

**Written Statement of Peter Davidson  
Executive Director, Loan Programs Office  
U.S. Department of Energy  
Before the Senate Energy and Natural Resources Committee  
United States Senate  
July 18, 2013**

**Introduction**

Chairman Wyden, Ranking Member Murkowski, and Members of the Committee, thank you for the opportunity to testify before you today. My name is Peter Davidson, and I am the Executive Director of the Department of Energy's (DOE) Loan Programs Office (LPO). Prior to joining the Loan Programs in May, I was Senior Advisor for Energy and Economic Development at the Port Authority of New York and New Jersey. Prior to that, I served as the Executive Director of New York State's economic development agency, the Empire State Development Corporation, where I oversaw public/private partnerships such as the Moynihan Train Station, Lower Manhattan Development Corporation, Columbia University's Manhattanville expansion, Brooklyn Bridge Park, and the Javits Convention Center.

Prior to my government service, I was an entrepreneur who founded and managed six companies in the newspaper, broadcasting, out-of-home, advertising and marketing research businesses, many of which focused on Hispanic consumers. From 1989-2000, I was the owner and President of El Diario/La Prensa, the leading Spanish language newspaper in New York. Earlier in my career, I was an executive in the investment banking division of Morgan Stanley & Co.

The LPO administers two federal loan guarantee programs—Section 1703 and 1705—for energy technology projects authorized by Title XVII of the Energy Policy Act (EPAct), as amended. It also administers direct loans for the Advanced Technology Vehicles Manufacturing (ATVM) program as authorized under Section 136 of the Energy Independence and Security Act of 2007 (EISA). DOE's loan programs are a critical component of our nation's commitment to promoting innovative energy technologies, and I welcome the opportunity to discuss them with you.

**Overview of the Programs**

The Section 1703 program was established to support the commercial deployment of new, innovative technologies that avoid, reduce, or sequester greenhouse gas emissions. The program currently has \$34 billion in loan guarantee authority across several technologies, including nuclear, advanced fossil, transmission, renewable energy, and energy efficiency. The Section 1705 program was created as part of the American Recovery and Reinvestment Act of 2009 (ARRA) to jump-start the country's clean energy sector by supporting various renewable energy projects that had difficulty securing financing in a constricted credit market. The Advanced Technology Vehicles Manufacturing Loan Program (ATVM) was established to expand U.S. business opportunities for advanced automotive technologies that contribute to energy independence and security.

As of today, LPO has closed thirty-one direct loans and loan guarantees that total \$24 billion in investments. These investments are supporting twenty-six energy and five automotive projects.

In addition, the programs have conditionally committed an additional \$10.3 billion to two nuclear projects.

These projects have attracted more than \$21 billion in private sector investment, and completion of the projects will result in total U.S. economic investment of \$55 billion. To date, more than \$1 billion in loans have been repaid, including Tesla's complete and early repayment of its \$465 million loan earlier this year. Our losses to date represent about 2 percent of the \$35 billion portfolio of closed and committed loans and guarantees—and less than 10 percent of the roughly 10 billion in loan loss reserves that Congress set aside for the program.

In 2011, LPO represented the largest single public or private source of debt financing for clean energy projects in the United States as recognized in the *Bloomberg New Energy Finance, 2011 Clean Energy & Energy Smart Technology League Tables*. LPO's projects include:

- One of the world's largest wind farms;
- The world's largest photovoltaic and concentrating solar power plants currently under construction;
- The first two all-electric vehicle manufacturing facilities in the United States;
- A conditional commitment to the first commercial nuclear power plant to be licensed and built in the United States in three decades; and
- One of the country's first commercial-scale cellulosic ethanol plants.

I would like to highlight four projects to demonstrate how projects funded by the LPO are contributing to a clean energy economy.

- The 290 megawatt Agua Caliente solar generation project, owned by NRG Solar, LLC and MidAmerican Energy Holdings Company, is based in Yuma County, Arizona and will be the world's largest solar photovoltaic installation when fully operational. The project is approximately 96% complete with more than 4.7 million solar panels spanning more than 1,800 acres installed. For the more than 1,300 workers at peak construction, the project means steady employment, marketable skills, and the opportunity to play a critical role in shaping the nation's energy economy. The impact of this project goes well beyond delivering clean, renewable energy to the power grid. Last year, First Solar, the engineering, procurement and construction contractor for Agua Caliente and other projects, spent more than \$1 billion with U.S. suppliers across 38 states. Major domestic suppliers of steel fabrications and electrical equipment for Agua Caliente and other First Solar-supported projects include an Arizona-based division of Omco, Connecticut-based 4 Highway Safety Corp., Texas-based Powerhohm, and SMA Americas of Colorado. In addition, the project is using approximately 39,000 tons of American steel.
- The 392 gross megawatt Ivanpah Solar Generating Complex, which is owned by NRG Energy, Inc., Google and BrightSource Energy, Inc., is located in Baker, California. The Complex is one of the largest infrastructure projects in the nation and the largest solar thermal power plant under construction in the world. There are more than 1,200 workers currently on site, including manual construction workers, engineers, biologists and project managers. This project also has been a catalyst for several supplier businesses, including the project's steel supplier, Gestamp Solar Steel. Gestamp built a new manufacturing facility in Surprise, Arizona just to keep up with orders from Ivanpah. In addition, Michigan-based Guardian Industries started supplying 160,000 of its EcoGuard

Solar Boost mirrors in November 2011. The Ivanpah Complex is approximately 93% complete.

- With support from its Advanced Technology Vehicle Manufacturing (ATVM) Program loan, Ford Motors is helping to position the U.S. auto industry as a leader in fuel-efficient vehicles worldwide. Ford's ATVM projects have and will continue to raise the fuel efficiency of more than a dozen popular vehicles, including the C-Max, Focus, Escape, Fusion, and F-150 trucks, representing approximately two million new vehicles annually. Furthermore, the ATVM loan program has assisted Ford in upgrading a number of key manufacturing facilities, enabling Ford to transition approximately 33,000 employees into clean engineering and manufacturing jobs in factories across six states – Illinois, Kentucky, Michigan, Missouri, New York and Ohio.
- Tesla's \$465 million loan enabled it to reopen a shuttered auto manufacturing plant in Fremont, California and to produce battery packs, electric motors, and other powertrain components. Tesla vehicles have won wide acclaim, including the 2013 Car of the Year from both Motor Trend and Automotive Magazine, and Consumer Reports recently rated Tesla's Model S as tied for the best car ever rated. Tesla has created more than 3,000 full-time jobs in California – far more than the company initially estimated – and is building out a supply chain that supports numerous additional jobs and technologies, and is bringing advanced manufacturing technology back to America. In May, Tesla repaid the entire remaining balance on its loan nine years earlier than originally required.

### **The Loan Programs Fill a Critical Role in the Marketplace**

While the LPO's portfolio has performed well to date, it is important to understand why the LPO's performance is so critical to a domestic clean energy economy. Development and deployment of technology is severely limited by uncertainty in the availability of debt financing. Lenders and bondholders are often unwilling to finance innovative technologies at scale that do not yet have a history of credit performance, despite realistic projections of a market rate of return. This inhibition particularly hampered commercial technologies during the recent credit crisis.

Project-level debt traditionally provides more than half of the funding for independent energy generation projects. Without debt, there are few—if any—new commercial projects and new innovative technologies that reduce greenhouse gas emissions. The Loan Programs are uniquely positioned to address this market need by bearing some of the risk that traditional debt providers are unwilling or unable to assume. Senior secured loans backed by DOE loan guarantees augment significant project-level equity investments from project sponsors to fund discretionary capital expenditures. Every transaction supported by the LPO is a public-private partnership. Equity invested from private sources represents at least 20% of the total cost of every project, and sometimes more, and DOE will not back a technology unless and until this substantial private equity support is available. This support reflects the commercial reasonableness for each of DOE's financings.

The LPO support has proven and will continue to prove critical in deploying innovative energy projects at scope and scale that reduce greenhouse gas emissions and lead us to a cleaner economy. For example, the Section 1705 Program became available just as solar photovoltaic

(PV) projects were being developed at utility scale. Given the lack of capacity in the private debt markets to fund those projects at the time of the financial crisis, DOE supported the first six utility scale PV projects greater than 100MW in the United States. There are now ten additional PV projects in the United States greater than 100MW—none of which benefit from DOE support. Such projects are now more readily financed by private lenders – many of whom began their participation in the sector by acting as lenders in the Section 1705 program. These lending partners include leading financial institutions such as John Hancock, Bank of America, Citigroup, and Banco Santander.

DOE has also enabled debt financing for all concentrating solar power (CSP) projects in the U.S. This technology’s high capital costs and long construction periods add to the financing challenges of innovative technology, and the Loan Programs appear to have played a vital role in advancing this technology. In addition, the LPO’s support of utility-scale solar projects has indirectly contributed to other important industry developments. With an increased volume of projects, the solar industry has since seen a reduction in costs of constructing projects. In turn, prices for off-take agreements have declined, ultimately making these technologies more cost effective for consumers and more attractive to private lenders.

### **Advanced Fossil Energy Solicitation**

While the Title XVII program has largely supported renewable energy projects to date, the program’s mandate is not limited to any specific technology. We endeavor to support a technology only when it is able to support debt financing, but we do not control when a given technology reaches that threshold. Most new, innovative, large-scale technologies will have difficulty accessing debt markets, and DOE will continue to support those technologies that best meet statutory requirements to reduce greenhouse gases and ensure a reasonable prospect of repayment.

This month, LPO released a new draft loan guarantee solicitation for innovative and advanced fossil energy projects and facilities. The Department is in a unique position to evaluate the feasibility of these innovative technologies and assist the private sector as it clears a path to commercialization. Fossil fuels provide more than 80% of our energy today, and they are likely to remain the largest source of energy for decades. This solicitation will help ensure that we adopt the technologies to use them more cleanly and efficiently as part of a low carbon future.

The draft solicitation is open for comments from industry, stakeholders, and the public until early September. The Department will make available up to \$8 billion in loan guarantee authority through this solicitation. This figure may be reduced if DOE is able to close any of the active advanced fossil projects that were submitted under a previous solicitation. When issued, this new solicitation will seek applications for projects and facilities that cover a broader range of technologies than the original solicitation. These technologies could include any fossil technology that is new or significantly improved, as compared to commercial technologies in service in the U.S. and is described in one or more of the following technology areas:

1. Advanced Resource Development
2. Carbon Capture
3. Low-Carbon Power Systems
4. Efficiency Improvements

Applicants must show that their proposed project avoids, reduces, or sequesters air pollutants or greenhouse gas emissions. In addition to soliciting public comment about the technologies that DOE identifies in the draft solicitation, DOE welcomes comments that identify other technologies within its statutory authority that DOE should consider supporting through this loan guarantee solicitation.

### **Innovation Equals Risk**

Whether solar, wind, advanced fossil or nuclear, financing innovation requires acceptance of a certain level of risk. Once again, it is the private sector that applies for loans and loan guarantees, and each project must have substantial private sector equity commitments before DOE will consider moving forward with a transaction. Even with these commitments, it is difficult to finance risk and minimize losses.

The LPO underwrites and structures its loans and loan guarantees to protect the interests of taxpayers and maximize prospects for full repayment. Before making a loan or loan guarantee, the LPO conducts extensive due diligence on the application, with rigorous financial, technical, legal and market analysis by DOE's professional staff, including qualified engineers, financial experts, and outside advisors. A Government Accountability Office report stated that, "it is noteworthy that the process [the LPO Title XVII loan guarantee program] developed for performing due diligence on loan guarantee applications may equal or exceed those used by private lenders to assess and mitigate project risks."<sup>1</sup>

The LPO also has one of the largest, most experienced project finance teams in the world. As designed, LPO has the capabilities and tools to support a number of different project types, all while managing risk appropriately. Transactions are structured to identify and mitigate risk as effectively as possible before proceeding with a guarantee. Once a project closes, the LPO continues to use powerful monitoring tools—including strong covenants in all loan guarantees and strict project milestones—to control the amount of additional risk it assumes. DOE will continue to be an active manager, continuously monitoring projects, their market environments, and other identified risks to seize all opportunities to minimize exposure to loss.

Despite these efforts, and consistent with Congressional intent through the creation of a loan loss reserve, we have experienced some losses and thus constantly strive to improve every aspect of our operations. Given the nature of our work, we have benefited from several recommendations for improvement, including recommendations from Congress, the GAO, DOE's Inspector General, and independent consultants such as Former U.S. Department of Treasury official Herb Allison.

DOE has adopted many of these improvements, including streamlining the application process; adding transparency to the approval process; filling key positions with experienced professionals; clarifying authorities, strengthening internal oversight of the programs; developing

---

<sup>1</sup> Government Accountability Office, "DOE Loan Guarantees," March 2012, available at <http://www.gao.gov/products/GAO-12-157>. While the March 2012 GAO report focuses on the underwriting and diligence process for DOE loan guarantees under Title XVII of the Energy Policy Act of 2005, LPO, which manages both the Title XVII loan guarantee program and the ATVM loan program, employs similar underwriting and due diligence processes for both programs.

a state-of-the-art workflow management system; establishing a robust early warning system; and improving reporting to the public. Furthermore, LPO continuously looks for additional ways of improving its underwriting and asset monitoring activities to incorporate lessons learned and ensure best practices to protect taxpayer interests.

## **Conclusion**

Securing economic leadership in the future requires the support of innovation and deployment today. Developing a robust energy sector that reduces greenhouse gas emissions to the greatest extent possible is crucial to our long-term national interests and will help American companies and workers attain the tools needed to succeed in this competitive space. And one of the most important tools—as our global competitors have learned—is debt financing on reasonable terms, wisely targeted and responsibly deployed.

Other governments have reached the same conclusion. China, Germany, Canada, and Australia, for example, operate government-backed clean energy lending programs. The UK, the Netherlands and India have announced their intent to do the same. By facilitating credit, these programs allow projects to effectively deploy innovative energy technologies and establish a solid credit history—thereby making them more competitive useful and attractive to private lenders.

The United States cannot cede the coming technological innovations and related economic development to competitors around the world. Not every company, nor every investment, will succeed, but the United States will be stronger and more competitive with continued support for a thriving energy industry here at home.

The achievements of the Loan Programs to date are remarkable. But they are not enough. We need to do more to compete on the global stage. Starting with our recently issued Advanced Fossil Solicitation, we aim to do just that.

Mr. Chairman, I thank the members of the committee and I look forward to answering your questions.