

**Written Statement for the Record of Jonathan Silver**  
**Executive Director of the Loan Programs Office, U.S. Department of Energy**  
**United States House Committee on Appropriations**  
**Subcommittee on Energy and Water Development**  
**March 31, 2011**

**Introduction**

Chairman Frelinghuysen, Ranking Member Visclosky, and members of the Committee, thank you for the opportunity to testify today. My name is Jonathan Silver, and I am the Executive Director of the Department of Energy's (DOE) Loan Programs Office (LPO). DOE's loan programs are a critical part of our nation's commitment to clean energy and the jobs and financial opportunities it presents. I welcome the opportunity to discuss with you the Department's 2012 budget requests for the programs, and our significant accomplishments to date.

**Global and Domestic Context in which the Loan Programs Operate**

*Clean Energy Opportunities*

There is no doubt that clean energy has an important role to play in America's future. We all believe that the extent to which we can deploy new, innovative clean energy technologies will have critical implications for our future global competitiveness, national energy security, economic recovery, and the environment.

As Secretary Chu often notes, America's future prosperity may well depend on our ability to lead in the global transition to a clean energy future. The nation that harnesses the power of clean, renewable energy will be the nation that leads the 21st century. Yet, to date, our nation has not demonstrated the type of sustained commitment to clean energy investment that is needed to remain competitive. For example, the Pew Charitable Trusts recently estimated that, while the U.S. has the world's highest GDP, we ranked ninth in clean energy investment as a percentage of GDP in 2010.<sup>1</sup>

Global competitiveness is not the only issue at stake here. The U.S. imports a significant portion of the petroleum it consumes from foreign sources, and this dependence on oil threatens our national security. Investments in clean energy sources can help us regain control of our energy future and achieve energy independence.

Clean energy not only has long-term, strategic benefits, it is also an important part of our ongoing national economic recovery. Investments in clean energy projects, including power generating plants, manufacturing facilities, and retrofitting activities, create new and good jobs – and they create them now.

*Deployment: Importance, Obstacles, and Role for Government*

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<sup>1</sup> The Pew Charitable Trusts "Who's Winning the Clean Energy Race?," March 2011, at 12.

Much of the public discussion around clean energy focuses on research and development, which is crucial to reaching our long-term national energy goals. But near-term deployment of innovative, commercially-ready technologies is critical, as well. Deploying such technologies at scale drives down unit costs – as it creates new supplier companies – and actually incentivizes future research and development efforts. Commercialization also drives innovation; it is a virtuous circle.

Unfortunately, the pace at which innovative technologies are deployed in the United States has been slowed by both cyclical and structural impediments. The recent economic crisis slowed the pace of investment in clean energy projects. Traditional lenders pared back their appetite for risk, resulting in reduced liquidity in the market. The tax equity market – one of the principal sources of equity for renewables projects – shrank, as well.

There is also a systemic shortage of debt financing for clean energy projects, which stems from the relatively high completion risks associated with such projects - principally technology risk and execution risk. Private sector lenders have limited capacity or appetite to underwrite such risks on their own, particularly because commercial-scale clean energy projects are capital-intensive and often require loans with unusually long tenors. Thus, there is a “valley-of-death” in the clean energy technology development cycle, between the pilot-facility stage and commercial maturity, where companies find it difficult to obtain the financing needed to deploy their technologies at commercial scale – the very point at which they begin to have a meaningful impact on jobs and the environment.

The Department of Energy’s loan programs were designed to address these impediments and fill this financing gap. Loan guarantees lower the cost of capital for projects utilizing innovative technologies, making them more competitive with conventional technologies, and thus more attractive to lenders and equity investors. Moreover, the programs leverage the Department’s expertise in technical due diligence, which private sector lenders are often unwilling or unable to conduct themselves.

Achieving our nation’s clean energy goals – including global competitiveness and domestic energy security – will require the deployment of innovative technologies at a massive scale, and the DOE loan programs are an important element of federal policy to facilitate that deployment.

### **Background on the Loan Programs**

As you know, the Loan Programs Office actually administers three separate programs: the Title XVII Section 1703 and Section 1705 loan guarantee programs, and the Advanced Technology Vehicle Manufacturing (ATVM) loan program.

The 1703 program was created as part of the Energy Policy Act of 2005 in order to support the deployment of innovative technologies that avoid, reduce, or sequester

greenhouse gas emissions. Currently, the program has \$18.5B in loan guarantee authority for nuclear power projects, \$18.5B in authority for energy efficiency and renewable energy projects, \$8 billion for advanced fossil projects, \$4 billion for front-end nuclear projects, and \$2 billion in mixed authority, following the reprogramming of \$2 billion from mixed to front end nuclear authority.

The Section 1703 program was designed to be cost-neutral to the government. To that end, the legislation directs DOE to charge fees sufficient to cover the program's administrative costs. 1703 also is a "self pay" credit subsidy program, meaning that applicants themselves pay the credit subsidy cost associated with any loan guarantees they receive from DOE.

The Section 1705 program was created as part of the American Recovery and Reinvestment Act of 2009 (Recovery Act), to jump-start the country's clean energy sector by supporting projects that had difficulty securing financing in a tight credit market. The 1705 program has different objectives than 1703, and different programmatic features. Most notably, applicants under 1705 are not required to pay the credit subsidy costs associated with the loan guarantees they receive. Those costs are paid through funds appropriated, by Congress (though applicants still must pay application and other administrative fees). Additionally, to qualify for 1705 funding, projects must begin construction no later than September 30, 2011. DOE's authority to enter into loan guarantee agreements under 1705 expires on that date, as well.

Under the Section 1703 program, DOE has offered conditional commitments for four projects so far, including nuclear power, front end nuclear, and two energy efficiency projects, which amount to just over \$10.6 billion in total government supported financing, including capitalized interest. Under 1705, we have so far issued conditional commitments, representing just under \$7.3 billion in financing, including capitalized interest, to 16 projects. In addition, approximately 25 other projects are sufficiently far along in the due diligence process that we have issued a working draft term sheet and are in active negotiations with the applicants. LPO estimates that these projects, if they ultimately reach financial close, will utilize all of our remaining credit subsidy appropriations.

While there has been significant interest in the 1705 program, there has been little demand for renewables loan guarantees under the 1703 program. This may, in part, reflect the ability of certain renewable projects to qualify under 1705. But it may also reflect the fact that innovative clean energy companies – which tend to be smaller and have less capital – often consider the potential self-pay credit subsidy cost to be prohibitive.

The ATVM program issues loans in support of the development of advanced vehicle technologies to help achieve higher CAFE standards and reduce the nation's dependence on oil. Congress funded this program with \$7.5 billion in credit subsidy appropriations to support a maximum of \$25 billion in loans. To date, DOE has committed and closed five ATVM loans, totaling over \$8.3 billion, which will support advanced vehicle projects in

eight states. We anticipate making a number of significant additional ATVM loan commitments in the coming months.

### **Recent Progress**

The Loan Programs Office has made great strides since this Administration took office two years ago. At that time, DOE had not yet issued a single loan or loan guarantee. Since March 2009, the Department has issued conditional commitments for loans or loan guarantees to 25 projects, 15 of which have reached financial close – with more to follow soon. Of these 25 projects, four have been supported under the 1703 program, 16 under the 1705 program, and five under the ATVM program.

DOE has provided (or conditionally committed to provide) over \$26 billion in financing to these 25 projects, which have total project costs of over \$42 billion. The projects are spread across twenty states, and they reflect an array of clean energy and automotive technologies, such as wind, solar, advanced biofuels, geothermal, transmission, battery storage, and nuclear. The projects include the world’s largest wind-farm; two of the world’s largest concentrated solar power facilities; the first nuclear power plant in the last three decades; the world’s first flywheel energy storage plant; and a biodiesel refinery that will triple the amount of biodiesel in the United States.

Project sponsors estimate these 25 projects will create or save almost 60,000 jobs, including construction and operating jobs.<sup>2</sup> Cumulatively, they will generate nearly 23 million MWh of clean energy each year – enough to power two million households, or approximately the same number of households in the state of Louisiana.<sup>3</sup> And they will avoid over 18 million tons of CO<sub>2</sub> annually – more than is produced by all of the approximately three million registered cars in Indiana.<sup>4</sup>

### **Value of DOE Loan Programs**

It is important to remember that the loan programs are not grant programs; LPO expects that the loans it provides or guarantees will be repaid. We review projects on a competitive basis, and we do not fund every eligible project. We ensure that the loans we support meet our statutory requirement of having a “reasonable prospect of repayment.” Every project that receives financing first goes through a rigorous financial, legal and technical review process – similar to, and in some ways more comprehensive than, what a

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<sup>2</sup> Breakdown by program is as follows (based on Sponsor estimates): **1703**: 5,210 construction, 1,340 permanent; **1705**: 10,550 construction, 3,390 permanent; **ATVM**: 5,700 created, 33,000 saved.

<sup>3</sup> Sources: EIA 2005 Residential Energy Consumption Survey, Table US8; U.S. Census Bureau, American FactFinder, 2010.

<sup>4</sup> Sources: U.S. Environmental Protection Agency, Emission Facts: Greenhouse Gas Emissions from a Typical Passenger Vehicle; U.S. Department of Transportation, Federal Highway Administration, Highway Statistics 2008, Table MV-1 (December 2009).

private sector lender would conduct – before a single dollar of taxpayer money is put to work.

Not surprisingly, this type of sophisticated review requires thousands of man-hours, which is costly. However, administrative costs associated with the Title XII programs, including personnel expenses, are required by Title XVII to be covered by fees paid by applicants. The programs are designed to be self-supporting and DOE strives to meet this requirement.

Moreover, the programs can efficiently and effectively leverage government resources to spur private-sector investment. The financing provided by the loan programs is “additive.” It is intended to finance projects that – because they would have difficulty accessing conventional debt markets – might otherwise not get built. A relatively small amount of appropriated credit subsidy can support a large amount of new private sector investment. Moreover, when a loan is fully repaid, the nation will have benefited from the incentivized private sector investment at relatively little cost to taxpayers.

The potential benefits are great. The projects supported by the loan programs promote economic growth and job creation. Clean energy and automotive technology projects can create large numbers of construction and permanent operating jobs. In addition, these projects help lower the delivered cost of renewable energy and contribute to the build-out of the domestic supply chain and manufacturing base that we will need to “win” the clean energy future.

### **2012 DOE Loan Programs Budget Highlights**

The President’s 2012 budget recognizes the value of the DOE loan programs, and builds upon their success to date. Specifically, the budget requests (1) up to \$36 billion in additional authority for nuclear power loan guarantees under the 1703 program; (2) \$200 million in appropriated credit subsidy for renewable energy systems and efficient end-use energy technologies under the 1703 program; (3) \$6 million in appropriations for loan monitoring administration under the ATVM program; and (4) \$100 million for a proposed Better Buildings Pilot Loan Guarantee Initiative for Universities, Schools, and Hospitals.

#### **Title XVII: 1703 Innovative Loan Guarantee Program**

*Nuclear Power:* The Department requests up to \$36 billion in loan guarantee authority to help deploy a new generation of American nuclear reactors. The additional loan guarantee authority for nuclear power projects, which would bring the 1703 program’s cumulative authority for nuclear power projects to \$54.5 billion, will promote deployment of new plants and support an increasing role for private sector financing. The new authority, combined with our existing authority, is expected to be sufficient to support six to eight nuclear power projects, including the Vogtle project, which has already received a conditional commitment.

*Renewable Energy Systems and Efficient End-Use Energy Technologies:* The Department requests \$200 million in appropriated credit subsidy, under the 1703 Program, to support an estimated \$1 to \$2 billion in loan guarantees for renewable energy system and efficient end-use energy technology projects.

*Administrative Costs:* The FY 2012 budget also requests \$38 million to evaluate applications received under the eight solicitations released to date, monitor outstanding loan guarantees, and ensure efficient and effective management of the loan guarantee program. This request is expected to be offset by collections from borrowers authorized under Title XVII of the Energy Policy Act of 2005 (P.L. 109-8).

### ATVM Program

The Department requests \$6 million to support ongoing loan monitoring activities associated with the program mission of making loans to automobile and automobile part manufacturers for the cost of re-equipping, expanding, or establishing manufacturing facilities in the United States to produce advanced technology vehicles or qualified components, and for associated engineering integration costs.

### Better Buildings Loan Guarantee Initiative for Universities, Schools, and Hospitals

To spur investment in energy efficiency retrofits for buildings which serve as assets to our communities, the Department requests \$100 million for loan guarantee subsidy costs to support up to \$2 billion in loan guarantees for universities, schools, and hospitals. This pilot program is one component of the President's Better Buildings Initiative and would fund cost-effective technologies and measures to assist universities, schools, and hospitals save on energy usage and associated energy costs. The Department also requests \$5 million for administrative expenses to carry out the program. I look forward to working with Congress to develop the authorizing statute for the program.

### Conclusion

The DOE Loan Programs have made an important and lasting contribution to our national clean energy landscape. We look forward to working with Congress to ensure that they are funded at an appropriate level while we continue to administer them in the most effective and efficient way possible – while appropriately protecting taxpayer funds.