STATEMENT OF

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Mr. Chairman, Members of the Committee, thank you for the opportunity to present the Department's views on the Discussion Draft Concerning Alternative Fuels, Infrastructure, and Vehicles, and to discuss programs under way in the Office of Energy Efficiency and Renewable Energy (EERE) at the Department of Energy (DOE) to accelerate the development and deployment of renewable fuels and other alternative fuels that will reduce our Nation's dependence on oil and enhance our energy security. While the Administration has not had sufficient time to coordinate interagency views on the Discussion Draft, I am happy to provide some preliminary comments.

This Subcommittee conducted an oversight hearing on alternative fuels on May 8, 2007, at which I testified on the President's "Twenty in Ten" plan. The President has called for a robust Alternative Fuel Standard (AFS), requiring the equivalent of 35 billion gallons of renewable and alternative fuel in 2017. Many of the provisions in the Discussion Draft appear consistent with the Administration's policies, and may also benefit from further review and discussion.

First, the Discussion Draft expands on the Renewable Fuels Standard established by the Energy Policy Act of 2005 to include alternative fuels, which is consistent with the President's proposal. Encouraging the broadest range of fuels technologies is critical to the type of transformational change necessary to improve our nation's energy security. However, I would urge the Committee to adopt a timeframe of substantially decreasing projected gasoline use within the next decade. The Administration believes that we must have a manageable timeframe for fuels and infrastructure deployment, and that a 10-year goal is an ambitious and appropriate metric.

I would also urge the Committee to adopt an economic safety valve like the one included in the President's AFS proposal to provide obligated parties additional means to comply with the alternative fuel standard requirements. The economic safety valve would allow obligated parties to purchase credits (priced at $1 gasoline-equivalent) from the Federal Government. This is intended to guard against "price spikes" where an insufficient supply of alternative fuel or alternative fuel credits drives up the prices.

Turning to Title II, the Discussion Draft suggests a number of possible steps toward building the infrastructure necessary to support a domestic alternative fuels industry. Sec. 201 proposes a $200 million infrastructure development program. It is not clear that government grants will ensure the supply chain viability of the production and delivery of alternative fuels. Creating a clear, major incentive, like the AFS will be the most important tool to stimulate investment in infrastructure.

If we are serious about changing our Nation's energy portfolio, we must unleash the vast potential of capital markets. The Federal Government's greatest contribution to energy security is the enactment of durable policy that signals to private investors our long-term commitment to alternative sources of energy. Government funding alone will not be enough to bring about the magnitude of change at the rate required to address our critical security, economic, and environmental concerns.

The challenge for large scale, up front investments in clean energy is that the potential for outstanding returns must be realized over an extended period of time, or the "lifecycle" of the technology's use. This is true whether dealing with a solar rooftop, cellulosic biorefineries, large wind farms, nuclear power plants, energy efficient products like the compact fluorescent lamp, or transmission linking our clean energy sources with urban loads. Though clean energy sources are domestically available and generate little to no greenhouse gases, uncertainty over the necessary technologies' "lifecycle" risks and costs severely retards the amount and types of private capital being deployed. Rapid commercialization of clean energy technologies requires sophisticated capital risk management to

facilitate complex financial transactions. That risk assessment is what the private sector does best. Effective capital formation requires the Federal Government to provide the necessary policy predictability and economic climate that enables massive investments at an accelerated pace.

Additionally, as I have previously testified to this Committee, the Department believes that an E85 delivery system is an important goal of an alternative fuels infrastructure, but that intermediate blends may be a necessary short-term goal. Intermediate blends may provide for more rapid absorption of renewable fuels into consumer markets in the near-term. As the Department begins to assess the impact of higher blends of ethanol, and study their viability and potential, we recommend that the Committee consider a balanced approach for intermediate blends and E85 deployment, especially in provisions related to retail technical and marketing assistance. Because flexible fuel vehicles can easily consume any biofuel blend up to E85, it is important to maximize the availability of options to scale clean biofuel deployment as expeditiously as possible. This flexibility also ensures government does not force the economy to over-commit to a specific fuel class (*e.g.*, E85) given the many other potential alternative fuels that become available (*e.g.*, bio-butanol or other fuels that work in existing infrastructure). In addition both the President and Secretary Bodman have emphasized their concern over any potential artificial impediments to biofuels infrastructure; however, our shared interest must be balanced with a respect for freely negotiated private party arrangements.

Finally, on the vehicles provisions, while the Department believes that it is important to encourage domestic manufacturing of advanced energy technologies, Sec. 305, establishing a new loan guarantee program for advanced battery manufacturing facilities, but duplicates existing authority under EPACT Title XVII.

There is clear consensus that legislative action is needed to substantially reduce our dependence on oil and deploy new energy technologies into the marketplace at an unprecedented scale and rate. The Administration looks forward to working constructively with the Congress to achieve the "Twenty in Ten" goal, and deliver legislation for the President's signature this summer.

Supporting the "Twenty in Ten" and longer term clean energy goals is the Department's portfolio of research, development, and commercialization activities. The Department is particularly focused on solving technical problems to overcome barriers to biofuels growth, including infrastructure, through forging strategic cost-shared partnerships with private industry, collaborating with other agencies, and working with the different regions of our country to bring the promise of biofuels to fruition. We believe that a multi-pronged effort will expand the role of alternative fuels in our Nation's energy supply and economic future.

BIOENERGY RESEARCH AND DEVELOPMENT

EERE's Biomass Program and Vehicle Technologies Program, as well as other Department programs such as those within the Office of Science, are working closely together to overcome barriers to advancing technology pathways to help support achievement of the "Twenty in Ten" goal. The Office of Science is conducting basic research for breakthroughs in understanding the systems biology of biofuel-producing organisms and bioenergy crops that could lead to cost reductions for cellulosic ethanol and other biofuels. To accelerate the transformational scientific breakthroughs necessary for cost-effective production of biofuels and bioenergy, including cellulosic ethanol, the Office of Science is investing $375 million over five years to support the establishment and operation of three Bioenergy Research Centers. These centers, selected by competitive, merit-based scientific review, will conduct

comprehensive, multidisciplinary research programs on microbes and plants to develop innovative biotechnology solutions to energy production.

EERE and various U.S. Department of Agriculture (USDA) agencies conduct the applied research for advancing biomass feedstocks and conversion technologies for biorefineries. Currently, ethanol is the renewable fuel with greatest market penetration and potential for both near and long-term displacement of gasoline. EERE's Biomass Program is focused on making cellulosic ethanol cost-competitive by 2012, a target put forth in the President's 2006 *Advanced Energy Initiative* (AEI).

Recently, Secretary Bodman announced the availability of up to $200 million for cellulosic biorefineries at 10 percent of commercial scale, subject to appropriations. This effort will help enable industry to resolve remaining technical and process integration uncertainties and allow for more predictable, less costly scale up of "next generation" biorefinery process technologies. The 10 percent-scale demonstrations have the potential to help reduce the overall cost and risk to industry and contribute to the quicker commercialization of larger-scale facilities. Additionally, DOE will invest up to $385 million for as many as six commercial-scale biorefinery projects over the next four years, subject to appropriations. The EERE Biomass Program will continue in FY 2007 to support its cost-shared efforts with industry to develop and demonstrate technologies to enable cellulosic biorefineries for the production of transportation fuels and co-products.

ETHANOL AND BIOFUELS INFRASTRUCTURE DEVELOPMENT

The Department is working with other public and private sector partners to encourage development and deployment of a biofuels distribution infrastructure in the United States to provide for displacement of gasoline and increased consumer choice. To support this effort and help promote growth of the biofuels industry, the Department has developed a biofuels infrastructure team. This team works to promote convergence between Vehicle Technologies and the Biomass Programs to promote a biofuels industry and commercially competitive alternative fuels and vehicles. Currently, there are more than six million flexible-fuel vehicles (FFVs) on the road in this country, a significant number, but still a relatively small percentage of the approximately 225 million light duty vehicles in the U.S. One goal is to expand the use of biofuels. Another goal is to encourage all automobile manufacturers serving the U.S. market to meet and exceed state voluntary targets for increasing sales of FFVs? and significantly increase production of FFVs.

In support of these goals the Department is pursuing a number of infrastructure activities, including analyses of pipelines, water issues, and advanced vehicle technologies. The biofuels infrastructure team is also assessing the impacts of higher-level intermediate blends of ethanol (e.g., E15 and E20), renewable fuels pipeline feasibility and materials research, and optimization of E85 alternative fuel vehicles. This work is being coordinated with the Department of Transportation, which has responsibility for setting integrity management standards for pipeline transportation and ensuring that these products can be safely handled, and with the Environmental Protection Agency, which has responsibility for testing the emissions impacts of fuels and vehicles, and registering and certifying fuels and fuel additives before they can be used in the transportation system. Such research, analysis, standards and safety regulation is an appropriate role of government in supporting infrastructure deployment.

The Vehicle Technologies Program has embarked on several new efforts to address vehicle efficiency, beyond ongoing combustion and fuels research. These new efforts include evaluation of the Biowagon produced by SAAB, a manufacturing subsidiary of GM, which is sold exclusively in Europe and has

been reported to use ethanol-based fuels much more efficiently than current U.S. FFVs. Another new effort is focused specifically on optimizing engine efficiency with biofuels. These projects are aimed at mitigating the lower energy content of biofuels. The program is also evaluating other biofuels such as biodiesel that may contribute to future gasoline displacement. And, Vehicle Technologies has initiated an effort to engage international collaborations to address fuel standards, data sharing, and other common interests.

INTERAGENCY ENERGY PARTNERSHIPS

In addition to infrastructure and fuels research within the Department, there are important collaborations with other Federal agencies and entities, including the Interagency Biomass Research and Development Board, which I co-chair with USDA. The Board is the governing body that coordinates biomass R&D activities across the Federal Government. In November 2006, DOE hosted the National Biofuels Action Plan workshop in Washington DC, where representatives from multiple Federal agencies came together to identify agency roles and activities, assess gaps and synergies, and begin developing agency budgets in the area of biofuels. The Federal participants also made recommendations for improved coordination and collaboration across Federal agencies. Input from the workshop is currently being collected into the National Biofuels Action Plan workshop report. Ultimately, the goal is to improve the Board's ability to provide coordinated Federal support for biofuels production and use.

DOE is also working with the Regional Biomass Energy Feedstock Partnerships with USDA and the Sun Grant Initiative universities, which are funded through the Department of Transportation. These partnerships will help to identify the regional biomass supply, growth, and biorefinery development opportunities. We believe that using regionally available feedstocks, produced and processed locally, promotes a "distributed" transportation fuels approach that may reduce shipping and transportation issues. These regional partnerships are designed to collect and store data on a publicly available website.

FINANCIAL INCENTIVES

To provide increased incentives for financing a multitude of innovative energy technologies, including biofuels, EPACT 2005 included a provision in Title XVII for a DOE Loan Guarantee Program. With its central focus on innovative technologies to avoid, reduce, or sequester air pollutants or anthropogenic greenhouse gas emissions, the Loan Guarantee Program provides broad authority for DOE to guarantee loans that support early commercial use of advanced technologies, including potentially cellulosic biorefineries that employ new or significantly improved energy technologies.

I am pleased to report that the funding contained in the FY 2007 Continuing Resolution is allowing the Department to move forward in implementing the Loan Guarantee Program. We have published for public comment a Notice of Proposed Rulemaking to implement the program; the public comment period closes July 2. Secretary Bodman has said that our goal is to have a high-quality program, and the Department is working to do just that. As you know, the Department undertook a process in FY 2006 to solicit pre-applications for the first round of loan guarantees and those pre-applications are currently undergoing technical and financial reviews.

CONCLUSION

The President's "Twenty in Ten" goal holds the promise of accelerating penetration of cellulosic ethanol and other alternative fuels into the marketplace and bringing the benefits of a clean renewable and alternative energy source more quickly to our Nation. To meet these challenges, cutting edge research, development, deployment, and commercialization must be supported by transformational policy changes – the types of proposals that the President articulated in the State of the Union. The Administration looks forward to working with Congress to shape policies and legislation that will make this happen. This concludes my prepared statement, and I would be happy to answer any questions the Committee members may have.