And I think that is part of what the President's Hydrogen Fuel Initiative and FreedomCAR program is all about; and, granted, it is a long-term play, but that is pointed toward a totally different kind of vehicle that could really excite consumers, and that would be a mechanism of making environmentally sustainable technologies economically sustainable.

Chairman TOM DAVIS. When I headed the county government in Fairfax, we bought electric and gas vehicles because you fill it all up at the same place and that kind of thing, but it ended up costing us money.

Mr. GARMAN. Fairfax County was the classic example of the early technology adopter, and Fairfax County was among the very first of entities to have natural gas trucks for the trash fleet; and they got rid of them, I think, just about a year and a half ago.

Chairman TOM DAVIS. After I left.

Mr. GARMAN. They were very expensive.

Chairman TOM DAVIS. Well, we try to do the right thing.

Mr. Tierney.

Mr. TIERNEY. Thank you. You should have stayed.

Chairman TOM DAVIS. I will take that as a compliment.

Mr. TIERNEY. It was very much a compliment.

Just following up on that a little bit, because I was making notes. You were talking earlier about the cost of the E85s being not too expensive and everything like that, but obviously as the chairman was getting into, the problem is, of course, making use of them. You buy them and then it turns out you never use the ethanol aspect of it, you just use the gasoline, and off we go. What have we really accomplished other than, you know, a little bit of a CAFE gimmick to try and meet that?

Why don't we concentrate more on the hybrids and why, Mr. Chairman, I wonder, too, why don't we think of as a policy here of steering it toward the hybrid? I think the investment that we could make in the Federal Government looking in that direction will eventually help in bringing the cost down overall for consumers generally and move us in a direction that we need to be going.

Mr. GARMAN. I think that is an excellent point. Right now you have a choice of exactly three hybrids on the market that you could buy: a Honda Insight, which is a two-seater, not really appropriate for most Government activities; and then two compacts, a Honda Civic and a Toyota Prius. In fact, I saw a Prius parked right out front of the Rayburn Building this morning.

Mr. TIERNEY. Senator Boxer's.

Mr. GARMAN. Yes. But, you know, those are, as I think was indicated, just now getting onto the GSA lists. There is, again, lore that Toyota has not really pushed the vehicles very hard because they are not making money on them; in fact, they may be losing money on every copy.

Mr. TIERNEY. But, I mean, if we decided we were going to make the investment on this, maybe we would wake up Detroit, God forbid, you know, that both the unions and the management people over there, to realize that there is a future in this stuff and that there is a market for them and they might have a very good customer in the Federal Government; and if they don't, then we are going to be looking at the Prius and models like that and telling them that there is a market for them. But unless we are willing to put the Federal Government's money in that direction, we are not going to get the private capital to follow, we are not going to get that investment to follow. So I am wondering why we don't just bite the bullet and say, all right, we are going to start telling people that at a given point in time this is all we are going to order; you know, we are just going to order this type of a hybrid vehicle and this is the dimensions that we need, specifications that we need for it, and let's go.

Mr. GARMAN. I think I pointed out before you were able to join the meeting that Detroit has actually announced at the recent Detroit auto show that they will be offering, I think General Motors alone, 12 new models of hybrid vehicles beginning in 2005 through 2008 timeframe.

Mr. TIERNEY. Better late than never, right?

Mr. GARMAN. You know, I think the automakers are trying to do precisely the same thing. I mean, they want to understand where the market is.

Mr. TIERNEY. But I think we create the market.

Mr. GARMAN. I understand.

Mr. TIERNEY. And that is why I think it is important that we set the policy out there; and if we think that there is a reasonable timeframe that we can move them forward a little bit without making it impossible or whatever, then maybe perhaps we ought to look at a policy that says given 2006 or whatever we are going to purchase the following cars with these specifications in hybrid and just go with and let people bid on that, and either they are going to get it as an American-made product and be in the bidding process or they are not going to get it and they are going to be out. But I think if we put enough of those cars on the road and give that sort of an order in there, then we bring the price down relatively for all consumers and we help them create the market and move on.

Sound reasonable, Mr. Rivers?

Mr. RIVERS. Well, if I could add just a couple of things. First, I think there would have to be a couple of steps taken. The current law in the books under the Energy Policy Act requires that 75 percent of the Federal Government's light duty vehicle acquisitions have to be alternative fuel, and it goes back to what Mr. Van Hollen was saying about hybrid versus alternative fuel. So we would have to have a clarification on that.

Mr. TIERNEY. I am sorry, I got interrupted by this beeper, and I would like you to repeat that, if you would for us.

Mr. RIVERS. I am sorry, sir, I didn't hear you.

Mr. TIERNEY. I got interrupted by this beeper that is in my pocket here, and I didn't hear all that I wanted to hear of your answer. I apologize.

Mr. RIVERS. Yes. I do think that one of the things that we have to take into consideration, right now the Federal Government is under the Energy Policy Act on the vehicle side that 75 percent of the new light duty vehicles have to be alternative fuel, and hybrids do not quality as alternative fuel.

Mr. TIERNEY. I guess my point was that we probably ought to change that policy. And I think that is why the chairman is having this meeting, is that hopefully you can direct us, and you just have, into one area we should be looking at.

Mr. RIVERS. One of the other things that we would need to do, and, again, this would be a coordination issue with industry, is ensure that the maintenance, repair, and fueling infrastructure, although fueling is not as significant, obviously, in the hybrids, but the maintenance and repair infrastructure is out there to support the new technology coming in.

But one thing, we would also like to see other fleets involved. You know, the Federal fleet, while it is significant in size, we have had difficulty moving, you know, manufacturers. We buy 60,000 vehicles a year; it is 0.36 percent of the total vehicles sold in the United States.

Mr. TIERNEY. What would the impact be if we gave some sort of incentive to move States enjoining us?

Mr. RIVERS. Oh, I think the more people that we get involved in it, sir, I think that would be definitely the right direction, whether it is States, private sector fleets, you know, or local governments. There needs to be an economy of scale there that would play into;

the Federal Government could certainly provide, you know, a base if others can build around it. I know that there is a lot of interest within the Federal community on hybrids. It is just a question of getting there now.

Mr. TIERNEY. Just two things. One is I think if we incentivize States and local communities to join in the Federal package, we move in the right direction. And the other is that while we do have to make sure that we have the infrastructure for servicing the hybrids in place, it is probably a lot easier problem than trying to put in place the infrastructure to get ethanol and gas or whatever delivered, as well as the maintenance of those vehicles.

Mr. RIVERS. Yes, sir.

Mr. TIERNEY. Thank you.

Chairman TOM DAVIS. Thank you.

We have about 6 or 7 more minutes. Let me ask a couple more questions, then if you have anymore; otherwise I think we can probably wrap this up and let you go, because we have some votes on the floor, and I don't want to hold you while we go over and come back; you have got other things to do.

Mr. Lynch, let me ask you. GAO reports that there are 44 buildings in the GSA inventory that face more than $20 million in expenses in order to update them with energy-efficient facilities. We are trying to put together a Federal property management reform bill that would enable agencies to retain a share of their profits from property disposal, rather than returning it all to the Treasury. These profits could be an excellent resource for addressing some of these funny challenges facing agencies. Would you agree this kind of flexibility would help agencies in dealing with some of these challenges?

Mr. LYNCH. Yes, sir, it would. It would definitely help us.

Chairman TOM DAVIS. Mr. Rivers, could you walk me through the current status of the Government's efforts to meet Federal requirements in purchasing alternative fuel vehicles? Is it difficult to identify and track these alternative fuel vehicles, using AMV? What modifications would you recommend to the requirements that we might make?

I think this goes along with what Mr. Tierney was talking about, because we are going to be rewriting some legislation from this committee as part of the energy bill.

Mr. RIVERS. There has been progress in the number and the quality of alternative fuel vehicles available, and that has been our prime experience, whether they are ethanol or compressed natural gas. Certainly from 1988, when the Alternative Motor Fuels Act went into place, we have seen a dramatic increase in the quality of the vehicles from the manufacturers.

There still is difficulty in terms of matching up what the manufacturers produce with what the Government needs; are we getting exactly the right type vehicle. But I think even more so there has to be consideration if alternative fuel is going to be used, which is what we are under at the time being, there has to be a concerted effort to develop an infrastructure. Right now we have got, for example, 180,000 gasoline fueling stations in the country; there are between 200 and 300 E85 fueling stations in the country, almost all concentrated in the Midwest, there are 2 in the Washington,

DC, area. Progress, you know, has been made and there are certainly more of them, but there is that type of challenge that if we want to get the vehicles in use and out there, there has to be more of a convenience factor not only for the Federal community, but then also bringing in other players.

I guess if I wanted to summarize it, you know, from the Federal community it is the dollars, the vehicle availability, and the infrastructure are the main issues that we would have to focus on. We would be happy to work with you on that.

Chairman TOM DAVIS. OK. Thank you very much.

Any other questions over on this side?

Mr. Van Hollen.

Mr. VAN HOLLEN. Just very briefly.

Following up on this discussion of hybrids versus alternative fuel vehicles and achieving the goals. Have you done a cost benefit analysis to see, with respect to the hybrids compared to a similar model of alternative fuel vehicle, which one is more cost-effective in terms of the fuel efficiency savings?

Mr. RIVERS. We haven't.

I don't know, has the Department of Energy done that?

Mr. GARMAN. I will check, and if we have we will provide that for the record.

Generally said, I mean, just personal experience, the price difference in the Toyota Prius that I drive would not, at the energy prices when I bought it, say $1.50 a gallon, would not justify the purchase. And I don't know where the switch point happens, but I would like to answer that for the record.

Mr. VAN HOLLEN. Well, the way energy prices are going these days. And if you could give us the figures on how many miles you assume the vehicle has traveled.

Mr. GARMAN. Right, a 10-year lifetime.

Mr. VAN HOLLEN. And how much the savings is and what the shortfall is.

Mr. GARMAN. Right.

Mr. VAN HOLLEN. But also comparing that to the cost of the alternative fuel vehicles.

Mr. GARMAN. Right.

Mr. VAN HOLLEN. Same model.

Mr. GARMAN. If I could just make one more point.

Chairman TOM DAVIS. The point of this, of course, if we were going to just do this for saving money to the Government, we might not ever have undertaken this endeavor. There is a higher societal goal, as the gentleman knows, trying to get at least some kind of mass production on this and move this out in the consumer markets and other government markets; and since we are the big purchaser, the 10,000 pound guerilla. So if we try to justify this on cost-savings, we will go nowhere, I am afraid.

Mr. GARMAN. And I just wanted to make the point because there was talk of stimulating the market through Government purchases; and clearly there is a role to be played there, but I felt compelled to make the point that the President has put forth in his budget, as well as in the national energy policy document a proposal to provide tax credits for hybrid vehicles that they are estimating a revenue impact of $3.2 billion, up to $4,000 per vehicle. That could

drive up to 800,000 hybrid vehicles over the time, so that is another very important incentive.

Chairman TOM DAVIS. Well, who buys them?

Mr. GARMAN. That would be a tax credit for consumers.

Chairman TOM DAVIS. So consumers could be encouraged.

Mr. GARMAN. So the general consumers in the broad market could see, you know, the Ford Escape that they will be able to see in a showroom, a Ford Escape hybrid at the end of the year, perhaps, cost them the same amount of money as a conventionally powered Ford Escape; and that could be a powerful inducement to get more of these vehicles on the road.

Chairman TOM DAVIS. Thank you.

Any other questions?

Mr. VAN HOLLEN. I know we have to go, but one.

I noticed that right now the funds, you don't get the additional funds for the additional cost of the vehicle, which has got to be a disincentive for some people to look at it. Just as the President is offering a tax credit for, you know, hybrid fuel vehicles, why wouldn't we provide the same kind of incentive within the Government to pick up that additional cost?

Mr. GARMAN. You make an excellent point; I can't argue with it.

Chairman TOM DAVIS. Thank you very much. Let me just thank all of you for coming in. This is an important piece of laying a foundation for the energy bill, and we have jurisdiction over this particular site. We may get back to you, as we draft some language, to try to get your comments on it. Thank you, gentlemen, for participating in this. The briefing paper that was given to members will be included in this. If you would like to supplement your comments, think of anything else, you have 10 days to do that.

Thank you very much to my staff for organizing this hearing and members for participating. I think it has been productive, and the meeting is adjourned.

[Whereupon, at 11:35 a.m., the committee was adjourned, to reconvene at the call of the Chair.]

[Additional information submitted for the hearing record follows:]

TOM DAVIS, VIRGINIA
CHAIRMAN

HENRY A. WAXMAN, CALIFORNIA
RANKING MINORITY MEMBER

ONE HUNDRED EIGHTH CONGRESS

Congress of the United States
House of Representatives
COMMITTEE ON GOVERNMENT REFORM
2157 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6143

Majority (202) 225–5074
Minority (202) 225–5051

COMMITTEE ON GOVERNMENT REFORM
OVERSIGHT HEARING

"Energy Efficiency Improvements in Federal Buildings and Vehicles"
March 12, 2003
10:00 a.m.
Room 2154, Rayburn House Office Building

BRIEFING MEMORANDUM

On Wednesday, March 12, 2003, at 10:00 a.m. in Room 2154 of the Rayburn House Office Building, the Committee on Government Reform will conduct an oversight hearing on the status of energy efficiency improvements in federal buildings and vehicles. The purpose of this hearing is for the Committee to gain a better understanding of the government's progress in reducing energy consumption and adopting more energy efficient facilities as the Committee begins to consider provisions in the upcoming energy policy legislation within our jurisdiction.

The Committee is tentatively expecting testimony from Paul Lynch, Assistant Commissioner for Business Performance in the General Service Administration's Public Buildings Service and David Garman, Assistant Secretary for Energy Efficiency and Renewable Energy at the Department of Energy. Barney Brasso, Assistant Commissioner for Vehicle Acquisition and Leasing Services in the General Services Administration's Federal Supply Service has been asked to attend the hearing to discuss the government's progress in improving energy efficiency standards in the federal fleet of automobiles. However, the final witness list may be altered.

The federal government is the largest single user of energy in the world. Not surprisingly, it is also the largest purchaser of energy-related products, buying an estimated $10 to $20 billion worth each year for its buildings. Consequently, there is an enormous potential for energy and dollar savings through smart policies emphasizing energy efficiency. Such policies not only save taxpayer dollars, but also decrease the emission of air pollutants associated with fuel combustion (both directly, as in vehicles, and in the generation of electricity for buildings), while simultaneously expanding the overall market for energy-efficient products.

For decades, presidents have established energy efficiency improvements by executive order. Most recently, in June 1999, President Clinton signed an executive order to reduce energy consumption in federal facilities by 35% in 2010, based on 1985 energy consumption levels. The

Committee will be interested to learn whether this is still a realistic goal, given the increase in energy consumption that occurred during the 1990s as the government came to rely more heavily on computers.

Building upon federal energy efficiency improvements that have taken place over the past decade, on May 3, 2001, President Bush issued a memorandum to heads of executive departments and agencies on energy conservation. In the memo, the President directed agencies "to take appropriate actions to conserve energy use at their facilities to the maximum extent consistent with the effective discharge of public responsibilities." In addition, the memo tasked agency heads with "[reviewing] their existing operating and administrative processes and conservation programs and identify and implement ways to reduce such use."

As for energy management in federal buildings and facilities, the federal government provides energy to approximately 500,000 buildings and facilities comprising approximately 3.1 billion square feet of floor area. This energy is used to provide lighting, heating, ventilation, and air conditioning to federally owned and leased buildings. According to the FY1999 annual report (the most recent available) by the Federal Energy Management Program at the Department of Energy, total energy consumption in federal buildings decreased 28.4% between FY1985 and FY1999.

Although significant progress has been made in reducing energy consumption in federal buildings, examples abound of energy efficiency improvements that could still be made. For example, on July 24, 2000, the General Accounting Office reported that the Government Printing Office (which is a congressional facility, not a federal facility) "could save over $400,000 a year on energy and maintenance costs by replacing its outdated air conditioning chillers with new, more energy efficient chillers." In addition, GAO reported that the Government Printing Office could save $800,000 annually if it replaced the building's lighting. Although energy efficiency improvements at GPO, a congressional entity, are not the focus of this hearing, they still serve as a good example of work that remains before the federal government can lead the way in energy conservation.

As for energy management in federal vehicles, the federal government operated a total of 602,626 vehicles in FY2000, with 37% of the fleet used by the Postal Service, 32% by civilian agencies, and 31% by the military. The Postal Service has been experimenting with natural gas power in recent years, but no government-wide directive has mandated alternative fuels for the entire fleet. The Committee has asked witnesses to discuss the barriers to improving energy efficiency in vehicles, including barriers to utilizing alternative fuels.

H.R. 4, the "Energy Policy Act of 2002" from the 107th Congress, included a number of provisions that fall within the jurisdiction of the Government Reform Committee. For example, the legislation included provisions regarding energy management requirements for federal buildings, federal building performance standards, procurement of energy efficient products, and requirements for increasing the percentage of hybrid and alternative fuel vehicles in the federal fleet.

As the Energy and Commerce Committee, and ultimately the Congress as a whole, begins to debate energy policy during the 108th Congress, the Government Reform Committee should begin discussing what energy efficiency policies it plans to recommend regarding federal buildings and vehicles for ultimate inclusion in omnibus energy policy legislation later this year.

United States General Accounting Office

GAO

Testimony

Before the Committee on Government Reform, House of Representatives

For Release on Delivery
Expected at 10:00 a.m. EST
Wednesday, March 12, 2003

FEDERAL ENERGY MANAGEMENT

Facility and Vehicle Energy Efficiency Issues

Statement for the Record by Bernard L. Ungar, Director, Physical Infrastructure Issues

James E. Wells, Director, Natural Resources and Environment Issues

GAO-03-545T

Mr. Chairman and Members of the Committee:

We welcome the opportunity to provide testimony on energy conservation efforts in federal facilities and agencies' use of alternative fuel vehicles. According to the Department of Energy (DOE), the federal government's energy bills total approximately $4 billion annually. Our testimony provides an overview of the vast federal facilities inventory, describes laws and other authorities that pertain to energy conservation in facilities and use of alternative fuel vehicles, highlights some of the key federal efforts to promote energy efficient practices and building designs, describes some things that can be done to improve energy efficiency in facilities and related cost implications, and identifies some of the obstacles agencies face in improving energy efficiency in federal facilities. Our testimony also provides an update on agencies' use of alternative fuel vehicles and is based on prior reports and ongoing work.

Constructing and operating buildings requires enormous amounts of energy, water, and materials and creates large amounts of waste. How agencies manage their facilities, along with the vehicles they use to accomplish their missions, has significant cost implications and greatly affects the environment. According to DOE, energy management is one of the most challenging tasks facing today's federal facilities manager, and sound energy management includes using energy efficiently, ensuring reliable supplies, and reducing costs whenever possible. The federal role in energy conservation was also highlighted in the President's National Energy Policy, in which the President directed heads of executive departments and agencies to "take appropriate actions to conserve energy use at their facilities to the maximum extent consistent with the effective discharge of public responsibilities."

Summary

With approximately 3.3 billion feet of facility space and over one-half million automobiles, the federal government is the largest single energy consumer in the nation. Various laws, regulations, and executive memorandums direct federal facility managers to reduce energy consumption and environmental impacts of the buildings they manage. Agencies also must follow other requirements for the acquisition and use of alternative fuel vehicles, which use fuels like methanol, propane, and natural gas, to name a few. In constructing and renovating facilities, agencies have begun using "green" design approaches, which are intended to result in energy efficiency and minimal impact on the environment. Such approaches have been used at the White House, Pentagon, and the Zion National Park Visitor Center. Despite the possible benefits, some

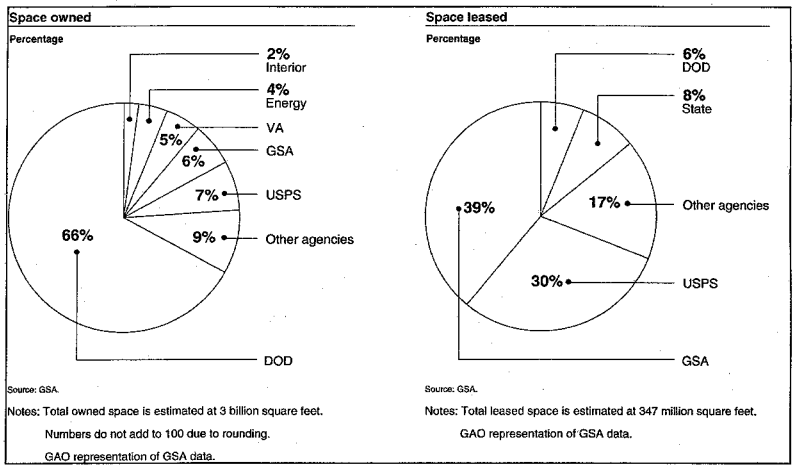
agencies believe they face obstacles in employing green practices in construction and renovation projects. These include key stakeholders—architects, engineers, agency staff—who are not familiar with green approaches, higher initial costs of green projects, difficulty getting agency management buy-in, and difficulty quantifying the benefits of green facility designs. In addition to efforts to make federal facilities more energy efficient, the federal government has also attempted to reduce the nation's consumption of petroleum fuels in transportation through the use of alternative fuel vehicles in the federal vehicle fleet.

Overview of Federal Facilities, Vehicles, and Related Energy Efficiency Requirements

The federal facilities inventory contains a diverse portfolio of assets that are used for a wide variety of missions. According to the fiscal year 2001 financial statements of the U.S. government, the federal government's real property assets—including land— are worth about $328 billion. In terms of facilities, the latest available governmentwide data from GSA indicated that as of September 30, 2000, the federal government owned and leased approximately 3.3 billion square feet of building floor area worldwide.[1] As shown in figure 1, the Department of Defense (DOD), U.S. Postal Service (USPS), General Services Administration (GSA), and Department of Veterans Affairs (VA) hold the majority of the owned facility space. Figure 1 also shows that DOD, the Department of State (State), GSA, and USPS lease the most space.

[1]U.S. General Services Administration, Summary Report of Real Property Owned by the United States Throughout the World (Washington, D.C.: June 2001); U.S. General Services Administration, Summary Report of Real Property Leased by the United States Throughout the World (Washington, D.C.: June 2001). We have reported that the governmentwide real property data that GSA compiles—often referred to as the worldwide inventory—have been unreliable and of limited usefulness. However, these data provide the only available indication of the size and characteristics of the federal real property inventory. For more information, see U.S. General Accounting Office, *Federal Real Property: Better Governmentwide Data Needed for Strategic Decisionmaking*, GAO-02-342 (Washington, D.C.: Apr. 16, 2002).

Figure 1: Percentages of Federal Facility Space Owned and Leased Worldwide, by Agency



A set of federal laws, regulations, executive orders, and executive memorandums direct federal facility managers to reduce the energy and environmental impacts of the buildings they manage. In enacting the Federal Energy Management Improvement Act of 1988 (FEMIA),[2] Congress recognized, among other things, that the federal government is the largest single energy consumer in the nation, and that the cost of meeting the federal government's energy requirements is substantial. The purpose of FEMIA, as amended, is "to promote the conservation and the efficient use of energy and water and the use of renewable energy sources by the federal government."[3] FEMIA, as amended, sets forth energy

[2]Pub. L. No. 100-615, 102 Stat. 3185 (1988).

[3]42 U.S.C. § 8252.

performance requirements for federal buildings, establishes the use of life cycle methods and procedures for application of energy conservation measures, and establishes an interagency energy management task force to coordinate the activities of the federal government in promoting energy conservation.

The Energy Policy Act of 1992 (EPACT) was intended to further enhance federal energy management practices.[4] In this regard, it requires the GSA Administrator to hold biennial conference workshops in each of the federal regions on energy management, conservation, efficiency, and planning strategy; requires agencies to conduct energy management training; requires the establishment of energy audit teams to perform energy audits of federal facilities; and requires agencies to identify energy efficient products in carrying out their procurement and supply functions. Several executive orders[5] direct agencies to employ green practices in facility and fleet management, and executive memorandums encourage agencies to use energy saving performance contracts and environmentally friendly landscaping practices.

In addition to facilities-related initiatives, EPACT establishes a minimum number of alternative fuel vehicles for federal agencies beginning in fiscal year 1993 and requires the Secretary of Energy to carry out an alterative fuel vehicle program. According to the most recently available data from GSA, the federal government operated 596,114 vehicles in fiscal year 2001. Alternative fuels include ethanol, methanol, natural gas, propane, and electricity. Alternative fuel vehicles operate on these fuels, although some of them can operate on gasoline. In total, the Energy Information Administration estimated that the federal government operated 68,890 alternative fuel vehicles in 2002.

[4]Pub. L. No. 102-486, 106 Stat. 2776 (1992).

[5]See Executive Orders 13148, 13149, 13123, and 13101.

Federal Efforts to Promote Energy Conservation and Green Design Practices

The primary program for promoting energy efficiency in the federal government is DOE's Federal Energy Management Program (FEMP). Established in 1973, FEMP works to reduce the energy cost and environmental impact of federal government practices by advancing energy efficiency and water conservation, promoting the use of distributed and renewable energy, and improving utility management decisions at federal sites. FEMP provides a range of services to federal agencies aimed at helping facility managers achieve greater energy efficiency and cost-effectiveness in areas such as new construction, building retrofits, equipment procurement, and utility management. FEMP also advises agencies on establishing partnerships with the private sector to improve energy efficiency, using innovative technologies, and addressing energy-related policy matters as they pertain to federal facilities. For example, one way that FEMP helps agencies become more energy efficient is through utility energy services contracts. In these contracts, the utility company typically arranges financing and constructs the necessary capital improvements to the agencies' building systems. In return, the utility is repaid over the term of the contract from the cost savings generated by the newly installed, energy-efficient improvements. This allows agencies to become more energy efficient while minimizing the up-front costs of the capital improvements. According to DOE, since 1995 more than 45 electric and gas utilities have provided project financing for energy and water efficiency upgrades at federal facilities, investing more than $600 million through these contracts.

As part of its central management responsibilities in federal real property, GSA encourages agencies to use green or sustainable design approaches in federal construction and renovation projects. The objectives of sustainability are to reduce consumption of nonrenewable resources, minimize waste and impact on the environment, optimize site potential, minimize nonrenewable energy consumption, use environmentally preferable products, protect and conserve water, enhance indoor environmental quality, and optimize operational and maintenance practices. The end result of a sustainable design is a healthier working environment that costs less to maintain over time than traditional methods and is better for the environment. To measure sustainability efforts, GSA and other agencies have begun using the Leadership in Energy and Environmental Design (LEED) rating system. The U.S. Green Building Council—a coalition of leaders from across the building industry working to promote buildings that are environmentally responsible, profitable and healthy places to live and work—developed LEED to help apply principles of sustainable design and development to facilities projects. According to

information from GSA, by using LEED, agencies can gauge the impact of design decisions on energy efficiency and other sustainability factors.

Examples of Agency Efforts to Apply Green Principles

By using the principles of sustainable, green design, agencies are trying to improve energy efficiency, reduce life-cycle costs, and reduce environmental impacts in the design, construction, and operation of federal facilities. Some examples of facilities where these approaches have been applied are the White House, the Pentagon, and the Zion Canyon National Park Visitor Center.

- According to information from DOE, in 1993 a team of experts from several federal agencies and private organizations helped create a "greening plan" for the White House to be implemented as part of ongoing facility maintenance and operation. Measures taken included changes to the building envelope[6] to reduce energy loss through the roof, windows, and walls; and modifications to the lighting systems to increase efficiency and maximize natural lighting. In 1999, DOE estimated that these and other efforts resulted in cost savings of approximately $300,000 annually through reductions in energy, water, landscaping, and waste removal costs. More recently, according to information from the Office of the Federal Environmental Executive,[7] the White House installed its first-ever solar electric system in late 2002. This included putting solar panels on the roof of the complex's primary maintenance building and installing two solar thermal systems to heat the pool and spa and provide domestic hot water.
- According to information from DOE, DOD developed and implemented plans to reduce building energy use and incorporate environmentally sensitive materials, including materials that require the least energy to produce and that can be recycled after use, as part of an extensive $1.1 billion renovation of the Pentagon. As part of these efforts, DOD constructed a new state-of-the-art heating and ventilation plant, modified and insulated the building envelope to increase energy efficiency, and built irrigation systems that use water from the nearby Potomac River to irrigate areas around the building. DOD also built two solar electric systems to demonstrate the reliability and feasibility of using solar energy.

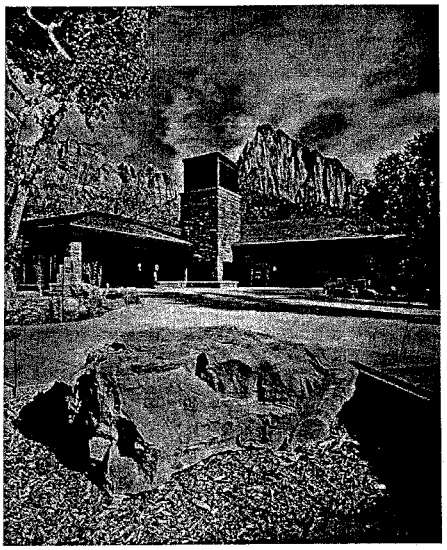
[6]The term building envelope includes the walls, roof, and floors that enclose a heated or cooled space.

[7]Under Executive Order 13101, the Federal Environmental Executive chairs the White House Task Force on Waste Prevention and Recycling and seeks to promote sustainable environmental stewardship throughout the federal government.

One of the goals of the renovation project is to cut energy costs by up to 30 percent by fiscal year 2005, which according to DOD officials could save between $4 million and $5 million each year.

- Energy efficient design was used, according to information from DOE, in constructing the new Zion National Park Visitor Center and Transportation Center at Zion National Park in Utah that opened in May 2000. According to DOE, the National Park Service worked with DOE to create a design that preserves the natural beauty of the park while saving energy and money. Innovative features included systems that work to naturally cool or heat the facility, electricity producing solar panels, and efficient landscaping that complements the building and reduces the need for irrigation. Overall, DOE predicts that these features will save about $14,000 a year. Figure 2 shows the new Zion National Park Center.

Figure 2: Zion National Park Visitor Center, Utah



Source: DOE/National Renewable Energy Laboratory; Robb Williamson photographer.

In addition to these examples, our work at the Government Printing Office (GPO) and GSA in recent years illustrated the potential cost benefits of investing in energy efficiency. For example:

- At GPO, the Potomac Electric Power Company (PEPCO) estimated that GPO could save over $400,000 a year on energy and maintenance costs by replacing its outdated air conditioning chillers with new, more energy

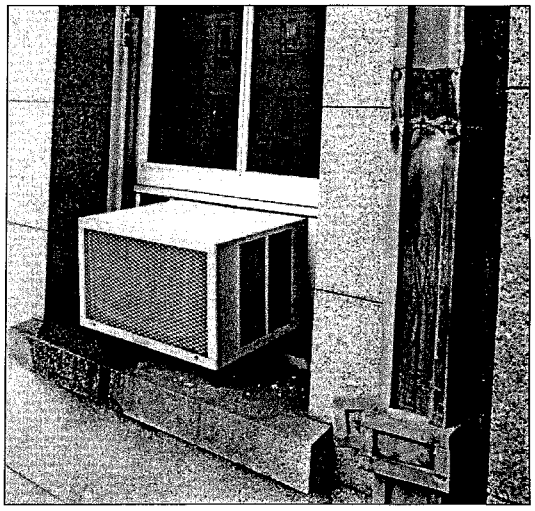
efficient chillers.[8] We also reported that PEPCO had recommended that GPO consider upgrading its energy inefficient lighting at an estimated cost of $1.6 million to achieve an estimated $800,000 in annual energy savings. According to GPO, it plans to have the chiller project completed in April 2003 and the lighting upgrade completed by May 2003.

- In our work on the backlog of repair and alteration needs in GSA-controlled federal buildings, we found that 44 buildings in GSA's inventory each had $20 million or more in repair and alteration backlogs.[9] Many of the repair and alteration needs in these buildings had a direct impact on the energy efficiency of the buildings, including aging and inefficient plumbing, heating, ventilation, and air conditioning systems. For example, the Dwight D. Eisenhower Building in Washington, D.C., had a repair and alteration backlog of $216 million, which included the need to address the building's antiquated air conditioning system. GSA officials said that this system, which uses about 250 individual window units, is outdated and not efficient in cooling the building or conserving energy. Figure 3 shows an individual air-conditioning unit in a window in the Eisenhower building.

[8]U.S. General Accounting Office, *Government Printing Office: Space Utilization and Potential Opportunities for Savings on Facilities*, unnumbered correspondence (Washington, D.C.: July 24, 2000).

[9]U.S. General Accounting Office, *Federal Buildings: Funding Repairs and Alterations Has Been a Challenge—Expanded Financing Tools Needed*, GAO-01-452 (Washington, D.C.: Apr. 12, 2001).

Figure 3: One Of About 250 Inefficient Window Air Conditioning Units in the Dwight Eisenhower Building in Washington, D.C.



Source: GAO.

Note: Photograph taken in August 2000.

Some Agencies Have Identified Obstacles to Using Energy Efficient, Green Approaches

Despite the possible benefits of using energy efficient, green approaches in federal construction and renovation projects, available data indicate that some agencies believe they face significant obstacles in implementing these approaches. In April 2001, the U.S. Green Building Council surveyed 11 federal real-property-holding agencies about their green building activities.[10] Among other things, the survey asked the agencies to identify any obstacles they face in achieving green building goals and objectives. The obstacles identified by the agencies generally fell into the following areas:

- Many architects, engineers, agency stakeholders, contractors, and customers are not knowledgeable about green building practices and technology. The survey respondents generally said that this lack of knowledge and expertise made it difficult to design, build, and promote green buildings.
- Respondents noted that green projects might have higher initial costs, but actually can be more cost-effective over the life of the facility and have other benefits. The higher initial costs can be more difficult to justify to decisionmakers.
- Related to higher initial costs, respondents expressed concern that it can be difficult to get top agency leaders to make green buildings a management priority. Consequently, the respondents felt that funding decisions are sometimes made without adequate input from design and construction professionals.
- Some of the benefits of green buildings are difficult to quantify. For example, the respondents noted that good measures exist for energy and cost savings, but that many green projects also improve employee productivity and well-being. Further, they said that some higher-priced building materials are better for the environment, which is a benefit difficult to quantify.
- At a time when budget constraints will be pervasive, the higher up-front costs of energy efficient designs could prove to be an especially challenging obstacle. As a result, less costly approaches that are less energy efficient could "look cheaper" in a single year's appropriation

[10]U.S. Green Building Council, *Federal Agency Survey 2001* (Washington, D.C.: Apr. 2001). The 11 agencies surveyed were the National Institute of Standards and Technologies; the National Park Service; the U.S. Air Force Center for Environmental Excellence, Design Group; U.S. Army Corps of Engineers; DOE, Office of Building Technology, State and Community Programs; U.S. Department of the Interior; U.S. Environmental Protection Agency; GSA; U.S. Department of Housing and Urban Development; U.S. Navy, Naval Facilities Engineering Command; and USPS.

because life cycle costs—including the savings that would result from energy efficient designs—generally occur in later years.

Agencies' Use of Alternative Fuel Vehicles

In addition to efforts to make federal facilities more energy efficient, other initiatives have attempted to reduce the nation's consumption of petroleum fuels in transportation through the use of alternative fuels in the federal vehicle fleet. In particular, EPACT set broad goals for replacing the transportation sector's use of petroleum fuels by at least 10 percent by the year 2000 and at least 30 percent by the year 2010. To help meet these goals, this act required that the federal government, as well as state governments and certain other fleet operators, purchase vehicles that run on alternative fuels, such as ethanol, methanol, natural gas, propane, and electricity, among others. Further, the act specified that, in 1996, 25 percent of the new vehicles purchased by the federal government should operate on alternative fuels, with the target percentage increasing to 33 percent in 1997, 50 percent in 1998, and 75 percent in 1999 and beyond.

Based on our assessment in 2000, the federal government as a whole has made progress in acquiring alternative fuel vehicles, although it has not always met the act's annual targets, as shown in table 1 below.[11] Further, procurement of these vehicles has been inconsistent across federal agencies: Some agencies have exceeded their purchase mandates in a year when others acquired very few or no alternative fuel vehicles. For example, in 1998, USPS acquired 10,000 ethanol alternative fuel vehicles to deliver the mail. This purchase was the major reason why the federal government collectively met the mandated acquisition target of 50 percent (12,362 alternative fuel vehicles) for that year.

[11] U.S. General Accounting Office, *Energy Policy Act of 1992: Limited Progress in Acquiring Alternative Fuel Vehicles and Reaching Fuel Goals*, GAO/RCED-00-59 (Washington, D.C.: Feb. 11, 2000).

Table 1: Federal Acquisition of Alternative Fuel Vehicles

Year	Vehicles required to meet mandates	Reported acquisitions of vehicles
1993	5,000	4,500
1994	7,500	8,000
1995	10,000	4,000
1996	Data not available	6,000
1997	5,000	3,624
1998	12,362	14,205
1999	19,593	18,345
2000	15,259	15,000

Source: DOE.

The federal fleet's acquisition of alternative fuel vehicles has not reduced gasoline consumption as much as hoped for several reasons. For example, the act does not establish targets for use of alternative fuels—just the acquisition of vehicles that can run on them. However, some of the alternative fuel vehicles that federal agencies have purchased can also run on gasoline, and fleet officials told us individuals driving the vehicles often refuel with gasoline because it is much more convenient to find gasoline refueling stations than refueling stations that supply alternative fuels. In addition, some drivers have been reluctant to use alternative fuel vehicles because of safety concerns or a lack of familiarity with the vehicles' technology and so choose to use the agencies' gasoline powered vehicles.

According to officials at DOE, the act's mandates for purchases of alternative fuel vehicles by federal and other fleets were designed to demonstrate the use of the vehicles and stimulate purchases of them by the general public. Some supporters of the mandates believed federal and other fleets would demand enough alternative fuel vehicles to create a general market for these vehicles. However, the vehicles in federal and other fleets represent a small proportion of the vehicles on the road. As a result, according to DOE, if all of these fleets met the act's targets for alternative fuel vehicles, the use of alternative fuels by these vehicles would represent less than 1 percent of petroleum fuels used in 2010—far below the act's goals of 10 and 30 percent replacement in 2000 and 2010, respectively. In addition, to reach the 10-percent goal, DOE estimates sales of alternative fuel vehicles nationwide would have to grow by about 1.5 to 1.9 million vehicles per year. By comparison, the entire production of Ford's passenger cars in 1996 was slightly more than 1.4 million.

Federal acquisitions of alternative fuel vehicles and their use of alternative fuels have not met expectations because of the same economic

impediments that have discouraged the general public from buying these vehicles and thus abandoning conventional vehicles. These impediments include lack of refueling infrastructure, the relatively lower price of gasoline, limitations in vehicle performance, and higher purchase prices for some of the vehicles.

With regard to the overall goals set in the act, limited progress has been made in replacing petroleum fuels with alternative fuels. Based on our work in 2000, DOE estimated that alternative fuels used in alternative fuel vehicles replaced about 334 million gallons of gasoline in 1998, representing about 0.3 percent of total gasoline consumed during that year. In addition, about 3.9 billion gallons of alternative fuels (e.g., ethanol and methanol) were blended with gasoline and used in conventional gasoline vehicles in 1998. Thus, in total, about 4.23 billion gallons of gasoline were replaced by alternative fuels, which represent approximately 3.6 percent of all highway gasoline use—considerably less than the act's goal of 10 percent in 2000.

As we noted in 2000,[12] as an alternative approach to meeting the act's goals, federal fleets could increase efficiency and use less petroleum fuel if, in addition to using alternative fuel vehicles, federal efforts were focused on buying and using gasoline vehicles that are highly fuel-efficient, such as the hybrid gasoline-electric vehicles that have recently entered the market. Allowing federal agencies to acquire these vehicles would reduce the federal fleet's consumption of gasoline while maintaining the conveniences in refueling and service available with conventional vehicles.

Contacts and Acknowledgment

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[12]GAO/RCED-00-59