Testimony of
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Thank you Chairman Stearns, Ranking Member DeGette, and members of the Subcommittee. My name is Jonathan Silver, and I have served as Executive Director of the Loan Programs Office at the Department of Energy since November 2009.

For most of my career, I have worked in the private sector, analyzing, financing, and building pioneering companies in clean energy, telecommunications and advanced manufacturing. I do this because I believe so passionately that America's innovators and entrepreneurs are the best in the world, and need not take a back seat to any other nation.

Background

My office oversees three programs: the Section 1703 and 1705 loan guarantee programs, created by the 2005 Energy Policy Act and the 2009 Recovery Act, respectively, to support commercial deployment of clean and renewable energy, and the Advanced Technology Vehicles Manufacturing loan program — which is helping America's auto manufacturers and their suppliers retool and produce new vehicles that will reduce our oil dependence and make us more competitive.

In 2005, recognizing a systemic shortage of private sector debt financing for certain types of innovative clean energy projects — from renewables to clean coal to nuclear power — President Bush signed into law bipartisan legislation that established the Title XVII loan guarantee program. The program was designed to provide support to these cutting edge industries, which have great potential to create jobs in whatever country wins the clean energy race, but also involve technology and market risks that private sector lenders often cannot or will not underwrite.

Recognizing that support for innovative technologies comes with inherent risks, Congress in creating the 1705 program appropriated funds to account for such risks. Congress believed that the overall positive impact that the program, and its many successful investments, would have on our national clean energy economy outweighed the associated risk.

Other governments have reached the same conclusion. Germany and Canada, for example, operate government-backed clean energy lending programs. And, in the last several months, the UK, Australia, and India, have announced their intent to do the same. These programs

lower the cost of capital for projects utilizing innovative energy technologies, so they will be more competitive and attractive to private investors.

But no country has been as aggressive as China, which last year, alone, provided more than $30 billion in credit to the country's largest solar manufacturers through the government-controlled China Development Bank.[1] That's roughly 20 times larger than America's investment in the same time period. Moreover, this is just what they have announced. China has undoubtedly extended support well beyond what they have disclosed publicly. Why is China making this investment? Because the race for solar manufacturing jobs is a race worth winning. Over the next four decades, this is a global market estimated to be worth trillions of dollars.[2]

Solyndra Transaction

Solyndra submitted its initial application in 2006, and much of the extensive due diligence on the transaction was conducted between 2006 and the end of 2008. By late 2008, Solyndra was considered by those involved in the DOE loan programs to be the project most advanced in the due diligence process, and the likely recipient of the program's first loan guarantee. In fact, by the time the Obama Administration took office in late January 2009, the loan programs' staff had already established a goal of, and timeline for, issuing the company a conditional loan guarantee commitment in March 2009.

After the Obama Administration took office, the loan programs' staff, and their advisors, continued their comprehensive review of the transaction and, in March 2009, on the exact timeline that had been developed during the Bush Administration, the program issued Solyndra a conditional commitment for a $535 million loan guarantee. Subsequently, in September 2009, following several more months of rigorous and comprehensive due diligence and documentation by the loan programs' staff and external advisors, and the raising of almost $200 million of additional private investment by the company, the transaction reached financial close and DOE formally issued its loan guarantee.

Although I was not at the Department when the Solyndra loan guarantee was considered or issued, it is my understanding that the transaction went through nearly three years of rigorous and exhaustive internal and external due diligence before any taxpayer funds were put at risk.

This included:

- A comprehensive review of the technology and a market study on the international solar manufacturing industry conducted by RW Beck, a highly respected engineering firm.
- A legal review by Morrison & Foerster, a large, international law firm with particular expertise in project finance.

[1] Bloomberg New Energy Finance, China Development Bank – how it came to be a giant lender to clean energy, March 11, 2011.
[2] The IEA 2010 PV technology roadmap cites cumulative installed PV capacity of over 3 terawatts by 2050, and states that PV will reach price parity in many regions by 2020. Assuming prices continue to decline, this will be a market worth trillions.

- And a thorough technology review by the Solar Technologies Program in the Department of Energy's Office of Energy Efficiency and Renewable Energy – which gave it the highest rating of any of the solar manufacturing applicants that had applied for a loan guarantee at that time.
- Multiple financial reviews by Fitch Ratings, Ltd., one of the country's leading independent credit rating agencies..

Based on this analysis, the Department concluded that the Solyndra project, while not without risk, was a worthy and promising project, and that it had demonstrated — as required by the loan programs' governing statute — a "reasonable prospect" of repaying the government's loan.

The federal government was not alone in its assessment of Solyndra's potential. Some of America's most sophisticated professional investors collectively invested nearly a billion dollars in the company after conducting extensive due diligence of their own —almost all of it invested before a single dollar of taxpayer funds was provided to the company.

Last year, Solyndra was recognized by the Massachusetts Institute of Technology's *Technology Review* as one of the "50 Most Innovative Companies in the World" and included by the *Wall Street Journal* in its review "The Next Big Thing: Top 50 Venture Backed Companies." These were just a few of a long list of other awards and reviews of the company..

Many of the competitive difficulties Solyndra has faced in the two years since it received the DOE loan guarantee highlight the challenges facing America in global race for clean energy jobs. In 1995, more than 40 percent of the solar cells and modules sold around the world were made in the United States.[3] Today, only six percent are made here.[4] In the last 6 years, China's market share has grown from 6 percent to 54 percent.[5] China is now home to the world's leading solar panel manufacturing company and five of the ten largest in the world. Asia, in total, is home to seven of the top ten. The U.S. has just two companies on that list.[6]

In 2009, Solyndra appeared to be well-positioned to compete and succeed in the global marketplace. Solyndra manufactured cylindrical, thin-film, solar cells, which avoided both the high cost of polysilicon—a crucial component used in conventional solar panels — and certain costs associated with installing flat panels. But polysilicon prices subsequently dropped significantly, taking Solyndra, and many industry analysts, by surprise.[7] Among the principal beneficiaries of this pricing environment were four of Solyndra's Chinese competitors, which

[3] Maycock, P.D. (February 2002). "World PV Cell/Module Production (1988-2011)" *PV News.*
[4] Mints, P. (2011). Photovolatic Manufacturer Shipments, Capacity & Competitive Analysis 2010/2011. Palo Alto, CA: Navigant Consulting Photovoltaic Service Program. Report NPS-Supply6 (April 2011).
[5] Mints, P. (2011). Photovolatic Manufacturer Shipments, Capacity & Competitive Analysis 2010/2011. Palo Alto, CA: Navigant Consulting Photovoltaic Service Program. Report NPS-Supply6 (April 2011).
[6] Bloomberg New Energy Finance, June 1, 2011, JISEA/CSIS/NREL Meeting, Washington DC
[7] Bloomberg New Energy Finance, August 2011 Solar Spot Price Index Update, Aug. 31, 2011

sell polysilicon panels and received $20 billion in credit from the China Development Bank in the 2010.[8]

These developments made Solyndra's business model more challenging. The company attempted to cut costs and enhanced its sales and marketing efforts, which resulted in increased sales and revenues. In fact, its revenues increased 40% between 2009 and 2010, from $100m to $140m. But Solyndra's efforts to gain market-share left it short of capital and, by the summer of 2010, the company faced the prospect of bankruptcy if it could not secure an influx of new cash.

Unsuccessful in its efforts to raise additional equity, Solyndra approached DOE, in late 2010, asking DOE to increase its loan commitment. DOE refused, indicating that any additional funds would need to come from other sources. Solyndra then sought to secure a new $75 million emergency loan from its current equity investors. The proposed new loan provided terms that were expected to be more favorable to taxpayers than any other financing options that were available to the company at that time. As is typical in cases where distressed companies seek new debt financing, the new financing would have priority, in the event of liquidation, over the company's existing debt—including the DOE loan guarantee (the investors' almost $1 billion of original equity investment was, and remains, subordinated to the debt owed to the government).

DOE faced a choice: whether to (1) refuse to allow the restructuring, thereby ensuring that Solyndra would close its doors immediately, and that the U.S. taxpayer would recover only a modest amount of the loan; or (2) allow the company to accept the emergency financing, thereby giving it and its almost 1,000 workers a fighting chance at success, and the government a higher expected recovery on its loan.

The decision was not an easy one, and it was made only after significant analysis and deliberation, using the same sort of tools and rigor that private sector lenders use in such scenarios. DOE had commissioned a new and comprehensive analysis of Solyndra's prospects in the global solar market (conducted by Navigant, a leading market research firm), and undertook — with the aid of experienced financial consultants — a complete review of the company's financial condition, business plan, and assets.[9] Both the market study and the financial modeling suggested that the company's value as a going concern was greater than what the government was likely to recover in liquidation at that time. Accordingly, DOE determined that restructuring the loan guarantee gave the U.S. taxpayer the best chance of being repaid on the loan.

Unfortunately, changes in the solar market have only accelerated in 2011, since the restructuring – making it much more difficult for the company to compete. Chinese companies have flooded

[8] Bloomberg New Energy Finance, China Development Bank – how it came to be a giant lender to clean energy, March 11, 2011.

[9] Included among these assets was the partially-complete manufacturing facility that Solyndra was building using government funds. DOE determined, as part of the restructuring, that the facility would be more valuable, even in the event of a future liquidation, once complete. Solyndra ultimately completed construction of this facility ahead of schedule earlier this year.

the market with inexpensive panels, and Europe — currently the largest customer base for solar panels — has suffered from an economic crisis that has significantly reduced demand and forced cuts in subsidies for solar deployment that were important to Solyndra's business model. The result has been a further and unprecedented 42% drop in solar cell prices in the first eight months of 2011.[10]

In light of these changes in the solar market, the Department, which was closely monitoring Solyndra, regularly discussed with the company its need to aggressively cut costs in order to remain competitive. Of course, as a lender, the Department did not have the ability to mandate specific cost-cutting measures, and Solyndra itself proved unable to cut its costs sufficiently to remain competitive. In early September, having failed to raise the additional capital then needed to continue operations, the company filed for bankruptcy.

Without DOE's agreement to restructure Solyndra's loan, the company likely would have faced bankruptcy much earlier – in December 2010. Restructuring gave them a fighting chance to compete and succeed, and kept approximately 1000 workers from losing their jobs. In fact, between December and when they filed for bankruptcy, the company paid its employees and suppliers more than $200 million – money that went into the economy, creating jobs up and down the supply chain.

While we are all disappointed in the outcome, securing America's leadership in this vital new industry requires that we support innovation and deployment. Solyndra's situation should not overshadow the great work that the Department's loan programs have done to date, or the need to continue to find ways to support clean energy in this country.

The projects supported under the Department's loan guarantee programs will make meaningful contributions to our nation. It is important to note that the loan guarantee programs support an array of technologies and project types, most of which have significantly different risk profiles than Solyndra. For example, the majority of the projects we have supported in the Section 1705 program are clean power generation facilities that benefit from offtake agreements under which utilities have made long-term commitments to buy the power they produce.

That said, developing a robust clean energy manufacturing sector in the United States is crucial to our long-term national interests, and we need to ensure that American companies and workers are given the tools they need to succeed in this competitive space. And one of the most important tools — as our global competitors have learned — is low-cost financing, wisely targeted and responsibly deployed. This isn't picking "winners" and "losers" — it is helping ensure that we have winners here at all. We invented this technology, and we should produce it here.

The question is whether we are willing to take on this challenge, or whether we will simply cede leadership in clean energy to other nations and watch as tens of thousands of jobs are created overseas. We were once the leaders in this field, and we can be again. As President

[10] Bloomberg New Energy Finance, August 2011 Solar Spot Price Index Update, Aug. 31, 2011

Kennedy said of the mission to the moon: “If we are to go only half way, or reduce our sights in the face of difficulty, in my judgment it would be better not to go at all.”

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