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LOAN GUARANTEE PROGRAM

HEARING

BEFORE THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE

ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

TO

RECEIVE TESTIMONY ON THE U.S. DEPARTMENT OF ENERGY'S LOAN GUARANTEE PROGRAM AND ITS EFFECTIVENESS IN SPURRING THE NEAR-TERM DEPLOYMENT OF CLEAN ENERGY TECHNOLOGY

SEPTEMBER 23, 2010

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LOAN GUARANTEE PROGRAM

THURSDAY, SEPTEMBER 23, 2010

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 9:30 a.m. in room SD–366, Dirksen Senate Office Building, Hon. Jeff Bingaman, chairman, presiding.

OPENING STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR FROM NEW MEXICO

The CHAIRMAN. OK, why don't we get started here?

The purpose of this hearing is to take an assessment of the Department of Energy's Loan Guarantee Program. This is a topic of great concern to members of this committee. It's also a complex subject. I appreciate the efforts of the witnesses to help us understand it.

Unfortunately, though we invited the Office of Management and Budget to attend and comment on their role in the process they were either unable or unwilling to do so. They have not provided us with a witness today. We have asked them to submit written testimony for the record and will ask them to also respond to any questions that members of the committee and myself have for them at the end of the hearing.

Since this is not the first hearing we've had on this topic I'll not go into great depth about the problems that we've had with implementing this program. In short, in the 5-years since the program was authorized 14 loan guarantees have actually been issued, all of them, in the last 14 months, ten of those within the last year. While the Department, under Secretary Chu's leadership, should be commended for its obvious commitment to getting this program moving it's impossible to ignore the enormous gap between our efforts and those of our competitors overseas.

Just last week the New York Times had an extensive article on the aggressive support China is providing to new clean energy ventures which includes everything from rich tax credits to subsidized lands to exceptionally cheap capital. While we're arguing about whether or not we can afford to restore the $3.5 billion that was withdrawn from the $6 billion program set up less than 2 years ago, they're offering support that is measured in the hundreds of billions. While I would not argue that we need to match their level of support in order to remain competitive there are many other reasons why companies would choose to locate in the United States.

I would argue that we must lift the barriers that currently make it impossible to develop and manufacture new clean energy technologies here. I'm concerned that there are those, including some in the Administration, that view that financing is merely another benefit, like tax credits, to be cut when other needs dictate rather than as a remedy to a fundamental market failure that is acting as a barrier to domestic technology development. What I believe those skeptics fail to recognize is that though banks are often happy to finance the next factory of an established company or the tenth deployment of a developed technology, they have very little interest or inclination in participating in the first deployment of a technology.

There is simply too much uncertainty both in the technology and in the market, too many other attractive investments to spend the significant time required to focus on new risks. As our international competitors have already recognized the government needs to step in in these circumstances. Biofuels is a good example.

Although we passed laws that would seem to create a stable market for biofuels in the United States, companies are finding it impossible to get financing for large scale operations. Banks, investors and buyers won't commit unless they've seen commercial scale production and until completing technology—competing technologies have sorted themselves out. The result is that our biofuels targets go unmet as companies remain stuck in the pilot projects stage of development.

This is causing domestic companies to look elsewhere to develop and to subsequently manufacture their technologies beginning the cycle of further research and refinement and continued production there rather than here where the technology, in many cases, was originally developed. I believe it is this risk that we need to balance against any perceived risk of failure of a given project. Congress has repeatedly committed itself to taking on this market failure in 2005 Energy bill, in the 2007 Energy bill, in the Recovery Act's funding and in this committee's bipartisan efforts to develop a robust successor program to the Clean Energy—in the name of the Clean Energy Deployment Administration.

What I'd like to see us explore today is the level of the Administration's commitment to the effort, not just in the Department of Energy which I'm persuaded does have a commitment in this area, but at other key decision centers such as the Office of Management and Budget. The President said on many occasions that the American people will not be satisfied with second place in the race to develop clean energy technologies. Unless we fix this problem with financing I fear we are destining ourselves to be in second place, if that high in the ranking order.

[The prepared statement of Senator Landrieu follows:]

PREPARED STATEMENT OF HON. MARY L. LANDRIEU, U.S. SENATOR FROM LOUISIANA

Mr. Chairman, thank you for holding this hearing on DOE's loan guarantee programs. I appreciate the opportunity to discuss their effectiveness and their impact on our country.

The first loan guarantee program, often referred to as section 1703, was authorized in the 2005 Energy Policy Act. I supported this piece of legislation because it does many good things, including authorize this program which helps innovative clean energy technologies that are typically unable to obtain conventional private financing due to high technology risks.

Luckily, Louisiana has already benefited from this program. Red River Environmental Products in Coushatta, LA is the recipient of a $245 million DOE loan guarantee to build an activated carbon manufacturing facility. Activated carbon is the leading technology for reducing mercury emissions from coal-fired boilers and can reduce mercury emissions by up to 90 percent by absorbing the mercury.

This is important to improving our environment and helping eliminate mercury pollution in our seafood.

While Louisiana is grateful for this award, I am troubled to hear that there are approximately 170 other applicants in the pool that are frustrated with the slow approval process of awards and the lack of ability to review their rejected applications. I hope that those kinks can be worked out as quickly as possible to make this program more efficient, which in turn, should help create more jobs and investment in our economy.

In addition, I recently learned of another problem with the DOE's administration of the loan guarantee program that I hope can be resolved quickly.

The maritime industry informs me that DOE has taken the position that they do not need to abide by the Cargo Preferences Act when administering this program. Under that law, any U.S. financed project, including guarantees made by or on behalf of the U.S., must use U.S. flagged vessels for at least 50 percent of the goods shipped by water.

I find it perplexing that DOE would take this position when the entire purpose of these loan guarantee programs is to spur domestic development and job creation. I'd like to understand why DOE believes utilizing foreign flagged vessels, which will not supply domestic jobs, is in the better interest of the U.S. I hope DOE can see the error of their position and change it immediately.

Finally, I would like to speak to the other DOE loan guarantee program, the Advanced Technology Vehicle Manufacturing program, or ATVM.

A very innovative company named V-Vehicle plans to re-quip a shut-down plant in Monroe, Louisiana. This would transform communities in my state as the production facility would bring approximately 1,400 direct jobs and an additional 1,800 indirect jobs to Northeast Louisiana.

The V-Vehicle car is a low cost, fuel-efficient vehicle that will meet aggressive emissions standards and the highest safety ratings. Every year, each V-Vehicle car will save over 5,700 pounds of CO2 and 280 gallons of gas relative to the U.S. fleet average. In addition, the car will be a cost effective option for a range of customers.

V-Vehicle had their original application denied, but I want to commend the DOE's ATVM program for reviewing their application, suggesting ways to improve their application and encouraging the company to re-submit an application.

I understand that the company and DOE have made great progress on V-Vehicle's application and may be close to a decision in the coming weeks.µ I am happy to hear of this progress, butµI want to reiterate the importance and urgency of coming to a decision about this project so that we start putting people to work in Louisiana.

The CHAIRMAN. Senator Burr.

STATEMENT OF HON. RICHARD BURR, U.S. SENATOR FROM NORTH CAROLINA

Senator BURR. Mr. Chairman, thank you. Thank you for calling this hearing. I want to take this opportunity to welcome all of our witnesses.

I want to single out Michael Scott even though it's listed that it's New York. I just want to point out he's a North Carolinian. I like to claim them all when they come.

Mr. Chairman, I was proud to work on the Department of Energy Loan Guarantee Program created in title XVII of the 2005 Energy Policy Act. The goal of this title was to bring clean, innovative energy technology projects to market. Since 2005 the program has been slow to issue loan guarantees. I understand there may be an issue with credit subsidy costs applied at the Office of Management and Budget.

In June I joined Senator Coburn in sending a letter to the President requesting his direct leadership in addressing this issue at OMB. For the purpose of informing my colleagues, let me just read

one line from the letter. It's our understanding that much of the delay is the result of OMB's reliance on outdated CBO analysis that predates the program." I have yet to receive a response from that letter.

It is absolutely essential that if we want a loan guarantee program, we've got to have a push from the top. I urge my colleagues to join with me in making sure that we overcome the obstacles, not just of this Administration at OMB, but every Administration at OMB. The Loan Guarantee Program was expanded in 2009 to rapidly deploy renewable energy and transmission projects.

I'm interested in learning more about the job creations associated with those new initiatives. I look forward, very forward, to hearing the testimonies of all our witnesses. I thank the Chair.

The CHAIRMAN. Thank you very much. We have 2 panels today.

Our first panel is Jonathan Silver, the Executive Director of the Loan Programs Office in the Department of Energy.

Jonathan, why don't you come ahead and give us your testimony?

We will then have questions of you. Then we will call the second panel after we're finished with your testimony.

Thank you for being here.

STATEMENT OF JONATHAN SILVER, EXECUTIVE DIRECTOR, LOAN PROGRAMS OFFICE, DEPARTMENT OF ENERGY

Mr. SILVER. Thank you, Chairman Bingaman. Good morning Mr. Chairman 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 Loan Programs Office.

I want to thank this committee for the significant role it has played in creating the various loan programs at DOE and for your ongoing support for clean energy investment through the American Recovery and Reinvestment Act. Your leadership has already resulted in the financing of numerous projects creating thousands of jobs and reducing millions of tons of CO_2. The projects we fund through the Loan Programs are critical to our economy, our national security and the environment. After not quite 10 months as Executive Director, I am pleased to share with you the progress we have made to date, describe where we're headed and discuss how we can even more effectively deliver on the promise to help move America toward a new clean energy economy.

My message today is simple: DOE's Loan Programs have improved, and old perceptions about the program do not accurately reflect the new reality. The programs have been criticized for being slow to push loans out the door, and earlier that was true.

I should note that these projects are complex and, much like in the private sector, do take time to process. However, as noted in my written testimony, we have now implemented a number of important changes to improve the loan programs. These changes have made us more efficient, more transparent, and more effective.

Prior to joining the Department of Energy last November, I spent over 25 years in the private sector, the last ten as a venture capitalist. The past year reminds me, at times, of my time in venture capital. We spent an awful lot of time in the startup mode, ramping up operations and instituting operational best practices,

even as we raced and succeeded, I think, in financing a number of large, complex energy projects. We are now in a position to process applications at scale, and I believe the results are beginning to speak for themselves.

As you noted, Mr. Chairman, when this Administration took office the Loan Programs had not issued a single conditional commitment for a loan guarantee since the program's inception in 2005. Under Secretary Chu's leadership, DOE issued its first conditional commitment in March 2009. Since then, the Department has issued conditional commitments to 13 more title XVII projects, 4 of which have reached financial close. We have also, at the same time, obligated billions of dollars in funding to 4 auto projects under the Advanced Technology Vehicle Manufacturing Program.

Together the 14 title XVII projects represent loan guarantees totaling almost $13 billion in loan volume, supporting projects with total estimated costs of over 22 billion. These projects are being built in 12 states. They represent an array of clean energy technologies from wind, solar, and geothermal, to nuclear, battery storage, transmission and more, and will create over 13,000 construction jobs and over 4,000 operating jobs.

Cumulatively these 14 projects will produce almost 4 gigawatts of clean power, equal to about eight large coal plants, and will avoid approximately 38 million tons of carbon dioxide every year, equivalent to the annual emissions from about 5 million American households. The 4-ATVM supported projects, which are located in eight different states, will create or save an additional 37,000 American jobs and save almost 275 million gallons of fuel per year.

It is real progress—a sign, I think, that the changes we are making have worked. That is not, however, to suggest that there is not substantial additional work to be done.

In fact, process improvements should never stop. We continue to refine our activities in response to both GAO recommendations, input from applicants and other interested parties and our own desire to achieve efficiencies. It is important that we get this program to work effectively.

As Secretary Chu often notes, America's future prosperity may depend on our ability to lead the global transition to a clean energy future. The widespread deployment of large scale, innovative, clean energy technologies is critical to that global leadership. But only the private sector can provide the kind of massive sustained investment required to achieve our national energy goals.

Congress has, for example, discussed a renewable electricity standard of 15 to 20 percent. It has been estimated that meeting a 20 percent renewable electricity standard by 2020 would require aggregate capital expenditures of over $350 billion, or an average annual investment of approximately $32 billion. Government financing programs are essential to encouraging and facilitating investment at this scale.

With traditional lenders having reduced their appetite for risk and the tax equity market, one of the principle sources of equity for renewable projects cut nearly in half since 2007, investors will continue to need help absorbing some of the risk inherent in funding innovative technologies. The loan programs do that. By lowering the cost of capital for clean energy projects, they encourage

private sector investment that would not otherwise take place. They contribute to the growth of our domestic manufacturing base. They help us move toward a more stable, secure and sustainable domestic energy supply, and they create jobs.

If we are serious about our national energy goals, the Federal Government must provide the incentives necessary to support meaningful, continued investment in clean energy—which includes a robust loan guarantee program. In my personal opinion this means that we need to ensure a stable and substantial level of funding for some years to come. Over the last year and a half, the Department Loan Programs have started delivering on the promise Congress envisioned in creating them. I look forward to working with the members of this committee to make them as efficient and effective as they can be.

Thank you again for inviting me here today, and I look forward to answering any questions you may have.

[The prepared statement of Mr. Silver follows:]

PREPARED STATEMENT OF JONATHAN SILVER, EXECUTIVE DIRECTOR, LOAN PROGRAMS OFFICE, DEPARTMENT OF ENERGY

INTRODUCTION

Chairman Bingaman, Ranking Member Murkowski, 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). I want to thank you for your leadership in supporting clean energy investments. DOE's loan programs are a critical part of the Administration's commitment to transition to a cleaner, greener economy that will create jobs, protect our national security, and protect the environment.

I welcome the opportunity to present the Administration's views on the loan programs. I am particularly excited to share with you the progress that we have made to date and additional changes we are making to continue that progress.

GLOBAL AND DOMESTIC CONTEXT IN WHICH THE LOAN PROGRAMS OPERATE

Before reviewing the specifics of the programs, I'd like to touch briefly on the broader context in which we operate. 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. Yet, according to a report by the Pew Charitable Trusts, while the U.S. had the world's highest GDP in 2009, we ranked eleventh in clean energy investment as a percentage of GDP.[1] Allowing this gap to continue to grow will have serious implications not only for our global competitiveness, but also for our national security and the environment.

The United States can and should retain a position of global clean energy leadership through the widespread and large-scale deployment of new and innovative clean energy technologies. Government policies, such as those proposed by this Administration can encourage and facilitate such deployment. But only the private sector can provide the type of massive, sustained investment that is required to achieve our national clean energy goals.

Yet the private sector has not invested in clean energy at the the scale necessary to drive meaningful change. The economic crisis slowed the pace of investment in clean energy projects. Traditional lenders have pared back their appetite for risk, resulting in reduced liquidity in the market. Additionally, the tax equity market—one of the principal sources of equity for renewables projects—has shrunk by more than half since 2007.

A fundamental impediment for investors in the clean energy space stems from the relatively high completion risks associated with clean energy projects, including, in particular, technology risk and execution risk. Private sector lenders have limited capacity or appetite to underwrite such risks on their own, particularly because large-scale clean energy projects are very capitalintensive and often require loans with unusually long tenors. Without the federal government's financial support—fol-

[1] "Who's Winning the Clean Energy Race," 2010 Global Energy Profile, The Pew Charitable Trusts, at 10.

lowing a careful review of the underlying technology—many promising technologies may not get funded or reach commercial scale or scope.

The Department of Energy's loan programs were designed to address these impediments. 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.

Simply put, achieving our nation's clean energy goals will require the deployment of innovative technologies at a massive scale, and the DOE loan guarantee program is an important element of federal policy to facilitate that deployment.

BACKGROUND ON THE LOAN PROGRAMS

As you know, the LPO actually administers three separate programs: title XVII section 1703, section 1705—and also the Advanced Technologies Vehicle Manufacturing loan program, or ATVM. While my testimony today will focus primarily on the title XVII programs, I do want to briefly highlight ATVM's significant accomplishments to date.

The ATVM program is charged with issuing loans to support the development of advanced vehicle technologies to help achieve higher CAFE standards, create jobs, and reduce the nation's dependence on oil. To date, DOE has committed and closed four ATVM loans, totaling $8.4 billion, which will support advanced vehicle projects in eight states. According to information provided by the project's sponsors, these projects will create or save over 37,000 U.S. jobs. We anticipate making a number of additional ATVM loan commitments in the coming months. While the rest of my testimony will focus on the 1703 and 1705 programs, I note that many of the same issues that are challenges in these programs also apply to ATVM.

The 1703 and 1705 programs are often conflated, but they are in fact quite different in a number of important ways. 1703 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 has, so far, been executed as a "self pay" program, meaning that applicants pay the credit subsidy cost associated with any loan guarantees they received from DOE.

The section 1705 program was created as part of the American Recovery and Reinvestment Act of 2009 (Recovery Act), to jumpstart 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 by DOE, using monies appropriated by Congress (though applicants still must pay application and other fees). Additionally, to qualify for 1705 funding, projects must begin construction no later than September 30, 2011. DOE's authority to issue guarantees 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 efficiency projects. Under 1705, we have issued conditional commitments to 10 projects so far, totaling over $4 billion in loan volume.

Although we have, under 1703, the $18.5 billion in renewbles authority referenced above, there has been very little demand for renewables loan guarantees under that program. This may, in part, reflect the ability of renewable projects to apply for a guarantee under 1705.

RECENT PROGRESS

These programs have made great strides since this Administration took office twenty-one months ago. At that time, DOE had yet to issue a single loan guarantee under the loan programs. In March 2009, under Secretary Chu's leadership, the title XVII programs issued the first ever conditional commitment for a loan guarantee. Since then, the Department has issued conditional commitments to 13 more title XVII projects, four of which have reached financial close—with more to follow soon.

Together, these 14 projects represent loan guarantees totaling almost $13 billion, and have total project costs exceeding $22 billion. They are spread across 12 states, represent an array of clean energy technologies—including wind, solar, geothermal, transmission, battery storage, and nuclear. Project sponsors estimate these projects will create over 13,000 construction jobs, and over 4,000 operating jobs. Cumulatively, according to data provided by their sponsors, these 14 projects will produce almost 4GW of clean energy capacity, and they will remove approximately 38 million tons of carbon dioxide from the air every year.

These projects are not just noteworthy; they represent a real and significant contribution to the clean energy landscape in the United States.

RECENT IMPROVEMENTS TO LOAN PROGRAMS

Our ability to underwrite 14 projects in the past 18 months is a function of the many improvements we have made to the loan programs. By better leveraging our existing resources and re-engineering our processes, we have been able to significantly reduce the amount of time it takes to review applications, to expedite the transaction approval process, and to provide greater transparency into our work. For example:

- We have increased our staff and are now able to process applications more efficiently and effectively. As recently as January 2009, the loan programs had only 16 federal employees. Through aggressive recruitment efforts, we now have over 80 federal employees supported by a number of subject-matter experts engaged on a contract basis.
- We created a new online portal for completing and submitting applications electronically, which has both improved the quality of applications and shortened the amount of time that it takes to complete and process them. It used to take DOE up to 2-3 months to complete the initial review of an application; we can now complete that review in approximately 30 days, and we are working to reduce that time period even more.
- We have developed a model for issuing more targeted and understandable solicitations for applications, as exemplified by our recently issued Manufacturing solicitation. We expect simplified solicitations to result in better applications that will more directly address the critical issues, and which can be reviewed more efficiently and effectively by our staff.
- We have improved communication with applicants.
- We reorganized our staff into technology domain groups, to create efficiencies and capitalize on the expertise of our staff.
- We have worked creatively to ensure that projects seeking loan guarantees can meet important and fast approaching deadlines, including the year-end expiration date for the section 1603 cash grant program, which is critical to many of our projects, and the 1705 program's sunset date of September 30, 2011.

In light of these many changes and improvements, the Loan Programs are well positioned to carry out the important mission we have been given by Congress and the Secretary. Over the last few months, we have significantly improved the pace at which we are processing transactions, and aim to do even better.

THE PROCESS OF REVIEWING AND APPROVING A LOAN GUARANTEE APPLICATION

I would like to take this opportunity to describe the process through which DOE reviews and approves loan guarantee applications. The loan programs accept applications only through targeted solicitations, so that we can award loan gurantees on a competitive basis. DOE currently has three open solicitations: the first seeks applications for renewable energy generation or transmission projects using innovative technology; the second is open to renewable energy manufacturing projects employing commercial technology; and the third is issued under our FIPP program, through which DOE partners with private sector lenders for renewable energy generation projects employing commercial technology.

A loan guarantee goes through a number of stages as it moves through the review process. Those are: (1) Intake, (2) Due Diligence and Term Sheet Negotiation, (3) Credit Analysis and Review; (4) Deal Approval and Conditional Commitment, (5) Post-Conditional Commitment Due Diligence and Financing Documents Negotiation, and (6) Closing.

Intake

Our Intake process has two phases, Part I and Part II. In Part I, an applicant submits only a summary application, which LPO reviews to determine if the proposed project is eligible for the program. In Part II, the applicant submits a more

comprehensive application, which is analyzed to determine if the project warrants additional review and discussion and, possibly, negotiation of a term sheet. This two-part process was designed so that applications deemed ineligible in Part I could avoid paying the larger fees required for the full review.

Initial Due Diligence and Term Sheet Negotiation

The second stage combines the initial due diligence and term sheet negotiation. Deals that are not rejected during the intake process move into full due diligence. The due diligence includes, among other things, a close examination of the technology, and an analysis of the financial model and plan for the project. The projects also undergo detailed legal, market, and environmental reviews, including an evaluation to determine if they are and will be in compliance with the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), Davis-Bacon labor requirements, and other state and local laws and regulations. It is during this work that the LPO deal team engages outside consultants and advisors with specialized expertise relevant to the project to assist with the transaction.

After due diligence has proceeded to a point where discussion of substantive business issues makes sense, LPO begins an often lengthy negotiation with the applicant on the terms and conditions of the potential loan guarantee. In some instances, the proposed project must be significantly restructured to ensure that it is creditworthy and meets the statutory requirement of a reasonable prospect of repayment.

Credit Analysis and Review

During the second phase, the LPO credit staff undertakes a comprehensive credit analysis of the proposed transaction. The credit team calculates an estimated credit subsidy score based on the agreed upon term sheet between the applicant and DOE. This credit subsidy score is calculated using a methodology approved by OMB. As part of this analysis, LPO credit staff reviews and scores every aspect of the transaction, including, but not limited to: pledged collateral, market risk, technology risk, regulatory risk, contractual foundation, operational risk, and recovery profile. The result is a credit subsidy range that incorporates all available information regarding the project and financing at the time.

Deal Approval

Once the term sheet has been agreed upon between the applicant and the LPO, the transaction is submitted for the necessary approvals culminating in the Secretary determining whether to issue a loan guarantee.

The first step in the approval process is the credit committee, which consists of senior DOE officials with significant financial and technical expertise. If the credit committee recommends the project for approval, the transaction is then presented to the Department's Credit Review Board (CRB), which consists of senior-level officials. Prior to presenting the deal to the CRB, LPO presents it to OMB and Treasury for review, consistent with statutory requirements. If CRB recommends approval of the deal, it is presented to the Secretary, who has the ultimate authority to approve loan guarantees.

Following the Secretary's approval, LPO offers a conditional commitment for a loan guarantee. If the applicant signs and returns the conditional commitment with the required fee, it becomes a conditional commitment of the Department. This commitment is "conditional" because it is contingent on the applicant meeting a number of conditions precedent to financial close. These are articulated in the agreed-upon term sheet between the parties.

Post-Conditional Commitment Due Diligence and Financing Documents Negotiation

After conditional commitment, the LPO staff completes any remaining due diligence, ensuring that any conditions identified in the conditional commitment are met by the applicant prior to closing. The parties simultaneously draft and negotiate the final loan documentation. In some instances, the applicant is also negotiating the final project documents at the same time.

Closing

Once all of the due diligence is completed and the necessary financing documents are agreed—and all other statutory, regulatory, and other requirements have been met—the LPO credit staff conducts a comprehensive credit analysis. This analysis is based on the final terms and conditions of the loan, and any other updated information, and results in the calculation of the project's estimated credit subsidy cost. OMB must review and approve the credit subsidy cost. Once the credit subsidy score is finalized, the project may move to a financial closing. At closing, the loan guarantee is obligated by DOE.

After the guarantee is obligated and issued, the applicant often can immediately draw on the loan to support the proposed project. However, sometimes, there are additional conditions that must be satisfied under the financing documents before the loan may be disbursed.

KEY CONSIDERATIONS IN ANALYZING A LOAN GUARANTEE APPLICATION

DOE takes its responsibility to protect the US taxpayer seriously. DOE's review of each application includes a thorough review of all financial, technical, legal, environmental and other relevant data. DOE's internal review is complemented and supported by outside technical, legal, and financial consultants. Based on the results of this analysis, DOE identifies key risks and works diligently with applicants to mitigate those risks to the extent possible. There are a number of financial and technical features that help distinguish strong applications with respect to meeting eligibility requirements and creditworthiness.

Financial Attributes

- Ability to service the debt from operation cash flows.—A critical component of any debt transaction is the ability of the project to repay the debt on agreed upon terms from operating cash flows. Applicants can prove this ability by showing strong contracts with both their intended suppliers and consumers. These contracts may provide a reliable source of raw materials for the project, or may take the form of revenue contracts such as off-take agreements for generation projects or purchase orders for manufacturing projects. Applications that do not include such agreements, even in draft form, may not be compared favorably to those that do. The strongest applications will provide agreements with third-parties that also have strong credit profiles for a term that exceeds the proposed tenor of the loan.
- Simplicity rather than complexity.—A project that has numerous credit instruments, an abundance of sponsors, a complex proposed capital structure may have strong economics, but should be prepared for a longer period of due diligence based on its complexity. Conversely, projects that have strong equity participation that pledges to be involved in ongoing project operations, straight amortizations and relatively quick paybacks, improve project transparency and can speed loan processing.
- Clear, flexible, well-defined financial model.—A demonstrated ability to forecast the financial performance of a project both during construction and operation is critical in DOE's evaluation of a project. Each model should include supporting documents that offer a thorough explanation of the assumptions underlying the model and a robust ability to change those assumptions to test sensitivities within the model. Although each project will have different characteristics, an example of key elements in the financial model include the following:

  —Detailed construction budgets—applications that do not provide detail for the construction phase of their project typically fail to contemplate the total cost of the plant as a single item, may fail to provide for reserves or contingencies, and often face an increased risk of cost overrun.

  —Identification of resources—Strong applications clearly identify and account for all resources necessary for their projects to become fully and profitably operational, including capital goods, raw materials, O&M requirements, and decommissioning. o Market and competition—The model should also provide information on the intended market for their products and detailed information on potential and existing competitors in those markets. This information should include assumptions around market sizing, average prices, market segmentation, and both historical and projected macro and micro economic trends that may affect the intended market.

  —Proposed capital structure, including sources of equity—A strong financial model will also detail the intended capital structure of the proposed transaction and will identify the proposed sources of equity for the project. The model should show a capital structure that is fully able to support the project, irrespective of DOE's involvement with a loan guarantee. Equity is a piece of this capital structure, and therefore significant equity participation is a requirement for all projects in the Loan Programs. Each applicant should clearly substantiate each source and the terms behind their equity support.

- Proven leadership by management.—Each applicant should have a management team that can demonstrate successful relevant experience for their project. This experience may include operating within the project's development stage, industry/technology sector, or intended markets and regulatory frameworks. Projects

that show seasoned, successful, relevant experience will be viewed more favorably than those that do not.

- Strong development and operational relationships.—Another key component for each project is the contractual relationships with the partners that will help design, develop, construct and operate the project. Strong EPC (engineering, procurement, and construction) and O&M contracts (operations and maintenance) often provide for liquidated damages and performance guarantees by the contractor, which reduces the risk of default by the borrower. While strong EPC and O&M contracts may not be included in every project, an application that lacks these elements may be deemed weaker than comparable applications in a given technology that includes these agreements.
- Intellectual Property.—Strong applications will demonstrate both clear rights to the intellectual property necessary to implement the project, and an understanding that such rights must be assigned to DOE as collateral in the event of default. By assigning the IP rights to DOE in a default scenario, DOE may continue operating the project at its discretion, which mitigates some of the default risk associated with a particular transaction.
- Site selection, permitting and environmental review.—Applicants should identify the potential sites for their projects, as whether the site is on public or private land can affect the federal nexus with regard to environmental reviews. Applicants should also demonstrate control over project site(s), or document the steps necessary to assume control. In addition, applicants should fully meet all permitting requirements, particularly those of NEPA (National Environmental Policy Act) and all state, local, and tribal authorities. The timely acquisition of the relevant federal, state, local, and tribal permits may be needed to implement a project within their projected timelines. More guidance on NEPA and the environmental requirements for loan guarantees may be found on the Program website at (http://loanprograms.energy.gov).

Technical Attributes

- Pilot / Demonstration Data.—In general, applicants proposing innovative projects should be able to submit a minimum of 1,000 to 2,000 hours of operating data from a demonstration facility that uses the same technology as proposed in the project application.
- Engineering reports.—Strong applications include an engineering report that discusses the technology in the specific context of the proposed project, rather than a report that addresses the technology only generally.
- Technological advantages.—Applications required to satisfy section 1703 should discuss and highlight how the technology, as proposed in the project, constitutes a new or significant improvement over existing competing technologies in the commercial marketplace today.
- Mitigation of technology risk.—Strong applications, particularly those proposing innovative projects, will discuss how to mitigate technology risk. They will present alternative scenarios in the vent that critical technologies fail or do not perform as expected (e.g., warranties, production or performance guarantees, performance bonds, etc.).

CHALLENGES FACING THE LOAN PROGRAMS

Despite the improvements referenced above, we are aware that there remains frustration in the Congress and in the private sector that the programs move too slowly. While we have made significant improvements, we continue to work to simplify the process and complete deals more quickly. However, there are a number of factors that affect the timeline. Some of these constraints are inherent to the types of deals that we do, while others are programmatic or statutory in nature.

First, the deals processed by the loan programs are often large and complex, sometimes involving billions of dollars and an array of diverse parties. As a result, to ensure necessary protection of taxpayer resources, significant due diligence and negotiations are required. Indeed, even in the private sector, the due diligence and negotiations surrounding such transactions are measured in months, not weeks. The renewables projects for which LPO has issued conditional commitments have an average total project cost of over $600 million—and this does not include the multibillion dollar nuclear projects for which we have issued conditional commitments under 1703. Moreover, as government lenders, the projects we support must, unlike those financed in the private sector, also meet NEPA, Davis-Bacon, and other regulatory requirements and guidelines.

Second, as a loan guarantor, DOE is only one of several parties to each transaction. At each stage in the process—from due diligence to negotiation to closing—we require the cooperation of the borrowers, the project sponsors, various other

project participants, and, in some cases, other lenders. Not surprisingly, the parties often have separate interests that are not perfectly aligned, and any one party can slow down the process significantly, if it so chooses, or if contractual, legal, or other obstacles, outside its control, arise.

PENDING LEGISLATIVE PROPOSALS REGARDING THE LOAN PROGRAMS

I would like to touch briefly on potential legislative changes that could improve our Loan Programs. The Administration has proposed several changes which we believe would facilitate better program execution. Specifically, the Administration supports legislation that would:

- Provide that subsidy costs for modifications to title XVII loan guarantees can be paid from a combination of borrower payments and appropriated funds.
- Expand the 1705 program to include energy efficiency technologies and systems.
- Permit project applicants and sponsors to submit more than one application for a given technology under 1705. This amendment will broaden the pool of projects eligible for the program—which is consistent with the stimulative intent of 1705.
- Clarify that an eligible project may be located on two or more non-contiguous sites in the United States. Some phased, or bundled, projects do not apply for the programs under the mistaken belief that they are ineligible. This change will provide assurances to the sponsors of such projects and remove a perceived application barrier that has proved problematic.

CONCLUSION

Over the last year and a half, the Department's Loan Programs have started delivering on the promises Congress made in creating and funding them. We are making a serious contribution to our clean energy goals, and we look forward to continuing that trend. That being said, it is important to recognize that the loan programs represent only one of a variety of potential approaches to providing federal support for clean energy. Moving forward, we must think about enabling private sector clean energy financing in a comprehensive manner, ensuring that our limited resources are deployed in the most effective and coordinated manner possible. Only then will we be able to create an environment where the private sector will invest in clean energy technologies at the scale needed to reach our national clean energy goals.

Thank you again for inviting me here today, and for allowing me to submit this statement for the record. I look forward to responding to your questions.

The CHAIRMAN. Let me start with a few questions. One of the issues that has been raised when we've had other hearings on this is the comparison of this Loan Guarantee Program to what we have already in place with OPIC, the Overseas Private Investment Corporation, with Eximbank and with the Department of Agriculture. It seems as though the involvement of OMB in reviewing the loans made by those other agencies is substantially less than it is in connection with the loans that your office is trying to guarantee.

What is your understanding of the difference in OMB involvement? Any difference that does exist how can it be explained or justified?

Mr. SILVER. Thank you, Mr. Chairman, for that question. I should say first that I am not an authority on the mechanisms by which OMB and the Export/Import Bank and OPIC do their work. But I will say that my observation is that those programs are of much longer standing than ours and consequently some of the growing pains that perhaps we have experienced in this process have already taken place.

Ours is a new program, and as such, we have worked hard to streamline our own activities and the activities of the interagency processes as well. We do the work on the transactions and then work with OMB and other agencies to review those projects be-

cause the Federal Government as a whole has a strong fiduciary obligation to the taxpayer and the interagency review process is used to ensure that that work is done properly.

The CHAIRMAN. To get down to a specific, in my state there's a company named Sapphire that has made application for a loan guarantee to the Department of Agriculture for an algae based production. They'll soon break ground on a commercial facility. As I understand it USDA has provided a loan guarantee to the company and they were not able to access anything similar from the Department of Energy.

Why would that be? Can you give us any comparison there as to, again, why your office is unable to provide assistance to that kind of project where the Department of Agriculture is able to?

Mr. SILVER. I cannot speak specifically to any individual transaction that we may or may not have in house, but I will say that we share a common set of objectives with the Department of Agriculture in issuing loan guarantees. However, we do have certain programmatic differences between the 2 programs and we examine projects somewhat differently.

Among the features I would point out that are unique to the programmatic mix here is that we must ensure that each of the projects that we fund has a reasonable prospect of repayment and it is one of the items that is of significance as we evaluate projects.

The CHAIRMAN. I think you also, in your testimony, you mention that before deals are presented to the Secretary there has to be a review consistent with statutory requirements. Title XVII requires consultation before a loan can be issued. The Federal Credit Reform Act charges OMB with coordinating cost estimates.

Is there some other statutory requirement that brings about the increased scrutiny of OMB in these areas that I'm just not aware of? Those are the only 2 so called statutory requirements I'm aware of.

Mr. SILVER. No, Senator, I think you are completely correct. The statutory requirement for review focuses principally around the final assessment of and calculation of the credit subsidy cost and our analysis of it. Historically, we have worked, perhaps more closely, within the interagency process, earlier in that process. As we have stood up this program, a number of policy issues have arisen through the work we have done on projects. It has been, I think, wise for us to ensure that we could reach agreement across agencies as to how we would proceed.

The interagency process does, from time to time, include queries which do affect cashflows in and out of the Federal Government. So in that respect OMB would have a role to play. But you are correct in pointing out that there is a more active interagency process here than perhaps a statutorily required.

The CHAIRMAN. Senator Burr.

Senator BURR. Mr. Silver, thank you for your testimony.

In that opening statement you stressed not only the importance of the loan guarantee program but specific projections on what the need is for us to accomplish this transition. Now, the temporary section 1705 program created in 2009 was funded with $6 billion. Since that period we've diverted $2 billion to Cash for Clunkers.

We've diverted 1.5 billion to the State Bailout bill which leaves just $2.5 billion in that original fund in 1705.

Does the Department or the Administration intend to request a refill for part or all of the funding that's been taken out of section 1705 program?

Mr. SILVER. We have resources in hand now, Senator, sufficient to process the applications that are in the pipeline and robust applications that we expect to come in. It will not surprise you to learn that there are more applications in the larger applicant pool than for which we have resources. We are working with the White House and with Congress to figure out the best ways to address those issues as we go forward.

Senator BURR. Given the types of projects involved in the program and the length of time it does take for new applications to be considered, do you believe that such appropriations should qualify as emergency funding?

Mr. SILVER. I believe that the projects that we are funding and will fund in the future are of critical importance to the future of the American clean energy economy. They create large numbers of jobs. They have meaningful impacts on our environment.

I would like to respond later, if I may, to you in writing, sir, with respect to whether or not that would qualify as an emergency funding requirement.

[The information referred to follows:]

The Administration believes that honest budgeting is a key to fiscal discipline and that the bar for emergency funding designations should be a high one. The Administration also believes that the projects that have received financing through the Loan Programs Office will have an important and positive impact on our clean energy economy, in terms of job creation, economic competitiveness, energy security, and our environmental legacy, and continues to support clean energy through the regular budget process. The Administration is monitoring the Loan Guarantee Program and will continue to seek appropriate funding levels to ensure the program can achieve its objectives.

Senator BURR. I only asked the question because you were very specific about one, the importance of the program.

Two, the future funding needs given that we have that degree of clarity I think it's important that we understand this is probably than a line item of our budget and not necessarily an addition to a supplemental bill.

Let me just ask you, have you personally had conversations with OMB relative to additional funding needs?

Mr. SILVER. We speak regularly with all of our interagency partners on the projects in the pipeline and the cash requirements that will be required to support them, yes.

Senator BURR. Has OMB to date rejected any request for additional funding to the program?

Mr. SILVER. These are ongoing discussions and we are trying to figure out the best path forward.

Senator BURR. But have there been specific requests for additional funding from OMB by the Department?

Mr. SILVER. The budget process is an ongoing process, as you know. The FY11 submission is here. I think it reflects the joint considered opinion of both the Department and the Office of Management and Budget. The FY12 budget is under discussion.

Senator BURR. So one could conclude from that that if the '011 budget were passed based upon what the request was there would be no additional need for funds in section 1705?

Mr. SILVER. As I said before, Senator, there are more applications in the pool than we have resources to fund at this point.

Senator BURR. I realize that but you—with ongoing conversations at OMB you reverted back to the 2011 proposal is here. It has yet to be acted on by Congress therefore I assume that the '011 proposal took into account all the applications and all the needs that you thought you had for the 2011 budget.

Mr. SILVER. I think the FY11 budget reflects the President's priorities.

Senator BURR. Mr. Silver, it's now been 5 years since the first of the Department's Loan Guarantee Programs were created. In that time, as you said, a total of 14 conditional guarantees have been given and 4 loans have actually gone out the door. Can you help by naming for us the top factors, in your view, that have caused the greatest slow down in the distribution of loan guarantee funds under the 2005 Energy bill, section 1703?

Mr. SILVER. The process by which we review applications does not differ substantially between 1703 and 1705, although there are different policy objectives and different programmatic objectives.

To summarize we take each application received through a solicitation through an intake process, review it for eligibility, conduct early due diligence, ask applicants for additional materials, and conduct a more robust due diligence which includes technical, legal, financial, market and other kinds of issues, which leads to a negotiation process, which if successful and mutually agreeable, leads to taking an application through the approvals process.

There are challenges in each one of those activities.

Initially the intake activity took us about 3 to 4 months. We have been able to bring that down into the one to 2 week timeframe through some of the changes I outlined in my written testimony.

The due diligence process takes a certain amount of time and is driven, to a certain extent, by the complexity of the transaction itself and by the uniqueness of the underlying technologies.

The negotiation process is driven principally by the variety of and number of stakeholders at the discussion. We are but a counter party in those negotiations, but to the extent that projects are robust and do not need to be redesigned, which is yet another element in the time it takes, we can move relatively quickly through to an approval process.

In the approval process, as I alluded to earlier in response to the chairman's questions, there is an interagency process that reviews these transactions for any policy issues that may arise, as well as to ensure that the transactions are as robust as we can make them.

Once through the approval process, they go for a final recommendation of approval to the Secretary. But that is actually the issuance of a conditional commitment, not the loan guarantee itself. Very frequently in these transactions and this is also true, based on my experience in the private sector, there are what we call CPs or conditions precedent to a financial close. These are items that the applicant must accomplish or achieve before we can reach financial close.

The easiest example I can give you, Senator, is that when we would make a conditional commitment to a nuclear power project, one of the conditions precedent to a final close is the issuance of a permit by the Nuclear Regulatory Commission. So there is an extended period of time, whatever it is, that is required until those CPs are met. Assuming the CPs are met, there is a good deal of legal documentation that then flows back and forth before the issuance of the loan guarantee.

We have been able, over the last 10 or 12 months, to drive that process down for what I would describe as relatively straight forward transactions to about a 5 to 6 month timeframe. Any complexity adds another level of diligence and of transactional interaction, if you will, which would cause an extension of that. That is one of the reasons that we spend as much time as we do now, during the intake process, helping candidates identify the best kinds and strongest kinds of proposals.

Senator BURR. Thank you. Thank you, Mr. Chairman.

The CHAIRMAN. Senator Wyden.

Senator WYDEN. Thank you, Mr. Chairman. Mr. Silver, thank you for meeting with me. I'm going to reflect a number of the same concerns we talked about.

You can have a debate about whether there ought to be loan guarantees and whether you ought to have the program. But what all sides can agree on, I think Senator Burr touched on it as well, that when you're going to have them, you need a process that is transparent and coherent. It seems to me we've got a long way to go to get that in place.

Particularly you can't have different people saying different things, which is what has happened at the Department particularly with the project you and I have been discussing in Eastern Oregon at Shepherd's Flat. This will be the world's biggest wind farm, not the biggest in the United States, the biggest in the world. I'm particularly concerned about some of the permitting issues that have arisen so that we can understand what the policy is going to be at the agency with respect to permitting.

When Shepherd's Flat ran into some issues with respect to siting, they were resolved. They were with the Department of Defense, as you know. It's our understanding that the Department simply stopped working on the project's loan application.

Now you're from the private sector, great qualification for this job. You know time is money. Stop working costs money.

Instead of going ahead and making sure the loan package was ready to go when these issues were resolved and they were. The Department just stopped working and the company just sort of stands there in suspended, you know, animation. The reason I ask this, it's my understanding that on other projects financing did move forward even before all the permits were resolved.

So I'm left having the prospect of additional efforts, as you know with renewable energy, to try to explain to constituents how the country isn't going to have a double standard with respect to permits. That some permits get to go forward expeditiously, excuse me, some financing gets to go through forward expeditiously even before all of the issues are resolved and others are held up. So could you lay out for me, so that everybody's going to understand

what the standard is with respect to permits and how that affects your process of going forward?

Mr. SILVER. Yes, Senator. Thank you. Let me take your question in the order in which you asked it.

We completely agree, and we share your concern about and desire for transparency. We have done a lot in the last year to ensure that the program is as transparent as possible.

We meet regularly with companies, as you know. We meet regularly with constituency groups and others that are interested in the program. We have a brand new Web site that has gone up this week that provides for anonymous feedback about the program, and many of the changes that we have implemented have been the result of an ongoing dialog with stakeholders. By definition, applicants know where they are in the process with us post the part one filing because we are in negotiations with them and talking to them and meeting with them on a regular basis.

I would also say that the solicitations under which an applicant applies clearly spell out the mechanics by which, and the criteria by which, we will judge the applications in that particular solicitation. So we do everything we possibly can in accordance with the solicitation language to ensure that every candidate and every applicant is treated not only fairly, but in exactly the same way. Unique projects have unique features and unique circumstances. While I can't speak to the specifics of any individual project, I can say that we make every effort to ensure that projects move as quickly as they possibly can.

One of the things that can hold projects up relates to permitting. Permitting has different levels of degree of impact, if you will. Among the many things we've done to ensure that the permitting, as a mechanism, is not a problem is to streamline our own NEPA process.

We have designed MOUs with BLM's, California and Nevada arms in order to speed up and facilitate those reviews, and we do everything we possibly can to ensure that nothing can get in the way of a transaction moving forward. In fact, I would make reference to my prior comment about conditions precedent. Very frequently we now build transactions in such a way that, while the successful completion or receipt of a permit is a condition precedent to a final close, an applicant is still permitted to receive a conditional commitment in advance.

Senator WYDEN. My time is up. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you. Senator Udall.

Senator UDALL. Thank you, Mr. Chairman. Good morning, Mr. Silver.

Let me turn to some testimony, written testimony that will follow yours. Mr. Fertel, who is here representing the Nuclear Energy Institute, he criticizes the one size fits all methodology for determining the credit subsidy cost. In particular he takes aim at the recovery rate used saying that the recovery rate chosen, 55 percent, is an arbitrary number and has no basis in actual market experience with financial structures.

He believes that the methodology used by the Executive branch, by the DOE, inflates the credit subsidy cost well beyond the level required to compensate the Federal Government for the risk taken

in providing a loan guarantee initially. Can you respond to that, I think, legitimate concern?

Mr. SILVER. Let me take a step back, Senator, in attempting to answer your question and describe for a moment the credit subsidy cost mechanism itself.

Credit subsidy cost is, to a certain extent, an insurance premium paid which represents the potential for the recovery of a default at the period at which it occurs on post-default cashflows. As a result, it needs to identify and include and incorporate both what I would call preconstruction risks, as well as post-construction risks, and it needs to do that by looking at internal risk rates and recovery rates.

As a result, the recovery rate is a part of the overall algorithm that drives the credit subsidy score, and I will also say that it is an important part. The use of an anchor rate of any kind is actually a good idea and is regularly used in the private sector as a way to ensure that projects of similar shape, kind, size and complexity, start from a common baseline. Typically what happens then is that projects are notched up or notched down on the basis of unique features of a particular transaction.

The goal is to ensure that an anchor rate is both flexible enough to be used by a generic set of projects and yet specific enough to a particular sector that it is a meaningful base from which to notch. As we look at many of the ways we can continue to improve and address challenges in the program, one of the things we should be looking at is the constant effort to improve and upgrade our models and the inputs to those models, and certainly a recovery rate would be part of that.

Senator UDALL. I appreciate the care with which you are focused on taxpayer dollars. I also would agree with Senator Wyden, time is money. The nuclear industry is eager to prove that they can build projects and provide base load power as we look for more carbon reduction in our emissions. So anything that can be done to respond to the concerns that Mr. Fertel is going to talk about later, I would really appreciate it.

Mr. SILVER. I appreciate that. We have, as you know, provided financing for the first nuclear power facility in the last several decades. It is common knowledge that there are a number of other projects that are in active due diligence in our pipeline, and I am hopeful that we will be able to reach resolution there in one fashion or another in the near term.

Senator UDALL. Let me turn to the 1603 cash grant program. Mr. Meyerhoff, who is here representing First Solar, he'll recommend a lining that 1603 cash grant program with a loan guarantee program. Could you comment on that? Do those programs currently interact?

How could they be improved or how could we better encourage that kind of energy development?

Mr. SILVER. First I think it's important to say, Senator, that 1603 is not a program that the loan guarantee program administers directly, and so we have no direct authority or responsibility for that. That being said, it is also true that the vast majority of our applicants are interested in and/or have made application for

or qualify for 1603 grants, and those are often integral to the projects that they are interested in undertaking.

We are highly sensitive to the timeframes with respect to 1603, and have continued to make some additional changes in order to move as many projects through as possible. There are several mechanisms by which an applicant can qualify for a 1603 grant, only one of which requires the closure of the Loan Guarantee Program's activities to the extent it is relevant to that transaction.

They can also purchase goods and services equal to a specific percentage of the project in hand. But it is a time deadline that is of great urgency and great importance to our applicants. We are very keenly aware of it.

In all honesty Senator, if there are candidates whose applications rest on 1603, and 1603, in turn, for some reason rests on a loan guarantee, they would be well advised to ensure that they are not only working with us, but looking for alternative sources of potential financing as well. We will do everything we possibly can to move the applications that are now in the pipeline through the process in a timely fashion, but there are more applications than that behind them.

Senator UDALL. Thank you.

The CHAIRMAN. Senator Shaheen.

Senator SHAHEEN. Thank you, Mr. Chairman.

Mr. Silver, as you pointed out this program for a number of years was moribund in terms of the number of loans that—guarantees that it provided. So I appreciate the leadership that you've shown and the fact that there are actually projects now that are being guaranteed and going out the door. However as you also acknowledge there's still an incredible amount of frustration out there among companies that have great ideas, good business plans that are operating and could really use the kind of assistance that this program can provide.

One of those companies in New Hampshire has raised a concern about a particular sector of new energy technologies. It has to do with DOE's interpretation of the phrase, "reasonable prospect of repayment." It's been cited as a need for project developers to have a fixed price, long term off-take contracts.

What I'm hearing from folks in the biofuels industry is that this has created a bias against biofuel projects because unlike the power sector, this type of contract doesn't really exist in the liquid fuels marketplace. So have you thought about how to handle these kinds of projects and whether DOE can take a different approach that might improve the Loan Guarantee Program for biofuels projects?

Mr. SILVER. Day and night. Yes, Senator, thank you. You raise the very important question of how to address emerging technologies whose business ecosystems, for lack of a better phrase, either do not fit the traditional model or have not yet evolved to fit the more traditional model.

We have, as you know, received a number of biofuels applications through the various solicitations. I think as many as 15 percent of the applications we have received are in and around the biofuels space. No one is keener than I, and I speak for my organization as a whole, to find ways to make these projects possible.

You have identified, and so I won't repeat, the challenges that these projects face. But project finance is a very narrow and very specific kind of financing tool, which requires, in order to meet a hurdle of a reasonable prospect of repayment, at least some visibility into the cashflows which will serve to handle the repayments against the amortization schedules. In an industry in which there is both commodity price risk, because what is being produced is essentially a commodity, and, as you identified, no long term off-take agreements, it is hard to make those jive.

We have met regularly with the biofuels industry and industry leaders, as well as with companies and applicants in our portfolio, in an effort to find ways to ensure or to facilitate our ability to do that. We are working with industry leaders now on challenges around volumetric guidelines and other things in an effort to make that happen. I will say that a reasonable prospect of repayment does not require a complete visibility in repayment, but it requires some visibility in order to match those cashflows.

We are also working in a joint agency effort with the Department of Agriculture, and looking at ways that we may be able to streamline those projects as well. I should say also that we have one or 2 biofuels projects in advance due diligence now, and I am cautiously optimistic that we will be able to issue a loan in this area in the relatively near future.

Senator SHAHEEN. Good. Certainly if there's any way that we can be helpful with that, I think we would be—a number of us on the committee would be very interested.

Another concern that I've heard from companies is that some of the requirements are duplicative and one sided. In particular is the fact that when they're entering into the application process they have to hire engineers, financial consultants, various people as independent contractors to verify what they're doing. Then when they get to the due diligence phase of the project, they have to rehire those folks and are concerned about whether there's any way to streamline that—those outside costs.

Mr. SILVER. The issue of cost, I know, is on everyone's mind and is particularly relevant to smaller companies, and to the extent that you are referencing biofuel companies, which tend to be smaller, those fees are important as well. I need to point out that the program is a self-sustaining program and a net zero cost program for the Federal Government. So, as a result, we are required to assess fees in order to provide our work, our services.

I will say that by comparison with the private sector and the fee schedules that I am aware of, and I think am aware of most them in the private sector, these are roughly comparable for projects of roughly comparable size. That comment does not address your redundancy question.

Senator SHAHEEN. Right.

Mr. SILVER. We are working on ways of bringing the due diligence process into a more coherent process even as we speak. I agree with you that there has been some redundancy in that process. The need to hire outside consultants is actually driven, to a certain extent however, by our need to ensure that each project is competed fairly.

Senator SHAHEEN. Right. Mr. Silver, I probably wasn't clear. It's not the need to hire those consultants, it's the redundancy issue that has been raised with me. You acknowledge that that is a concern. So hopefully you will continue to work on that.

Thank you.

Mr. SILVER. You have my commitment.

The CHAIRMAN. Senator Stabenow.

Senator STABENOW. Thank you very much, Mr. Chairman. This is a really important hearing. So thank you very much for bringing us together.

Mr. Silver, thank you for the work that's been done. I mean, you really—this Administration has really taken a program that wasn't moving at all and has begun to move it. That's very, very important.

As we are all indicating though and I know you realize this, there's a lot more to do. There's a lot more potential. There's a lot of jobs and new technologies.

One of the things that I'd like you to speak about in coming to this from the private sector and talking about comparable fees in the private sector or you know, looking at credit ratings and so on is how we really balance the need, of course, to have the taxpayers' interests protected. But have something that isn't just the private sector because if it's exactly like the private sector we don't need it frankly. I mean that's—bottom line is that and I speak particularly from manufacturers right now who are unable to achieve investment grade credit ratings because of the effects of the recession.

I'm in a position right now where, you know, they are being turned down for loans that frankly involve technology that is a little more risky than what they could get the financing for in the private sector but reflect exactly the goals of what we are trying to do in terms of jump starting, commercializing these kinds of technologies and creating the jobs of the future. So, I'm wondering a couple of things. In order to mitigate the risk and advance clean energy technologies how much flexibility do you feel you have in that area in terms of really, you know, the credit rating issues and so on to be able to deal with risk?

Also, it's my understanding that DOE also provides guarantee rates that are below the statutory 80 percent maximum which can prevent applicants, especially manufacturers, from obtaining the credit they need to move the project forward. So can you advise me whether the decision on the level of loan guarantee percentage to be offered is made by DOE or OMB?

Mr. SILVER. Thank you, Senator. A slew of questions I will try to address sequentially.

With respect to your first concern, or an overarching concern perhaps, about constraints, I think this actually also would relate back to my earlier answer to you, Senator.

Senator SHAHEEN. Right.

Mr. SILVER [continuing]. One of the fundamental differences between this program and the mechanism or the mechanics by which the private sector would make a set of investments is that the mandate that each project have a reasonable prospect of repayment causes us to treat each project on a stand alone basis.

In the private sector, as I think you will hear from the later panel, particularly those who are involved in the private equity part of the next panel, will talk to you, I'm sure, about portfolio theory and portfolio management theory which is the ability to balance gains and losses in a portfolio across the range of projects in that portfolio. What we are producing in the Loan Guarantee Program looks like a portfolio but is in fact an amalgam of individual projects. What we lack, therefore, is any beta in the portfolio.

So one of the fundamental changes/differences between the 2 is the ability to look across your portfolio, to manage risks in the portfolio which causes you, by extension, to be able to take certain kinds of more aggressive postures when you know what the shape of your portfolio looks like.

You asked also about manufacturing. Let me offer one perhaps misimpression. An investment grade rating is not required for applications, except in the FIPP Program.

In the FIPP solicitation, a subset if you will of the 1705 solicitation, it is required because those are lender-sponsored investments rather than equity sponsored investments. These are transactions that come in through lenders themselves, and so the investment grade criteria there drives the lender decisionmaking as much as it drives ours. But an investment grade rating is not required in any other part of our application process.

It is true that we have statutory authority to go to 80 percent, and it is also true that we have done so. To the extent that your interest or question focused, however, on manufacturing, typically, and this is true in the private sector as well, you would not see coverage ratios that high. You would not see guarantees at that level. Typical manufacturing coverage ratios are in the 40 to 60 percent range. We have, to a certain extent, mirrored our behavior against private sector best practices.

Senator STABENOW. I realize my time is up, Mr. Chairman, but just on that point. Again, I didn't realize that we were marrying the private sector as we put forward these programs. Because, again, the question is then why don't we just use the private sector.

I thought there was a gap and in fact I know there's a gap that we are trying to fill that is different. So the reason we put in the 80 percent was to be different, to create—to be willing to take on a little more risk because of the jobs, because of the need to move in this new direction, because the financing wasn't available. In fact in the chairman's legislation that we passed out of here creating a whole new clean energy development authority was to do commercialization because there's not a willingness to finance the first commercialized product, the fifth maybe, the fourth maybe, but not the first.

So, so I would just urge you that—and Mr. Chairman, I think it's just really important discussion to have about the role of DOE verses the private sector because by definition we are taking on more risk. Because of a public need to move into a new area of the economy to create jobs. So, I think this is an ongoing discussion we really need to have.

Thank you, Mr. Chairman.

Mr. SILVER. Senator, you raise a very important point, and I will take it as a personal responsibility to go back and review our work

in this area to ensure that we are providing as much capacity as we can. I would only respond by saying that when I use the word mirroring I meant from a range perspective.

In point of fact, we are undertaking and underwriting transactions that the private sector would not touch at all because they are inherently risky by virtue of being first to market; these are innovative kinds of projects that wouldn't get financing elsewhere.

The CHAIRMAN. I would just underscore the point that Senator Stabenow made. I do think the whole idea behind this loan guarantee was to have the government come in and take on risk where the private sector was not willing to. By doing so encourage companies to manufacture and create jobs here rather than being enticed to go somewhere else to manufacture and create jobs. I think that's our goal here in the Congress as I understand it. I hope we can see this program fulfilling a larger role in accomplishing that in the future.

Senator Burr, did you have additional questions?

Any other? Senator Shaheen.

Senator SHAHEEN. It's not really a question. But it is to go back to a point that you raised and several other people raised about the role of OMB as in approving these loan guarantees. I would hope that as a committee we could take a very hard look at that. If there's something that is taking longer about that process than in some other programs, as you pointed out, that we would try to get to the bottom of that and see if we can't expedite that process so that the Loan Guarantee Program and DOE can go forward.

The CHAIRMAN. I agree.

Senator Stabenow, did you have another point?

Senator STABENOW. Yes. Thank you, Mr. Chairman, I did on that point.

In fact it's my understanding that the Energy Policy Act that we passed in 2005 which established the original DOE Loan Program did not require OMB to review loan guarantee applications. But that the Federal Credit Reform Act of 1990 directs OMB to coordinate the cost and estimate of a loan guarantee. So given that difference is it OMB or is it DOE that decides whether the applicant's credit is too risky or too costly to accept?

How do we reconcile that?

Mr. SILVER. It is the Department of Energy's Loan Programs Office that determines through the Loan Guarantee Program which applications pass from Part One to Part Two, which go through due diligence and what the negotiations of the underlying transaction are. As part of that process our credit team develops an assessment of what the likely credit subsidy score, or specifically in this case our credit subsidy range would be called a Gate Two range, would be as part of that process before a conditional commitment. We do interact, you know, in the interagency process before a conditional commitment to ensure that we have flushed out all the public policy issues that may be of relevance in any particular project, and also to understand, I think, on an interagency basis that we have designed and built the best possible project that we can.

But it is an advisory role that other agencies serve. The Office of Management and Budget has a statutory role, as you point out, in the final calculation and determination of that credit subsidy

score at financial close, and we engage with them again there as those conditions precedent are met.

I did speak a little earlier to this point, and I would like to underscore it again, that while I think there have been some growing pains in this process, we are working to fix them inside our program and in the interagency process as well, and I think we are making very good headway.

The CHAIRMAN. Senator Burr has another point.

Senator BURR. My colleague has stirred an answer from you that I understood. But I've got to ask you to answer it specifically. Does OMB have the ability to trump a recommendation for a loan guarantee that the Department of Energy is after?

Mr. SILVER. The Secretary of Energy awards loan guarantees and——

Senator BURR. Does he require—is he required to get OMB sign off on any loan guarantee?

Mr. SILVER. That's a yes and no answer, Senator, I'm afraid in the sense that there is a meaningful and important role that OMB plays in the review of and calculation of final credit subsidy score——

Senator BURR. Mr. Silver——

Mr. SILVER. That's required.

Senator BURR. I understand the interagency process, but and I'm not suggesting this is limited to this Administration. It is my understanding that OMB has the ability to say no. Is that your understanding?

If so, the loan guarantee does not go forward?

Mr. SILVER. We have never run into that situation. This is an active discussion and dialog that takes place on an interagency basis.

Senator BURR. Ok. Thank you.

The CHAIRMAN. Mr. Silver, thank you very much for your testimony. We appreciate it. We will remain in touch and continue to work with you to try to see that this program that you administer works as well as all of us want it to.

Mr. SILVER. Thank you, Senator. Thank you for your time.

The CHAIRMAN. Ok. Why don't we bring the second panel forward?

Tim Newell, who is Senior Advisor with U.S. Renewables Group in Santa Monica, California.

Jens Meyerhoff, who is President of the Utility Systems Business Group with First Solar.

Michael Scott, who is the Managing Director of Miller Buckfire and Company in New York.

Marv Fertel, who is the President and CEO of the Nuclear Energy Institute.

Thank you all for being here. Why don't we start with you, Mr. Newell?

If you could, each of you give us 5 or 6 minutes of your, sort of summarize your testimony for us. We'll include your full testimony in the record and then we'll have some questions once we've heard from all the witnesses.

Mr. Newell, why don't you go ahead?

STATEMENT OF TIM NEWELL, SENIOR ADVISOR, U.S. RENEWABLES GROUP, SANTA MONICA, CA

Mr. NEWELL. Mr. Chairman, thank you. Thank you to the members of the committee for the opportunity to testify today on an issue that we think is vitally important to the renewable energy industry.

My name is Tim Newell. I'm Senior Advisor to the U.S. Renewables Group where I also serve as Managing Director for the USRG Renewable Finance.

USRG is a private equity firm that focuses exclusively on investing in renewable energy. Based in California, USRG is a leading investor in companies that develop, build and operate projects in both the fuels and the power fuels that produce clean, renewable energy and in the infrastructure that supports that production. Our investments cover a wide range of renewable technologies including solar, wind, geothermal, biomass, biofuels, hydropower and energy storage. Collectively our portfolio companies are either operating renewable energy facilities or in development of renewable energy facilities in over 30 states across the country right now.

I'm here today because we believe the Department of Energy's Loan Guarantee Program is a crucial part of U.S. energy policy and as well as an important component of our country's overall economic policies particularly with respect to supporting a U.S. competitiveness in world energy markets.

USRG has a significant amount of firsthand experience with the DOE Loan Guarantee Program. We participated both with the original section 1703 program as well as with the more recent 1705 program and both with the innovative program and the commercial program or FIPP. I believe that we've been in position to see and experience both the programs challenges as well as its considerable promise.

In every economy energy is a critical resource. Is regulated and subsidized by governments, all forms of energy. In the U.S. in addition to the Loan Guarantee Program our main policy mechanisms for supporting renewable energy development are tax credits that serve to lower the cost of developing and operating renewable energy facilities, supply site incentives essentially. While state level renewable portfolio standards and to a less extent state level fuel standards combined with a national renewable fuel standard to increase demand for renewable energy.

There are however 2 areas in which there are glaring deficiencies and which add to deter investment in renewable energy.

The first is a specific policy deficiency. The lack of a national renewable electricity standard to provide a predictable national market for renewable power production in the United States, that is a problem that we believe could and should be fixed and would urge Congress to move as expeditiously as possible to do so. We appreciate your leadership in that, Mr. Chairman.

The second is a more systemic problem is the on again/off again nature of U.S. renewable energy policy in which investors see policy supports put in place and either withdraw it or allow it to expire. To see the impact this kind of policy reversal on renewable energy markets, we need only to look at the U.S. biodiesel industry which has been severely damaged over this last year by the failure

of Congress to extend the dollar a gallon biodiesel tax credit after it expired at the end of 2009. The result is that the growth of this important renewable fuel sector was halted and more than 20,000 green economy jobs were put at risk. This should not have happened. Congress should act immediately to restore that credit.

Looming on the horizon is a similar threat though much larger in scale. Since it was put in place in 2009 the section 1603 Treasury Grant Program in which grants are provided in lieu of tax credits for investments in renewable energy production facilities has been an extremely effective program. An extremely effective mechanism for attracting private sector investments in clean energy projects in the U.S. Yet without further Congressional action this section 1603 Treasury Grant Program will expire at the end of this year. Again changing the financial equation for renewable energy projects across our nation at a time when economic conditions are still acting as a headwind for this industry, which brings us back to the Department of Energy's Loan Guarantee Program.

When the program was launched with much fanfare in 2009 it was funded by $6 billion in appropriated funds. We're talking about the 1705 program here. It was a level investment that we believe would support 60 billion to 100 billion of lending to clean energy projects depending on how you calculated the subsidy costs.

Now less than 2 years later the DOE Loan Program has seen its funding cut by nearly 60 percent. That cut will translate into tens of billions of dollars less that will be available to support renewable energy development. It's important to recognize the critically important role that a program can play and I appreciate the discussion in the last panel about the role of the program verses the role of the market.

I would offer 2 examples from USRG's own portfolio to illustrate that.

Solar Reserve which is a portfolio company of ours builds large utility scale solar power plants. It's concentrated solar power technology.

Fulcrum BioEnergy is a portfolio company of ours whose technology converts municipal solid waste into ethanol.

These are just 2 companies among many here in the U.S. that are on the front line of commercializing clean energy. But with the support of DOE loan guarantees to build their first commercial projects these 2 companies alone have the potential to go on using commercial financing to produce over 8,000 gigawatt hours annually of clean renewable energy, more than one billion gallons annually of renewable fuels, $20 billion in new investments across the country supporting over 115,000 jobs. That's just 2 companies as well as providing leadership for the U.S. in global renewable energy markets. This is the real promise of the DOE Loan Guarantee Program is to be able to take companies like that and move them across the gap from—through their first projects and on into commercial markets.

In my written testimony I've included a number of specific recommendations for strengthening the Department of Energy's Loan Guarantee Program. The highlights of those recommendations include at the top replace the 3.5 billion in funding that's been diverted from the Loan Guarantee Program. It's very important.

Second, extend the commence construction date for the current section 1705 DOE Loan Guarantee Program by 2 years or modify the section 1703 Program to allow appropriated funds to cover subsidy costs and to incorporate the authorities provided in section 1705 including the ability to finance commercial projects through a FIPP type structure as well as accommodating the previous solicitations that have been made under 1705.

Third is provide increased access to the program for small renewable energy developers. This is very important because the small to medium size developers often face greater barriers to access to financing than you'll have with the large developers. They're an important part of our renewable energy ecosystem, if you will.

Fourth, and there's been some discussion on this, we need to clarify OMB's role with the program. I appreciate Mr. Silver's judiciousness in having that discussion. I think we have more straight forward views about that issue. We would support the chairman's legislation to limit OMB review of DOE Loan Guarantees and put some clarity and structure around that.

Five, we think it's important that we provide for a permanent renewable energy financing mechanism such as CEDA, to support U.S. leadership in renewable energy.

Thank you, Mr. Chairman and the committee. I'm happy to answer any questions you may have.

[The prepared statement of Mr. Newell follows:]

PREPARED STATEMENT OF TIMOTHY NEWELL, SENIOR ADVISOR, U.S. RENEWABLES GROUP, SANTA MONICA, CA

Mr. Chairman, Ranking Member, members of the committee, thank you for the opportunity to testify today on an issue of vital importance to the renewable energy industry.

My name is Tim Newell, and I am Senior Advisor to the US Renewables Group (USRG), where I also serve as a Managing Director for USRG Renewable Finance. US Renewables Group is a private equity firm that focuses exclusively on investing in renewable energy. Based in California, USRG is a leading investor in companies that develop, build, and operate projects that produce clean renewable energy—both electricity and fuels—and the infrastructure that supports that production. Our investments cover a wide range of renewable technologies, including solar, wind, geothermal, biomass, biofuels, hydropower, and energy storage. Collectively, USRG's portfolio companies are currently either operating or developing renewable energy projects in more than 30 states across the U.S.

I am here today because we believe the Department of Energy's loan guarantee program to be a crucial part of US renewable energy policy, as well as an important component of our country's overall economic policies—particularly with respect to supporting US competitiveness in global energy markets.

USRG has significant first-hand experience with the DOE Loan Guarantee Program. Directly and through our portfolio companies, we have participated in both the original Sec. 1703 program and the more recent Sec. 1705 ARRA-created program, and have engaged in both the innovative technology program and the commercial program (FIPP). I believe that we have been in a position to see and experience the program's challenges—as well as its considerable promise. In the spirit of strengthening what we believe is a critical program in support of our industry, I would like to offer some observations, recommendations, and areas of inquiry regarding the loan guarantee program that we believe merit consideration by the Committee.

US GOVERNMENT RENEWABLE ENERGY POLICIES

Before doing that, however, I would like to step back for a moment and consider the loan guarantee program more broadly within the context of the US government's renewable energy policy. As major investors in renewable energy projects, we are keenly aware of the importance of government programs that provide incentives to build commercial scale renewable projects in the U.S. In every economy in the

world, energy is considered a critical resource whose development and production is regulated and supported by government. Renewable energy markets, with their emerging technologies and promise of clean sustainable growth, are particularly policy-driven.

In the U.S., in addition to the DOE Loan Guarantee Program, the most critical of these incentives at the federal level include the investment tax credits and production tax credits offered to renewable energy projects—including the Sec. 1603 grants in lieu of credits program that has been so successful, and which unfortunately is scheduled to expire at the end of 2010.

These incentives essentially act to encourage the supply of renewable energy in the U.S., by providing support for the construction and operation of renewable energy production facilities. They operate against the backdrop of policies at both the federal and state level that are intended to increase demand for renewable energy—including Renewable Portfolio Standards governing electricity purchases in a majority of US states, and to a lesser extent state Renewable Fuel Standards covering fuel consumption; as well as the federal Renewable Fuel Standard (RFS). Collectively, these policies and incentives work on both the supply side and demand side to leverage billions of dollars of private investment in clean and renewable energy projects across the United States.

From the point of view of the investment community, therefore, there is much that is encouraging about current US policies to promote renewable energy development. But there are two areas in which there are glaring deficiencies which act to deter investment.

The first of these is a specific policy deficiency—namely the lack of a national Renewable Electricity Standard (RES) to provide a predictable national market for renewable power production in the United States. This is an issue familiar to this Committee, and one on which the Chairman and the Committee have shown significant leadership. The solution is straightforward—the Senate should take up and pass S. 3813, the Renewable Energy Electricity Promotion Act of 2010 as introduced this week by Chairman Bingaman.

The second deficiency is more systemic. It has to do with the "on again, off again" nature of U.S. renewable energy policy. Investments in renewable energy are by their nature long term investments. Renewable energy projects often take years to develop, and require large amounts of capital to be committed for many more years. Yet too often investors have seen U.S. policymakers put incentives for renewable energy production in place, only to reverse them or let them expire a relatively short time later.

To see the impact of this kind of policy reversal on renewable energy markets we need only to look at the U.S. biodiesel industry, which has been severely damaged over the last year by the failure of Congress to extend the $1/gallon biodiesel tax credit after it expired at the end of 2009. The result? The growth of this important renewable fuels sector was halted, and more than 20,000 green economy jobs were put at risk. This should not have happened and Congress should act immediately to restore the credit.

Looming on the horizon is a similar threat, though larger in scale. Since it was put in place in 2009, the Sec. 1603 Treasury Grant program in which grants are provided in lieu of tax credits for investments in renewable energy production facilities has been an extremely effective mechanism for attracting private sector investments into clean energy projects in the U.S. Yet without further Congressional action, the Sec. 1603 Treasury Grant program will expire at the end of this year, again changing the financial equation for renewable energy projects across our nation at a time when economic conditions are still acting as a headwind for the industry. A recent study by the American Council of Renewal Energy estimated that failure to extend Sec. 1603 would threaten more than 100,000 jobs across the U.S. This should not happen, and Congress should act to prevent it by extending the Sec. 1603 Treasury Grant program for at least two years.

Which brings us back to the Department of Energy's Loan Guarantee Program. When the program was launched with much fanfare in 2009, it was funded by $6 billion in appropriated funds—a level of investment that would support $60 billion to $100 billion of lending to clean energy projects. Less than two years later, the DOE Loan Program has seen its funding cut by nearly 60%, with $3.5 billion of its appropriation rescinded and diverted to other programs. This should not have happened, and Congress should act immediately to restore funding for this critical program.

A GLOBAL RACE FOR LEADERSHIP

Why is this important? From investment and production tax credits, to grants in lieu of tax credits, to Department of Energy loan guarantees, these incentives are needed to help propel America's effort to compete with China, Germany, Spain and other countries that are investing heavily in renewable technologies. But, as several recent reports reveal, we are falling behind. This is a race we are no longer winning. Other nations are committing billions of dollars to clean technology and renewable energy for both environmental and economic reasons.

As a recent Pew Charitable Trust study ("Who's Winning the Energy Race: Growth, Competition and Opportunity in the World's Largest Economies"), for example, reported:

> Relative to the size of its economy, the United States' clean energy finance and investments lag behind many of its G-20 partners. For example, in relative terms, Spain invested five times more than the United States last year, and China, Brazil and the United Kingdom invested three times more. In all, 10 G-20 members devoted a greater percentage of gross domestic product to clean energy than the United States in 2009. Finally, the Unites States is on the verge of losing its leadership position in installed renewable energy capacity, with China surging in the last several years to a virtual tie.

A similar report ("Out of the Running? How Germany, Spain and China Are Seizing the Energy Opportunity and Why the United States Risks Getting Left Behind") by the Center for American Progress, succinctly concluded, "China, Germany, and Spain are forging ahead on the path to a clean-energy future while the United States lollygags."

From the standpoint of a major U.S. investor in clean and renewable energy projects, this is unacceptable. Here we are, the country that invented the photovoltaic cell, that developed the most efficient solar thermal technology, that patented and produced LED lighting and numerous other energy efficient or renewable technologies falling behind our international rivals. We need to do better.

With regard to the DOE Loan Guarantee Program, there has been much attention given to delays by the program in making loan guarantee decisions. To be fair, our firm has experienced its own share of frustrations, especially early on when the program was critically hampered by a lack of personnel generally and a specific lack of seasoned project finance professionals.

EXAMPLES FROM USRG PORTFOLIO: SOLARRESERVE AND FULCRUM BIOENERGY

As we examine the loan program, though, it is important to recognize the critically important role that the program can play, and I would offer two examples from USRG's portfolio to illustrate.

SolarReserve, based in Santa Monica, CA, is in the business of building large utility-scale solar power plants with the potential to replace traditional coal-fired and natural gas-fired power plants. A SolarReserve power plant captures and focuses the sun's thermal energy with thousands of tracking mirrors (called heliostats) in a two square mile field. A tower resides in the center of the heliostat field, and the heliostats focus concentrated sunlight on a receiver which sits on top of the tower. Within the receiver, the concentrated sunlight heats molten salt to over 1000 degrees Fahrenheit. The heated molten salt then flows into a thermal storage tank where it is stored, maintaining 98% thermal efficiency, and eventually pumped to a steam generator which drives a standard power turbine to generate electricity—allowing a SolarReserve power plant to capture the energy of the sun during the day, and generate electricity into the evening or even through the night as needed. In this way, a SolarReserve power plant is similar to a standard coal-fired power plant, except it is fueled by clean and free solar energy. SolarReserve's technology was originally developed here in the U.S. for our country's space program, and then—with the support of this Committee—adapted and demonstrated for terrestrial use by the Department of Energy.

Today SolarReserve has applications pending with the Department of Energy for loan guarantees to support the company's first two commercial projects in Nevada and California. Should those loan guarantees be approved and the projects built, they would provide thousands of jobs in rural areas hard hit by the recession. But the catalytic effect would extend far beyond those communities. With its first two projects built and operating with proven economics, SolarReserve would be in position to access commercial lending to build additional power plants. Beyond its lead projects, SolarReserve currently has 18 projects under development in the United States with the potential to deliver approximately 8,100 gigawatt hours of annual

electricity production, generating more than $14 billion of aggregate investment, and accounting for approximately 90,000 direct, indirect, and induced jobs. The projects have been sited in underdeveloped regions in Arizona, California, Colorado, Nevada, and New Mexico, many of which are experiencing high unemployment. Globally, SolarReserve is targeting projects in Europe, North Africa, South Africa, the Middle East, and Australia.

Fulcrum BioEnergy, headquartered in Pleasanton, CA, has as its mission to create a clean, low-cost and sustainable source of domestic transportation fuel that is produced from an abundant and renewable feedstock: municipal solid waste—in other words, trash. Using advanced but proven thermochemical technology to convert municipal solid waste into ethanol, Fulcrum is leading the next generation of cellulosic ethanol production.

Like SolarReserve, Fulcrum has an application pending with the DOE Loan Guarantee Program to support the construction of its first commercial plant. Like SolarReserve, that plant would provide much-needed jobs for a community where those are in short supply. And like SolarReserve, with that plant built and operating Fulcrum would be in a position to access commercial lending markets to build additional projects. Fulcrum already has a development program to produce more than 1 billion gallons of biofuels from projects in 20 different states around the U.S. Collectively, the projects would represent over $8 billion of private capital investment in the U.S. economy, and account for more that 36,000 jobs. Moreover, by converting waste into biofuels, Fulcrum would afford large and medium sized communities in the U.S. the opportunity to turn their own garbage into transportation fuel and reduce their reliance on imported petroleum to drive their cars.

SolarReserve and Fulcrum BioEnergy are but two companies among many here in the U.S. that are on the front lines of commercializing clean energy. With the support of DOE loan guarantees, though, these two companies alone have the potential to produce over 8,000 gigawatt hours of clean renewable electricity, more than1 billion gallons of renewable fuels, over $20 billion in new investments supporting 115,000 green economy jobs, and leadership in global renewable energy markets. This is the real promise of the clean energy economy that the DOE Loan Guarantee Program has the potential to bring about for our country.

STRENGTHENING THE DOE LOAN GUARANTEE PROGRAM

Mr. Chairman, as you have stated previously, the DOE loan guarantee program is a powerful tool for meeting our energy security needs, especially in the area of commercial clean and renewable energy projects. It is a tool, however, that has been hampered by the Office of Management and Budget and $3.5 billion in rescissions. Clearly, the program should have its funding returned, the role of OMB clarified, and the Program's mission extended.

As this committee is well aware, DOE's loan guarantee program, especially the Sec. 1705 program included as part of American Recovery and Reinvestment Act of 2009, not only got off to a very slow start, but has been hurt by delays in making loan guarantee decisions. I believe in giving credit where due, though. Over the last year, my firm has seen a major transition in the operation of the DOE Loan Guarantee Program under Jonathan Silver, including the much-needed addition of seasoned project finance professionals with extensive energy financing experience.

The proof of that change is striking. Not too long ago, we would have expected to wait at least three months for approval by DOE of a "Part I" loan guarantee application. Last month, our most recent Part I application was reviewed and approved in only six working days. That is progress you can measure. Our experience is consistent with the conclusions of the Government Accountability Office which last July issued a report detailing shortcomings of DOE's management of the program, but also noted that DOE has "increased the Loan Guarantee Program's staff, expedited procurement of external reviews, and developed procedures for deciding which projects should receive loan guarantees."

THE ROLE OF THE OFFICE OF MANAGEMENT AND BUDGET

This is not to say that the program has worked well since the beginning, when there was insufficient staff and capacity to allocate funds quickly and effectively. On February 19, 2009, in the midst of a financial crisis that had essentially paralyzed the financial markets needed to support renewable energy development, we were encouraged when Secretary Steven Chu announced in a press release that the Department of Energy would be taking bold new steps to expedite the deployment of ARRA funds—especially loan guarantees. In his statement, Secretary Chu anticipated moving quickly to finalize guidelines for providing loan guarantees by summer of 2009. By March, the Department of Energy had drafted and provided to the Office of Man-

agement and Budget a set of much-anticipated and much-needed proposed modified regulations to govern the loan program. Then, for the next six months, we and others in our industry watched in consternation and frustration as DOE and OMB failed to reach agreement and the proposed streamlining of the program failed.

Beyond OMB's involvement in DOE loan guarantee regulations, loan guarantee applicants must wait for OMB approval to finalize their application and receive a term sheet, although the role of the OMB in these reviews is not clear. Renewable energy trade associations and members of Congress are still seeking to fully understand OMB's role in evaluating these applications and why OMB appears to be a major cause of delay in issuing these guarantees. OMB's level of involvement and review times appear to exceed that of other federal loan guarantee programs.

Further, we are concerned that decisions which appear to have been initiated by the Office of Management and Budget have seriously undermined the financial capacity of the program through rescissions totaling $3.5 billion—$2 billion which was used to fund the Administration's "cash for clunkers" program and more recently $1.5 billion used to help fund legislation to aid states and localities. These rescissions have reduced the available loan authority to less than $25 billion, even as DOE receives more requests for loans in excess of its lending authority. The total amount of subsidy costs that DOE stated in the solicitations of $4.75 billion exceeds the $2.5 billion of subsidy cost now allocated to the program by $2.25 billion.

It is our understanding that as of August, DOE had 81 separate renewable energy infrastructure and transmission projects either in its final "due diligence" phase of review or in its Part II review. Of these 81 projects, there were 26 in the final "due diligence" phase that were applying for $12 billion in loans. Doing the math, if these loan requests were to be completed at the Department's pledged rate of four per month, those loan requests will likely use up all funding for this program by February—nearly seven months before this program's September 2011 expiration.

According to DOE the remaining 55 renewable energy projects, which are seeking $15 billion in guaranteed loans, have completed the first phase of the loan review process and are in Part II. These projects have been under review at DOE for many months, and applicants have in many cases paid multi-million dollar fees. Tens of billions of dollars in additional investment proposed by applicants in Part I have almost no hope of receiving a loan guarantee at this time.

RECOMMENDATIONS

To address these problems and strengthen the DOE Loan Guarantee Program, we urge Congress to do the following:

1. Replace the $3.5 billion in funding that has been diverted from the DOE Loan Guarantee Program.

At a minimum, Congress should immediately replace the $1.5 billion that was most recently rescinded from the program. To that end, we strongly support the provisions in the most recent version of the so-called Tax Extenders bill announced by Chairman Baucus that would refund $1.5 billion to DOE's Sec. 1703 Loan Guarantee Program, and make important changes to that program—and, as appropriate, to the Sec. 1705 program—to provide needed additional flexibility, including:

- Defray credit subsidy costs. Allow appropriated funds or private capital to be used to defray credit subsidy costs for federal loan guarantees under Sec. 1703;
- Allow multiple projects/sites. Eliminate the restriction on project developers of one loan guarantee per applicant, per innovative technology. Instead, allow a project developer to submit multiple applications for multiple projects employing the same technology, and/or permit an applicant to submit a single application for a qualifying projects on multiple, noncontiguous sites;
- Provide flexible hiring authority. Grant "Direct Hire Authority" to the DOE Loan Guarantee Program for consultants and temporary employees, enabling DOE to maintain the personnel resources needed to quickly and efficiently process loan guarantee applications;
- Eliminate credit rating requirement for small projects. Allow the Secretary of Energy to exempt loans smaller than $100 million from the requirement that the projects receive a credit rating; and
- Limit administrative fees.

Refunding the $1.5 billion to Sec. 1703, together with the changes in authorities discussed above for that program and/or for Sec. 1705—many of which were originally included in S. 3746 introduced by Chairman Bingaman and cosponsored by Senators Shaheen, Boxer, and Feinstein—would address impor-

tant shortcomings of the Sec. 1703 Loan Guarantee Program and allow it to serve as a vehicle for ongoing support for financing renewable energy projects beyond the expiration dates that were incorporated into ARRA.

In strengthening the Sec. 1703 program, Congress should also make clear that the program may be used to support projects that use commercial technologies rather than limiting the program to emerging innovative technologies. To avoid unnecessary delays in financing projects, Congress should make it clear that the Sec. 1703 Loan Guarantee Program is authorized to continue extending loan guarantees under the terms of solicitations previously issued under through the Sec. 1705 program. Of particular importance in our view is the Financial Institutions Partnership Program (FIPP) solicitation which allows DOE to issue loan guarantees for commercial projects which are backed by private lenders—thus encouraging and leveraging private capital rather than relying solely on government funding through the Federal Financing Bank. Put another way, uniquely under the FIPP model, DOE's Loan Guarantee Program is serving to catalyze the capital markets to increase investments in renewable energy projects. And with the evolution of a secondary market in DOE-backed securities, we are seeing the creation of an on-ramp for long-term investors to enter into the renewable markets—an especially critical development for smaller/medium sized renewable energy projects.

2. Extend the "Commence Construction" date for the current Sec. 1705 DOE Loan Guarantee Program by two years.

In our opinion, the DOE Loan Guarantee Program (Sec. 1705) and the Treasury Grant Program (Sec. 1603) are currently the two most important mechanisms for U.S. government support of renewable energy deployment—and both programs are scheduled to expire in the relatively near future. Both of these programs should be extended to provide much needed certainty for project developers and financiers, as well as spurring clean energy jobs.

3. Limit OMB review of DOE loan guarantees.

We believe that DOE has taken great strides to strengthen their ability to assess and process loan guarantee applications in a timely way based on commercial terms and risk analysis. That progress will be lost, however, if DOE loan guarantee recommendations are subject to what is essentially a second underwriting process at the Office of Management and Budget—adding unnecessary time delays and uncertainty. Mr. Chairman, we would support the provisions of your bill S. 3759 which would limit OMB's time to comment on any application the Secretary of Energy submits for review to 30 days. We believe this is a necessary change.

4. Support small business lending through the DOE Loan Guarantee Program.

Smaller renewable energy projects are potentially an important engine for economic growth, jobs, and building a clean energy infrastructure in many regions of the country—especially in those regions which may not be able to support large utility-scale energy projects due to limited solar resources, wind resources, fuels feedstocks, etc. However developers of small renewable energy projects have faced a particularly challenging financing environment during the recent economic downturn.

DOE's Loan Guarantee program—particularly the FIPP—is in a position to offer much needed assistance to small renewable energy project developers. The FIPP could and should be a particularly useful mechanism for attracting private capital to provide lending to smaller energy projects. The challenge is that smaller developers often may not be in a position to invest the resources—both financial and personnel—that it has typically required to navigate the federal loan guarantee process. I would like to take this opportunity to commend the leadership of Jonathan Silver and his staff at Department of Energy for their focus—and real accomplishments—with respect to improving the accessibility of DOE's Loan Guarantee Program for small renewable energy projects. His team at DOE has made huge progress in streamlining the application process to encourage private lenders to finance those smaller projects.

Even with the impressive progress made by DOE to support lending to small renewable energy projects, many smaller borrowers remain concerned about both the time frames and cost of the federal loan guarantee process. Additional steps Congress should consider to improve access to the program for small developers include:

- Streamline NEPA requirements for small projects. NEPA remains the most significant barrier in terms of time delays for small projects. We would recommend the Congress consider limiting NEPA's application for projects smaller than $200MM, or to clarify and/or expand the categorical exemptions for projects such as rooftop solar or ground mount solar installations below a certain size.
- Eliminate the need for credit ratings for projects under $100mm. The minimum cost for rating agencies to provide ratings is $175,000 which is a high cost for a small project. Given the relatively smaller risk footprint of smaller projects within DOE's loan guarantee portfolio, it would seem reasonable to eliminate that requirement. We wholeheartedly endorse the Chairman's previous legislative support for this needed change.
- Reduce administrative, diligence, and loan costs for small energy projects. DOE could eliminate or reduce the DOE application fee and the 50 bp facility fee for small projects without significantly impacting the cost to the government of the loan program. DOE could also mitigate duplicative diligence costs by using common counsel and consultants with the lender applicant. Standardizing contract terms—not just form of guaranty but also acceptable security documents, tax equity intercreditor terms etc.—could also significantly reduce costs and speed processing times.
- Consider exempting smaller projects from Davis Bacon requirements. It would seem reasonable to set a size threshold for applying Davis Bacon requirements to renewable energy projects seeking loan guarantees. A small business exemption in this area would have a meaningful impact for smaller projects, without significantly affecting labor markets.

5. Provide for a permanent renewable energy financing mechanism to support US leadership in renewable energy.

While there are venture capitalists to assist start-ups and there are private equity firms like ours to help finance commercial projects, there is often little to bridge the divide between development of clean technologies and commercial deployment. At its best, that is the role that DOE's Loan Guarantee Program was designed to fulfill, albeit temporarily. I applaud the Chairman and this Committee for your leadership in proposing the establishment of a permanent Clean Energy Deployment Administration (CEDA) to support the development and commercial deployment of new clean energy technologies. From the perspective of the renewable energy investment community, establishing CEDA is a no brainer.

This past July, the Clean Energy Group published a report, Accelerating Climate Technologies: Innovative Market Strategies to Overcome Barriers to Scale Up, which concluded "(1) the barriers to rapid diffusion of new climate technologies are too great for the private sector alone to surmount and (2) targeted public sector interventions are needed all along the technology development pathway to overcome specific technical, financial, and market barriers." In other words, establish CEDA.

Another important reason to establish CEDA is international competitiveness. Our major competitors in Asia—China, Japan and South Korea—and in Europe—Germany and Spain—recognize the long-term importance of investing in clean energy technology. While the United States remains the world leader in developing advanced clean energy technologies, we are falling behind as these nations continue to invest public funds to support research, development and commercialization of clean and renewable technologies. CEDA is a critical component of the kind of clean energy competitiveness strategy that the United States must have to compete with other nations moving aggressively to capture global clean tech market share.

QUESTIONS FOR CONSIDERATION

In addition to the recommendations above, there are some additional areas of inquiry that I would recommend to the Committee. These questions include:

A. Does the DOE LGP benchmark its financing terms against those that might otherwise be available from the commercial market?

For example, does DOE LGPO explicitly consider commercially available loan terms for debt-to-equity ratios, repayment terms "tail" (the buffer between the maturity of the loan and the revenue-generating contract maturity), cash-sweeps (if applicable for contracted revenue projects), or distribution restrictions? Many other US government lending agencies that support project finance transactions adhere to an explicit "prudent lender" threshold to offer terms not

more aggressive (or conservative) than the commercial market, unless those terms relate specifically to program guidelines (e.g., OECD Consensus Rules in the case of US Ex-Im Bank).

B. How does the DOE LGP approach the structural integration of Congressionally authorized incentives for renewable energy projects with its loan guarantee structures, specifically in the case of Investment Tax Credits or MACRS accelerated depreciation?

USRG understands that a number of applicants have been informed that the DOE LGP discourages capital structures—commonly deployed in commercial finance for renewable and other tax-incentivized energy projects—that would permit an application with no or limited federal tax capacity from taking advantage of ITC benefits not otherwise addressed in the 1603 ITC Cash Grant program (currently set to expire for projects that have not commenced construction before Dec. 31, 2010) and of MACRS accelerated depreciation. The rationale for this advice from the DOE LGP to applicants is claimed to be the complexity of marshaling such capital structures through the DOE LGP approval process. This would seem to put innovative energy projects seeking support through the DOE LGP at a significant disadvantage in maximizing the incentives authorized by Congress for such projects.

C. Is the intention of Congress in authorizing the DOE LGP through Sec. 1703 and amended by Sec. 1705 being frustrated by an excessively complex and lengthy approval process?

Currently, the Program does not feature any explicit approval timeline requirements. The advice from the DOE Loan Guarantee Program office to applicants is that approvals to the Conditional Commitment stage should be expected to take a minimum of six months. This lengthy approval cycle reflects multiple levels of approvals within DOE and includes additional reviews by OMB with input from other Federal agencies or departments. Does this approval process negatively affect the DOE Loan Guarantee Program's ability to offer "prudent lender" terms and to incorporate tax efficient capital structures?

D. Should Congress clarify the relative importance of DOE extending loan guarantees to truly innovative technologies?

The way in which Congress structured the LGP created a paradoxical situation. On the one hand, Congress has established the Loan Guarantee Program to incentivize innovative technologies. On the other hand, it requires a "reasonable prospect of repayment", a goal that seems reasonable but that in practice seems to be interpreted by OMB in such a way as to require very low risk projects and near-certain cash flows. This has created confusion throughout the industry and within DOE as to the proper way to extend loan guarantees to the best innovative projects.

Mr. Chairman, this concludes my testimony on the Department of Energy's Loan Guarantee program. I appreciate the opportunity to appear before the Committee, and would welcome the chance to address any questions that you or members of the Committee may have.

The CHAIRMAN. Thank you very much. Mr. Meyerhoff, please go right ahead.

STATEMENT OF JENS MEYERHOFF, PRESIDENT, UTILITY SYSTEMS BUSINESS, FIRST SOLAR, TEMPE, AZ

Mr. MEYERHOFF. Thank you very much, Mr. Chairman and committee members for the opportunity to talk about the DOE Loan Guarantee Program today.

The program is of significant important to the industry and to First Solar as the largest PV manufacturer in particular as it provides significant liquidity to finance large scale solar photovoltaic infrastructure investment.

As it provides lending terms commensurate with the useful life of these generation assets.

As it provides cost of capital that allow renewable energy electricity cost to scale toward grid parity.

No. 4 as it provides a very important migration vehicle in order for our industry to scale into institutional life infrastructure financing.

My name is Jens Meyerhoff. I'm the CEO of First Solar and the President of First Solar Utility Systems Business Group.

First Solar is the world's largest manufacturer of photovoltaic panels.

First Solar was built on a proprietary U.S. developed thin film technology that has afforded the clear cost leadership in the global U.S.—in the global photovoltaic market.

We have grown our company over the past 5 years from less than $100 million profitably to over $2 billion in 2009. Today we employ over 5,000 people of which 1,500 associates work here in the United States. Next to being the largest manufacturer of PV solar panels, we've also become the largest developer of photovoltaic generation assets with a pipeline of over 2.2 gigawatt of contracted projects in the United States alone. This pipeline represents an infrastructure investment need of over $6 billion. This pipeline also represents 10,000 man years of employment, construction work and manufacturing work.

Out of this pipeline we today have 4 projects representing about 1.6 gigawatts in the application processes for both the 1703 and 1705 programs. Let me allow you to give a little bit of an overview of how we view and try to utilize these programs.

The 1703 program obviously designed to commercialize innovative technologies. For us innovation happens predominately around a grid friendliness and energy yield driven out of our already commercialized module technology. To give you an idea, in Europe alone we have over 2 gigawatt of an installed base that represents about $8 billion of infrastructure investment to date. So under the 1703 program as it requires involvement of technical advisors which was earlier discussed as it requires already participation of rating agencies, we see this as an important learning and incubation vehicle and as a first step toward commercialization of institutional financing for solar PV.

Then as you look at the 1705 program, the 1705 program for us takes it to the next step as it requires already a commercial lender to underwrite the loan.

As it creates a bifurcate of capital structure with 2 tranches. One being guaranteed through the DOE Loan Guarantee Program. The other being a free floating commercial tranche.

This allows us in a controlled way now to access institutional markets with investment grade rated photovoltaic power plant investment opportunities and drives important cycles of learning that ultimately will increase liquidity to finance these systems in totality. I would encourage members of this committee to also maybe look at Europe because in Europe this was done the same way. Both the German Reconstruction Bank and the European Investment Bank provided similar financing aids in the early stages which today has grown to a very efficient commercial lending and infrastructure financing market for products in that part of the world.

Our experience overall in the DOE Loan Program I would say generally has been—we have been moving forward. We really ap-

preciate the support of the DOE staff and Mr. Silver's leadership. But we've also seen, I think, our fair amount of challenges.

It took a long time, especially for all the 1705 program to be articulated and to be clearly understood how the program would actually work. The negotiations between the DOE and the commercial lenders that ultimately would be underwriters were lengthy and essentially delayed the implementation of the program probably by over a year which obviously took critical time out of the program. The program's transparency is not very high and I think we talked about this already in this room this morning. But more importantly the program is not extremely predictable.

If you think about an application under 1703 or 1705 can cost a company anywhere between $2 and $5 million. Now First Solar is a very well capitalized company. For us $2 to 5 million is an investment that is easily taken.

However for younger emerging companies this is a very significant amount of money. The money effectively is put at risk. It is put at risk with respect to the credit decision which would be a risk I think appropriate.

But it has also put at risk from a timing point of view because the 1705 program has an expiration date. So unless funding—there's a funding deadline of September 2011, so which means that the overall timeline including the permitting of a project for example, the conditions precedent as were earlier stated, these are not highly predictable for any type of power plant development. So for a company you can lose it all.

So the question was earlier made with respect to well why would people go and opt for other programs like Eximbank financing, for example was mentioned. These programs are predictable. They're returnable. They don't have a sunset date to them.

Another challenge in the programs has been the aspect of commercial negotiation. They're very clear lending standards established in Europe and a very clear credit assessment has been established around photovoltaic generation assets that have lent to high leverage ratios. Those leverage ratios at times are 80 to 85 percent. Debt service coverage ratios of 1.2 to 1.25 are being tolerated.

What we're seeing in the process here is a fairly lengthy commercial negotiations and we're nowhere near a 1.2 or 1.25 ratios. We're operating north of 1.4 which provides obviously additional credit resilience. But it's not exactly clear how those decisions are being made.

I heard earlier the mentioning of a portfolio approach. I believe it is very difficult to implement a portfolio approach in project finance because project finance is about financing a specific project. So for us if there's a portfolio approach of multiple projects behind our own project that would make it very difficult, I think, to be predictable.

So the other challenge that we obviously seen is the removal of funds, the rescission of funds from the program. Obviously has created a significant ripple wave. Just to give you an idea as those decisions are made they create a lot of cycles within a company like First Solar because we have to determine what it means to our application. We have to determine and assess a risk of the overall fi-

nancing of these very large programs. So that's been very, very disruptive to the process.

So now as we look forward I would also like to state that we have seen definite improvement in our application progress. I'd like to commend Mr. Silver for a lot of the hard work that has been done. I would say we've definitely seen more traction in the last few months. So which would state that a lot of the challenges we've been having or part of the challenges have been based on cycles of learning. We're doing something new here. I think it's an exchange, an open exchange. I think a lot of mutual learning cycles have been achieved.

Now as we look forward in order for these programs, I think, to truly fulfill their capabilities similar to what we have seen—what we've seen in Europe we would recommend A, either an extension of the 1705 program because we've lost a lot of time in the front. So receiving some of the time back would be very important. We would like to consider whether we would move away from the funding deadline to an application deadline because that way programs that have passed through the application gates are predictable and can be executed and don't battle in addition to substance, right, battle just with the heart with a heart timeline.

So to give you an idea maybe of one more time about the pipeline and it's if we were about to apply, file an application and that application was on a project based on private land somewhere in California we would have all environmental permits completed within the State of California. Filing those applications would require us a redundant effort of getting a full NEPA environmental permit that takes very extensive time. So the answer likely would be today that we would not be filing that application because we would likely miss that September 2011 timeline.

So we would like the program's funds to be restored like Mr. Newell, I think made the same statement.

We'd like to consider the calculation of the subsidy cost to be at least revisited. I would tell you I mention just for a solar loan has financed about $8 billion worth of solar PV renewable infrastructure in Europe. I am not aware today of a single default in any of those financings. Again, those financings were executed at significantly higher leverage ratios.

So the risk profile around these generation assets is well understood in Europe. I encourage us to take learning. We don't have to reinvent the wheel. We can take a lot of learning out of that market and transfer it over.

I think the last comment I wanted to make deals with the 1603 Treasury Grant. It was earlier my written testimony was cited in an earlier question. I want to clarify the point we want to—we were about to make.

A. The 1603 program, the grant program in lieu of the investment tax credit provides the equity component to the project financing. If that equity component doesn't work effectively due to not enough tax appetite by the investor we're constraining the build out of renewable energy on the equity side regardless of how well the lending side has been optimized. So we need to think about both programs being in place because they're highly synergistic.

In addition as it relates to the economic benefits and this is where I think we not only have to drive term but we also have to align the economics. Under the grant program the cashflows flow through the project entity. Under the ITC the cashflows flow through the corporation, invisible to the project.

We have seen the DOE taking the stands that if the cashflows flow through the project entity they in part will be reclaimed to repay the DOE guaranteed debt effectively reducing the leverage and debt quantum. So effectively one project cannibalizes to some degree the other program and we would like that to be reconsidered and to be thought through whether that that is actually in the spirit of the 2 programs in harmony.

That concludes my remarks.

[The prepared statement of Mr. Meyerhoff follows:]

PREPARED STATEMENT OF JENS MEYERHOFF, PRESIDENT, UTILITY SYSTEMS BUSINESS, FIRST SOLAR, TEMPE, AZ

1Chairman Bingaman and members of the committee, thank you for the opportunity to appear today before the Committee to offer my perspective on the U.S. Department of Energy's Loan Guarantee Program. Before I begin, however, Mr. Chairman, please let me acknowledge and thank you for your leadership in bringing federal resources to bear in helping develop solar power in the U.S.

INTRODUCTION

I am Jens Meyerhoff, President of the Utilities Systems Business group and CFO of First Solar. First Solar is the world's largest manufacturer of thin film photovoltaic (PV) solar modules. In addition, First Solar is North America's largest developer of utility-scale PV solar power plants. First Solar's mission is to deliver clean, affordable and sustainable energy by continuously improving efficiency and lowering costs.

First Solar welcomes the opportunity to discuss the importance of the Department of Energy (DOE) loan guarantee program in enabling deployment of renewable energy, as it provides:

- Liquidity to an emerging infrastructure asset class, enabling early stage large-scale solar deployment;
- Financing terms commensurate with the long lived nature of a solar PV power plant;
- Cost advantages that allow renewable energy sources to scale faster towards grid parity; and
- An important bridge vehicle to open institutional capital markets not yet available to solar PV generation assets through both the Section 1703 and 1705 Loan Programs.

I'll begin by offering a brief background on First Solar. I will then discuss the pivotal role that loan guarantees can play in financing renewable energy projects, followed by First Solar's experience with the DOE loan guarantee program. Finally, I will offer a few suggestions for further enhancing the programs going forward.

FIRST SOLAR BACKGROUND

First Solar is traded on the Nasdaq exchange and is today the only renewable energy company included in the S&P 500 Index. First Solar's net sales grew from $48 million in 2005 to $2.1 billion in 2009. Our company is headquartered in Tempe, Arizona, and manufactures PV modules in Perrysburg Ohio, as well as Germany and Malaysia. With 5,500 employees worldwide, First Solar employs and some1,500 associates in the U.S.

Between 2005 and 2009, First Solar scaled its annual solar module production capacity from 20 to over 1,100 megawatts. First Solar has invested in excess of $1 billion in its proprietary thinfilm technology and manufacturing capacity. This has afforded us a highly differentiated market position as the lowest cost producer in the industry. As a result, First Solar is capable of providing solar electricity at a cost between $0.12 and $0.16 per kilowatt-hour.

First Solar recently passed a milestone of 2,500 MW of installed generating capacity worldwide, representing infrastructure investments of over $8 billion. Most of

this generating capacity is located in Europe, due in large part, to progressive policies favoring the deployment of renewable energy technologies, including government-backed financing programs and long-term price subsidies. In 2009, over 90 percent of First Solar's modules were sold outside of the United States. However, over the past two years, First Solar has been aggressively turning its attention to U.S. markets for renewable energy. First Solar has invested approximately $750 million in the U.S. to acquire multiple solar project development portfolios. First Solar now has a 2,200 MW pipeline of advanced stage, utility-scale solar projects in North America, driving infrastructure investments in excess of $6 billion.

These are advanced projects, with long-term Power Purchase Agreements (PPAs) with creditworthy investor owned utilities. Most are in the late stages of permitting, or have already received their environmental permits. For example, First Solar's 290 MW Agua Caliente project, located in Yuma County, Arizona, has already started early stages of construction. Most projects in the portfolio will start construction between late 2010 and 2012. A list of First Solar U.S. projects is attached as Appendix A.*

These projects are beneficial to the environment, to their utility power purchasers, and to the local economy. To offer an example, once completed, the 230 MW Antelope Valley Solar Ranch One project, located in northern Los Angeles County, will produce enough clean energy to meet the annual consumption needs of approximately 750,000 local homes. A project of this scale will offset approximately 3.5 million metric tons of CO2 over the 25 year term of the PPA with Pacific Gas & Electric Company, the equivalent of taking 75,000 cars off the road over 25 years.

Each of First Solar's large advanced stage projects in development will employ between 250 and 450 construction workers over a period of about 2-3 years. That's more than 1,500 jobs over the next four years associated with our advanced stage project pipeline. These projects will also create local tax revenues and substantial secondary economic benefits, providing a much needed boost for the communities in which they are located.

ROLE OF THE LOAN GUARANTEE PROGRAM IN TRANSITIONING TO SUSTAINABLE SOLAR FINANCING

The Department of Energy Loan Guarantee Program can play a key role in supporting industry growth by reducing financing costs, providing liquidity and longer debt terms and fostering the development of robust private capital markets to finance large solar projects, the same way that similar programs have shown effectiveness in Germany and Europe through debt programs guaranteed or directly financed by their development banks.

The DOE Loan Guarantee Program provides some important benefits to allow the solar PV industry to migrate towards institutional capital markets:

- The innovative 1703 program allows the deployment of new technologies with less operating history. Such technologies usually are unable to obtain investment grade ratings and therefore are subject to higher debt cost, limited liquidity and shorter debt tenures. The 1703 program effectively offsets these shortfalls through direct lending by the Federal Finance Bank. Since the 1703 program still requires a rating, it fosters the early engagement and learning by the rating agencies and independent technical advisors.
- The 1705 program provides the next step in the migration process as it creates a hybrid of government guaranteed debt and a commercially underwritten loans. It requires the applicant to raise capital in the public markets, but in a controlled and supported way. The two tranches of capital allow for broad market access and liquidity, the lower cost of the government guaranteed tranche allows for enhancement of the overall credit through more conservative leverage ratios at the total project level, providing access to the institutional bond market. The program incubates the dialog and marketing of solar PV bonds to the classical infrastructure investor and lender, creating important cycles of learning around a new asset class.

As multiple projects and technologies have passed through this stepped approach, capital markets will be opening up and allowing for liquidity flow to solar PV generation assets similar to the way traditional generation assets are being financed today.

* Document has been retained in committee files.

OBSERVATIONS AND OPPORTUNITIES FOR IMPROVEMENT

We are pleased to inform you that we are working with the DOE to finance an unprecedented construction volume of utility-scale PV projects. To date, we have submitted applications for four U.S. projects to the DOE's Loan Guarantee Programs for innovative and commercial technologies, amounting to over 1,600 MW. These are very large projects located in the U.S. Southwest. Each one in itself is larger than any other solar PV project that exists in the world today.

Although the projects are economically and environmentally viable, we believe that these DOE programs are a necessary financing bridge until the financial markets in the U.S. are prepared to fund solar projects at this scale without risk-sharing with the DOE. First Solar has financed over $8 billion in projects worldwide, and we have found that markets in Europe have been similarly enabled by government programs.

This is a global industry in which technologies are evolving rapidly. First Solar is trying to utilize the DOE's innovative program to enable combinations of innovative solar technologies to better integrate solar power into the utility grid.

While our experience in working with the DOE Loan Guarantee Program staff has been positive, we are concerned about the following:

- Despite significant efforts of DOE staff and decision makers, the program has been slow to start. The alignment process between the DOE and commercial underwriters was lengthy and created a great deal of confusion.
- The time consuming process required to conduct environmental reviews under NEPA in connection with DOE's loan guarantee commitments has slowed the projects, especially those being developed on private land, and threatens to delay the construction start for many projects beyond the September 30, 2011 qualification deadline.
- Commercial negotiations with the DOE appear lengthy and the DOE takes at times positions that are frankly more conservative than what we are used to seeing from commercial lenders. We recognize that some of this is due to a learning curve and, based on recent trends, we are hopeful of further improvement and an ultimate standardization of terms.
- The roles and responsibilities of all participants in the application process seem to be undefined are not transparent to applicants.
- Industry confidence was shaken a few weeks ago when $1.5 billion was rescinded from the program raising questions about whether there will be adequate funding for existing applications and future solicitations. In fact, in a letter dated August 26, 2010, to Senate Majority Leader Reid and Appropriations Committee Chairman Senator Inouye, Senators Feinstein and Boxer noted that an additional 81 applications are in the pipeline for processing requesting approximately $27 billion in loans. The Senators expressed their concern that DOE's loan authority will likely be exhausted by February 2011. We support legislation introduced by Senator Baucus as part of the so-called "Tax Extenders" effort. The Baucus provision would restore credit subsidy funding of $1.5 billion to the Section 1703 program.
- Under the 1705 program, projects that cannot close loans before September 2011 are not eligible. This time-based approach controls eligibility at the back end of the application process after time and money have been spent rather than at the front end.

Based on our experience the predictability, efficiency and value of these programs could be further improved by:

- Considering an extension of the 1705 program, so it has time to fulfill its potential for opening long-term scalable capital markets of large scale solar PV. The current expiration date of September 2011, when combined with the lengthy implementation period creates significant realization risk to projects.
- The cost of a DOE application under both 1703 and 1705 programs range between $2.0 and $5.0 million. These are significant commitments, especially for smaller emerging companies. Revise the concept of a funding deadline to an application deadline, so projects in the application process are grandfathered and the application cost are not at risk due to timing, but only subject to project substance.
- Continue to strive for commercially acceptable terms as they relate to credit risk and cash flow usage.
- Establish clear accountability through the application process for all participants in terms of execution timelines during the process and measure compliance. Senator Bingaman has introduced legislation (S. 3759) to limit OMB's time to comment on any application the Secretary of Energy submits for review

to 30 days. Such firm timelines throughout the entire process would greatly enhance predictability of the program.
- Restore the full funding of the program.
- Integration of the treasury grant program and the DOE loan programs in terms of availability and economics.

To summarize, based on our experience: (1) the predictability, efficiency and value of these programs could be significantly improved by grandfathering projects in the application queue and/or extending the program so that it has time to fulfill its potential; (2) continue to strive for commercially acceptable terms; establish clear accountability throughout the application process; (3) restore full program funding; and (4) align the Treasury Grant Program and the DOE Loan Program in terms of availability and economics.

EXTEND EXPIRING TREASURY GRANT PROGRAM

While it is not part of the DOE Loan Guarantee Program, we want to take this opportunity to highlight our industry's need for extension of the Treasury's important 1603 Cash Grant program.

The Section 1603 Treasury Grant Program represents the equity side of our industry's liquidity challenge. The current tax code makes it impossible for certain investors to participate, and the securitization of equity is impossible. The Treasury Grant Program reduces these constraints enough to significantly broaden the capital base for large scale solar PV programs. However, enabling large scale financial investors such as mutual funds, insurance companies and pension funds to participate requires a certain lead time. In our mind the DOE Loan Guarantee Program and the Treasury Grant Program are synergistic and rely to a certain degree on each other.

The importance of the Treasury Grant Program can be summarized in three key points:

- Liquidity in the equity markets is increased, which makes projects like ours viable.
- The cost of capital is reduced and—therefore cost of renewable energy—by creating competing capital classes with differing return requirements.
- The program provides the equity component of project finance on a cash return basis.

A recently published white paper produced by US PREF analyzed the state of the tax equity markets and determined that tax equity remains severely constrained. A copy of the white paper* is attached as Appendix B.

First Solar joins others in our industry, small and large, to extend our thanks to Congress for establishing this program. However, the Treasury Grant Program will expire at the end of this year, just as it is critically needed to bring projects on line and attract investors for new development projects. It is vital that this important program be extended though December 31, 2012.

CONCLUSION

The benefits of the DOE loan program can be summarized as follows:

- Significant increase in debt liquidity.
- Important financing bridge, until the U.S. financing markets fully develop for utility-scale solar projects.
- Encourages development of innovative renewable technologies, including those which help utilities to integrate solar power projects into their grids.
- Reduces the cost of capital, which indirectly reduces the cost of renewable power.

A strong US solar industry is critical to our energy security and economic recovery. The Federal government should provide transitional incentives of sufficient duration and impact to ensure that those jobs are created in the United States.

We encourage Congress to act now to extend vital programs scheduled to expire and to remain committed to longer-term programs necessary to attract the global capital and investment required to sustain a growing renewable energy sector.

We look forward to working with Congress to craft solutions to create jobs and reestablish America's leadership in solar manufacturing and deployment.

The CHAIRMAN. Thank you very much. Thank you.

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*Document has been retained in committee files.

Mr. Scott.

STATEMENT OF MICHAEL D. SCOTT, MANAGING DIRECTOR, MILLER BUCKFIRE & COMPANY, LLC, NEW YORK, NY

Mr. SCOTT. Thank you. Mr. Chairman, members of the committee, thank you for the opportunity to testify today. My name is Michael Scott and I head the U.S. Government investment banking business at Miller Buckfire in New York. I'm pleased to provide my views on the title XVII Loan Guarantee Program, the significant implementation obstacles that title XVII has faced and solutions to these obstacles.

The road map that I lay out is one that the President can act on and allows title XVII to be implemented to achieve its original purposes as well as the policies and priorities of the President, Congress and the American people. Title XVII is a very powerful policy tool that is unique and important in the current economic environment especially with the U.S. Government facing the stresses and difficult choices involved with our significant budget deficits. Thoughtful implementation of title XVII can drive economic growth through the development of private sector, clean energy infrastructure projects that are built and fully paid for by the private sector.

Provide significant short term and long term jobs in construction, manufacturing and operations.

Drive significant new investment in our domestic supply chain, manufacturing base and supporting industries such as iron and steel.

Develop environmentally clean and secure domestic energy capacity.

Correct the private market failure to finance clean, innovative energy technologies.

Provide well qualified project sponsors with confidence that credible projects can receive a Federal loan guarantee through a reasonable and predictable process.

Create and foster America's leadership and development in the deployment of clean energy technologies.

The failure of title XVII to become a meaningful Federal credit program is directly related to the decisions of the past Administration in OMB in establishing the process, procedures and rules that govern the program today. While DOE is the program agency for title XVII OMB's role and responsibility for Federal credit places it at the center of success or failure of title XVII or any other Federal credit program. To be clear, OMB owns Federal credit.

They are responsible for implementing the Federal Credit Reform Act which includes the calculation of the Federal credit subsidy.

They have significant input and final say on the rules and regulations implementing any Federal credit program.

They have tremendous influence on and responsibility for an agency's budget.

They have significant influence on the tools that can be helpful in executing Federal credit programs such as the use of the Federal Financing Bank.

The impediments to a fully functional title XVII rests largely with administrative decisions of the past. The President and his team can correct these problems by providing specific leadership and direction to the agencies whose responsibilities impact the successful execution of title XVII.

I would summarize the key solutions that the President can deliver administratively as implementing the Federal Credit Reform Act in a manner that is literally faithful to the language of the statute particularly involving the calculation of the Federal Credit Subsidy payment required from the borrower under section 1702(b)(2).

Amending the final rule to correct provisions that are inconsistent with the statute, Congressional intent, the Federal Credit Reform Act and OMB circulars pertaining to Federal credit programs, eliminating maximum loan guarantee authorization levels in their inclusion in appropriation acts as this approach is inconsistent with the borrower pay provision of section 1702(b)(2).

Establishing a contractual credit subsidy downgrade fee as a way to address CBO's concerns that the credit subsidy calculation will underestimate the long term costs to the taxpayer and therefore require the CBO scoring convention that directs a taxpayer funded appropriation of 1 percent of the loan guarantee authorization level sought.

Finally issuing an executive order pertaining to title XVII to provide unambiguous direction to the agencies responsible for its implementation. This also serves to provide credible project sponsors, investors and the supply chain confidence that title XVII will be a reasonable, predictable and available Federal credit program.

All of these actions including amending the final rule are within the President's authority and can take place reasonably quickly.

I am pleased to answer any questions that you may have.

[The prepared statement of Mr. Scott follows:]

PREPARED STATEMENT OF MICHAEL D. SCOTT, MANAGING DIRECTOR, MILLER BUCKFIRE & COMPANY, LLC, NEW YORK, NY

1Chairman Bingaman, Ranking Member Murkowski, Members of the Committee, thank you for the opportunity to testify today. My name is Michael Scott and I head the U.S. Government investment banking business at Miller Buckfire.

I appear before you today to provide my views on subjects related to the Department of Energy's ("DOE") Title XVII loan guarantee program. In this testimony, I will cover background on the history and operation of Federal loan guarantees, the role of the Federal Financing Bank and the unique innovative clean energy infrastructure loan guarantee program that the Energy Policy Act of 2005 created in Title XVII. I will also provide my thoughts on the ability of the Federal Credit Reform Act of 1990 to protect the taxpayer from financial loss, the significant implementation obstacles that Title XVII has faced since passage of the Energy Policy Act of 2005, solutions to these obstacles as well as the implications of operationalizing Title XVII for the priorities of President Obama, Congress and the American people pertaining to jobs, the economy, clean and secure domestic energy capacity, and the environment.

I served for almost five years as a Senior Advisor at the Department of the Treasury where I was responsible for, among other things, Federal credit policy, the evaluation, negotiation, and execution of Federal loan guarantees and direct loans as well as the management and oversight of the Federal Financing Bank. In my prior role at Treasury, I was one of the principal people who decided how and in what manner the large one-off Federal credit programs (such as the Air Transportation Stabilization Board, the Rural Economic Development Loan and Grant Program in the 2002 Farm Bill, the Alaska Natural Gas Pipeline Loan Guarantee Program and Title XVII of the Energy Policy Act of 2005) were executed during the September

2001 to July 2006 time period. This required me to be deeply involved with OMB on Federal Credit Reform Act issues pertaining to the individual Federal credit programs as well as the Federal Financing Bank. In conjunction with OMB, Treasury plays a significant role in new programs as it has policy interests in Federal credit and debt management and because of the fact that the Federal Financing Bank is often used to finance Federal loan guarantees, including those related to Title XVII. I was as often ensuring that deals got done as ensuring that deals did not. Contrary to the perception that Federal credit is similar to private sector financings and that all that is needed is enabling legislation, new Federal credit programs are complicated, rely on a knowledgeable and willing Executive Branch for execution, and face many institutional obstacles from both OMB and Treasury. Most Federal credit is concentrated in long-established and/or entitlement type programs that do not require the proactive input of the agencies' senior policy officials. The new one-off Federal credit programs are rare enough that very few senior officials ever have the chance or need to understand the full range of applicable statutes or the tools and issues that impact their execution. As we have seen in the implementation of Title XVII since late 2006, the President and his Administration can be ill-served by this asymmetrical knowledge of Federal credit between the institutional organs of government and the elected and appointed officials.

BACKGROUND ON FEDERAL LOAN GUARANTEES

The U.S. Government generally establishes Federal credit programs (loan guarantees and direct loans) for one of several reasons. The most common is to correct a private market failure to extend adequate or reasonable access to credit and then to provide a path forward to correct the market failure. This is the fundamental rationale and structure of the Title XVII loan guarantee program. The other reasons include targeted efforts to support national priorities or national emergencies. Setting aside the credit or capital programs provided under the Housing and Economic Recovery Act of 2008, the Emergency Economic Stabilization Act of 2008, or the various programs established under Federal Reserve authorities to address the financial market crisis, the vast majority of pre-crisis Federal credit is concentrated in housing, education, rural development and small business. It is typically the case that these programs have been in existence for decades or generations and are generally characterized by a large number of homogeneous transactions involving relatively small dollar amounts per loan. In all of these Federal credit programs, with the sole exception of §1703 projects under Title XVII, the U.S. Government pays for the "credit subsidy costs" by appropriating those amounts required as calculated by the Federal Credit Reform Act of 1990.

Prior to the Federal Credit Reform Act of 1990, the costs of Federal credit programs were only evaluated and appropriated at the time of default. This approach did not provide legislators or policymakers with the true budget impact of a Federal credit program and was inconsistent with the budgeting process in the non-credit spending programs of the U.S. Government. Since enactment of the Federal Credit Reform Act of 1990, the U.S. Government has calculated the net present value of the long-term costs (also known as the "credit subsidy costs") of Federal credit (loan guarantees or direct loans). In addition to the obvious cash flows of a transaction and the timing of those cash flows adjusted for the probability of default and recovery amounts, the credit subsidy calculation also considers the contractual and structural protections of the transaction. These protections may include, among others, parent or third-party guarantees, access to take-or-pay contracts or State PUC rate recovery mechanisms, or subordinated structures.

In those instances where the Federal Financing Bank is providing the financing pursuant to an agencies loan guarantee, the resulting transaction is considered a direct loan. This requires the credit subsidy calculation under the Federal Credit Reform Act of 1990 to be performed under the requirements for a direct loan. The most significant difference between the calculations of the credit subsidy cost of a loan guarantee as compared with that of a direct loan is that the cash flows derived from the interest rate spread above the Federal Financing Bank's costs of funds (which is the Treasury rate for a given maturity) is generally considered an inflow to the U.S. Government. This inflow serves to reduce the overall credit subsidy costs that need to be appropriated. In the case of the Title XVII program where the borrower is paying the full cost of the obligation under §1702(b)(2), this inflow would serve to lower the credit subsidy amount that the borrower is required to pay to the Department of the Treasury.

THE ROLE OF THE FEDERAL FINANCING BANK

The Federal Financing Bank Act of 1973 created an instrumentality of the U.S. Government under the general supervision of the Secretary of the Treasury. It was established to coordinate agency borrowings and the Federal credit and debt management policies of the U.S. Government. By statute, it is authorized to purchase or sell any obligation issued, sold or guaranteed by a Federal agency. In practice, the Federal Financing Bank finances agencies such as the U.S. Postal Service, the FDIC, the NCUA, as well as the loans guaranteed by DOE, the Department of Education's HBCU program, and the USDA's Rural Utilities Service. The Federal Financing Bank has often been used as an instrument of Federal credit policy by Treasury and OMB to constrain program agencies and insert additional controls on Federal credit programs. At other times, OMB has objected to the availability of the Federal Financing Bank in Federal credit programs and barred its use by limiting the definition of eligible lender in legislation to "non-Federal" entities.

As mentioned previously, one of the most significant benefits to using the Federal Financing Bank to finance guaranteed loans (whether for the U.S. Government in those Federal credit programs where the taxpayer is funding the appropriation or in the case of §1703 projects where the borrower is paying the full cost of the credit subsidy) is that the credit subsidy amount will be lower as a result of the cash inflow to the U.S. Government from the interest spread that the Federal Financing Bank earns above its cost of funds. Use of the Federal Financing Bank will marginally lower the net credit risk exposure of the U.S. Government because loan guarantees that are financed by the private sector are financed at a higher interest rate than the Federal Financing Bank and therefore the U.S. Government is guaranteeing that higher interest rate.

The Federal Financing Bank also provides certainty of transaction execution in all market conditions, which is an important benefit for both the borrower and the U.S. Government. During the recent financial market crisis, we saw significant periods where entire classes of loans guaranteed by the U.S. Government either could not trade or could not be traded at levels that one would expect of an obligation guaranteed by the U.S. Government. Dislocations in the private markets for U.S. Government guaranteed loans or securities backed by these loans provide counterproductive signals to market participants, can significantly impede the objectives of the underlying Federal credit programs, and can potentially have implications in the markets for Treasury's debt issuances.

TITLE XVII HISTORY, CONGRESSIONAL INTENT AND PROGRAM EXECUTION (2005-2010)

It is important to consider the original purposes of Title XVII and how Congress structured the section to achieve these purposes. In Title XVII, Congress recognized that there was a private market failure to finance innovative clean energy technologies that reduce greenhouse gas emissions and that this market failure encompassed a broad range of technologies. Congress also recognized the importance of getting these innovative clean energy technologies constructed and into operation, however, given the costs of the various technologies, the U.S. Government was unlikely to have the budget dollars necessary to appropriate to this program in amounts sufficient to achieve the purposes of the program. In Title XVII, Congress provided a path to finance enough projects to get a technology into "general use", at which point the market failure is presumed to be corrected. The definition of "general use" in the Final Rule is three commercial projects of a particular technology in the same general application as the proposed project, each operating for five years.

Congress provided two options to pay for the cost of the loan guarantees under §1702(b) which reads:

> "(b) Specific Appropriation or Contribution.—No guarantee shall be made unless—
>
> (1) an appropriation for the cost has been made; or
>
> (2) the Secretary has received from the borrower a payment in full for the cost of the obligation and deposited the payment into the Treasury."

§1702(b)(1) is the traditional approach to Federal credit where the U.S. Government pays for the cost of the loan guarantee through an appropriation with the cost of the loan guarantee being measured in accordance with the Federal Credit Reform Act of 1990.

§1702(b)(2) is the "borrower pay" alternative where the borrower pays the full cost of the loan guarantee with the cost of the loan guarantee being measured in accordance with the Federal Credit Reform Act of 1990.

Given the budget constraints of the U.S. Government, both the prior and current Administration have opted for the §1702(b)(2) "borrower-pay" option for the credit subsidy costs to fund §1703 projects. In providing the "borrower pay" option in §1702(b)(2) as a substitute for a taxpayer funded appropriation, and requiring that the "cost of the obligation" be measured by the standards in the Federal Credit Reform Act, Congress was structuring a program that would not impact the Federal budget, would fully compensate the U.S. Government for the risks that it was assuming, and would be of sufficient size to get clean energy technologies into general use.

The American Recovery and Reinvestment Act of 2009 amended Title XVII to add a temporary loan guarantee program under §1705 for renewable energy and power transmission projects. These "shovel ready" projects must commence construction by September 30, 2011. The credit subsidy costs for projects under §1705 are paid for by the U.S. Government through appropriations.

Since the passage of the Energy Policy Act of 2005 that provided the Title XVII loan guarantee program, we saw the effects of an unwilling Executive Branch that published a flawed Final Rule in 2007 and that operationally executed the program in a manner that was inconsistent with the relevant statutes as well as the Congressional intent of the program. President Obama and his team are burdened with this operational legacy from the prior Administration.

To understand the potential size of the Title XVII program, from August 2006 through August 9, 2010, DOE issued eight solicitations for various eligible technologies. According to a July 2010 report from GAO, these solicitations generated requests for $174.7 billion in loan guarantees. Given that the DOE cannot guarantee more than 80% of the project costs, and in fact is frequently directing borrowers to even lower percentages, the applications represented an estimated $250 billion in total project costs. As of August 12th, DOE has closed on $695 million of guarantees, all of which have been through the §1705 portion of the program that was created under ARRA. As previously mentioned, the credit subsidy costs of §1705 projects are paid for with U.S. Government appropriations.

FEDERAL LOAN GUARANTEES FOR §1703 PROJECTS

§1703 provides ten broad categories of eligible clean energy technology projects that must avoid, reduce, or sequester greenhouse gases and employ new or significantly improved technologies. The variety of technologies and the purposes for which they are used, necessarily result in differing business models, financial requirements, contributions to the statutory objectives, technology risks and financial prospects. However, Title XVII provides the ability to execute the program in a technology neutral manner. This can occur by implementing the program under the borrower pay provisions of §1702(b)(2), where the only statutory limit on loan guarantees is driven by the amount of time that it takes to get a technology into "general use" and the borrowers willingness to pay the credit subsidy and administrative costs. Whereas if Title XVII is executed under the requirements of §1702(b)(1) and the U.S. Government needs to appropriate taxpayer dollars, decisions on the allocation of maximum loan guarantee levels for each technology become necessary.

Regardless of the mechanism used to pay for the credit subsidy costs of the program, each project is subjected to the same statutory and rule requirements that protect the taxpayer and fully price the risk that would be assumed for projects that receive a loan guarantee. For example, the statute requires the project sponsor to have at least 20% "skin in the game" as DOE cannot guarantee more than 80% of the project costs. Each application is subjected to an extensive due diligence process by the U.S. Government, a rating agency as well as by the project sponsor. The terms and conditions of the individual projects are supposed to be fully reflected in the calculation of the credit subsidy under the Federal Credit Reform Act of 1990. These calculations have been employed for a wide variety of Federal credit programs and when employed on a project basis, as opposed to a portfolio basis, ensure that all relevant factors of the individual projects are considered. On June 22, 2007, then CBO Director Orzag sent Chairman Obey a letter that commented on the ability of the Rural Utilities Service to implement a loan guarantee program that would be designed to result in "no net cost" to the U.S. Government. CBO expressed concerns that programs that utilized a single average rate would be very difficult to manage to the "no net cost" to the U.S. Government and then proceeded to lay out the structure and process of a program that could achieve the objective of "no net cost." The most significant recommendation is to establish the credit subsidy fee based on each individual project.

It is important to understand the issues and process that one undergoes with DOE which applies to all technologies. After an extensive review process of the tech-

nology and business plan of a project sponsor, that includes an initial project rating by a rating agency (for those projects exceeding $25 million) as well as a full evaluation by the U.S. Government, DOE decides whether or not to offer a "term sheet" to a prospective project sponsor. Once the "term sheet" is agreed to by both the DOE and the project sponsor, a "conditional commitment" is issued. During this phase of the process, the DOE and OMB will provide the project sponsor with a nonbinding estimate of the credit subsidy costs that they will be required to pay at closing. The "conditional commitment" will detail the conditions precedent required for closing, which include all contractual, statutory and regulatory requirements. In addition to these requirements, at a time no later than 30 days prior to the fulfillment of the conditions precedent and scheduled closing, the final project business plan will have been evaluated by a rating agency to determine the actual rating for the project, and the project sponsor will submit all of this to DOE and OMB for evaluation, compliance with the conditional commitment, as well as the calculation of the actual credit subsidy costs.

The time period between the "conditional commitment" and the period just before the financial closing provides uncertainty for those costs that have not been contractually set. However, these costs will be substantially confirmed prior to closing and the development of the final business plan will ensure that the full costs of the project are used to determine the actual credit subsidy costs. For the project sponsor and its investors, who will have invested significant sums of their own before any financial closing on a Federal loan guarantee, the final business plan will either confirm the financial viability of the project or the need to cancel the project and therefore not close on the Federal loan guarantee. As it relates to post-closing cost overruns, prior Title XVII commitments required that any post-closing cost overruns be paid for with new equity from the project sponsor.

For a variety of reasons, the actual closing on the conditional commitment will be a very complicated process. It will be complicated because satisfaction of the conditions precedent is often only achievable with the passage of significant time. However, this interim period will provide better and up-to-date information (that may be neutral, favorable or unfavorable) that will drive the final business plan and the rating agency process that will ultimately factor into the calculation of the actual credit subsidy costs. While there are some Final Rule based issues that add ambiguity into the actual closing that are neither normal nor customary in either the private markets or in Federal credit programs, the broad process contributes significant protections to the taxpayer.

Labor has an important role in Title XVII projects and has taken proactive steps to provide cost certainty, work quality, and the availability of a highly skilled workforce for these important projects. For example, the Building and Construction Trades Department of the AFL-CIO has entered into Project Labor Agreements with a number of Title XVII project sponsors selected for due diligence by DOE. These agreements will help project sponsors control the labor and quality costs of the projects and focus all participants on bringing high quality projects in on-time and on-budget. This will also materially contribute to reducing the overall risk of the projects to the U.S. Government.

The detailed Project Labor Agreements are designed to supply the highly skilled and trained workforce needed for these complex and crucial clean energy infrastructure projects. They include the establishment of multi-craft training centers located near or on the new sites, rearranging traditional apprenticeship parameters so that apprentices arrive on the job with productive skills from the first day, the development of special training partnerships with vendors and suppliers to certify all workers on the installation of their particular components, and the development of programs to train a local workforce for careers in the construction, operation and maintenance of these new clean energy facilities.

PROTECTING THE TAXPAYER AND THE FEDERAL CREDIT REFORM ACT OF 1990

Historically, the U.S. Government pays for the cost of credit subsidy directly with appropriations of taxpayer funds. The one significant exception to this is in Title XVII where Congress specifically authorized the borrower to pay "in full for the cost of the obligation" in lieu of a taxpayer funded appropriation. As previously discussed, the vast majority of pre-crisis Federal credit is extended in homogeneous transactions characterized by high volumes and relatively low dollar amounts, concentrated in housing, education, rural development and small business. Because the U.S. Government pays for the credit subsidy costs of these transactions, the mechanics of the calculation and the underlying assumptions used by OMB are of less import to the borrower. As a result, OMB makes a number of simplifying assumptions which may be appropriate for the U.S. Government when broadly seeking to

implement the purposes of Federal Credit Reform Act. However, this approach can be quite costly to the borrower when the transactions themselves are highly customized and part of a unique self-pay program. As a result, it is very important that in implementing the Federal Credit Reform Act, OMB and DOE do so in a manner that is literally faithful to the language of the statute and that recognize the highly customized and unique nature of each project.

One concern in executing any Federal credit program is whether or not the Federal Credit Reform Act of 1990 provides an accurate calculation of the net present value of the long-term costs to the U.S. Government of extending the credit. In considering the accuracy of the calculation of credit subsidy across those special one-off Federal credit programs such as Title XVII, experience generally shows that the initial credit subsidy cost, calculated either by OMB or CBO, are more conservative than the actual history of the program. The Air Transportation Stabilization Board ("ATSB"), the $10 billion loan guarantee program for airlines after the September 11th attacks was originally expected to produce a positive credit subsidy in the 30% to 35% range (a positive credit subsidy "costs" the U.S. Government, a negative credit subsidy "makes money" for the U.S. Government.) The ATSB made six loan guarantees, three of which subsequently filed for Chapter 11 bankruptcy protection. Even with one $20 million loss due to the post-loan guarantee bankruptcy of ATA, the ATSB netted approximately $300 million through fees and the exercise of warrants after issuing $1.6 billion in Federal loan guarantees, resulting in a negative credit subsidy of over 18% for the overall program. In considering the credit subsidy costs of the TARP program, Table 4-8 on page 41 of the Analytical Perspectives, Budget of the United States Government, Fiscal Year 2011 (http://www.whitehouse.gov/omb/budget/fy2011/assets/econ_analyses.pdf) provides a further example of this. This is not to say that the credit subsidy calculation cannot be wrong, but it is to say that the Federal Credit Reform Act is a very good tool to measure the net present value of the long-term cost to the U.S. Government of any Federal credit program, has a good reputation over the 20-years since enactment, and absent extreme carelessness on the part of the program agency and OMB, is going to properly protect the taxpayer.

As it relates to the calculation of the credit subsidy costs, I would offer that single point estimates in either the minimum or maximum forms are not supportable suppositions. To follow such a directed outcome would reject the relevance and reliability of the Federal Credit Reform Act in calculating the credit subsidy costs and put the U.S. Government in the untenable position of calculating the credit subsidy costs outside of the statutorily required calculation under §1701(2) of Title XVII.

Properly and faithfully implemented, the Federal Credit Reform Act considers all of the cash flows over the entire lifetime of the loan including fees, defaults, recoveries and contractual and structural protections. This analysis over the entire lifetime of the loan is important as the maximum term of a loan guarantee under §1702(f) is the lesser of 30 years or 90 percent of the useful life of the projects assets. The "entire lifetime of the loan" analysis that is required under the Federal Credit Reform Act is substantially different from the scoring of non-credit spending programs of the U.S. Government. In these non-credit spending programs, there is no attempt to analyze, measure or otherwise calculate the costs beyond the 10-year budget window. To the extent that the spending program continues beyond the 10-year budget window, the taxpayer is fully exposed to those costs and liabilities.

THE TITLE XVII OPPORTUNITY

The President and Congress have a very powerful policy tool in Title XVII that is unique and important in the current economic environment, especially with the U.S. Government facing the stresses and difficult choices involved with our significant budget deficits. Thoughtful implementation of Title XVII can:

1. drive economic growth through the development of private sector clean energy infrastructure projects that are built and fully paid for by the private sector;
2. provide significant short-term and long-term jobs in construction, manufacturing and operations;
3. drive significant new investment in our domestic supply chain manufacturing base in supporting industries such as iron and steel;
4. develop environmentally clean and secure domestic energy supply capacity;
5. correct the private market failure to finance clean, innovative energy technologies;
6. provide well qualified project sponsors with confidence that credible projects can receive a Federal loan guarantee through a reasonable and predictable process; and,

7. create and foster America's leadership in the development and deployment of clean energy technologies.

The reason that Title XVII is so powerful lies in the fact that the President does not need new legislative authority or new appropriations to make the program work. The legislation for Title XVII provides all of the authority that the Executive Branch needs to execute the program. Unlike all other Federal credit programs where the U.S. Government pays for the credit subsidy and administrative costs of the programs, Title XVII provides that the credit subsidy (§1702(b)(2)) and the administrative (§1702(h)) costs are fully paid for by the borrower and substitutes the borrower payments for the appropriations. This means that the Federal budget is not affected by the issuance of the loan guarantees under §1703 and that the level of risk assumed by the U.S. Government is fully compensated for as measured by the Federal Credit Reform Act. The calculation for this risk is completed in the same manner as if this was a traditional Federal credit program where the U.S. Government paid the credit subsidy costs.

WHAT ARE THE KEY IMPEDIMENTS TO A FULLY FUNCTIONAL TITLE XVII?

The failure of Title XVII to become a meaningful Federal credit program is directly related to the decisions of the prior Administration and OMB in establishing the process, procedures and rules that govern the program today. While DOE is the program agency for Title XVII, OMB's role and responsibility for Federal credit places it at the center of success or failure of Title XVII or any other Federal credit program. To be clear, OMB owns Federal credit. They are responsible for implementing the Federal Credit Reform Act, which includes the calculation of the Federal credit subsidy, they have significant input and final say on the rules and regulations implementing any Federal credit program, they have tremendous influence and responsibility for an agency's budget, and they have significant influence on the tools that can be helpful in successfully executing Federal credit programs, such as the use of the Federal Financing Bank.

The impediments to a fully functional Title XVII rest largely with administrative decisions of the past. The President and his team can correct these problems by providing specific leadership and direction to the agency's whose responsibilities impact the successful execution of Title XVII. The President can correct the impediments by:

1. Implementing the Federal Credit Reform Act in a manner that is literally faithful to the language of the statute, particularly involving the calculation of the Federal credit subsidy payment required from a borrower under §1702(b)(2);
2. Amending the Final Rule to correct rules that are inconsistent with the statute, congressional intent, the Federal Credit Reform Act, and OMB Circulars pertaining to Federal credit programs;
3. Eliminating maximum loan guarantee authorization levels and their inclusion in Appropriation Acts as this approach is inconsistent with the "borrower pay" provision of §1702(b)(2);
4. Discontinuing the Financial Institution Partnership Program ("FIPP") whose function is inconsistent with Title XVII and negatively impacts the targeted technologies and sponsors;
5. Establishing a contractual "credit subsidy downgrade fee" as a way to address CBO's concerns that the credit subsidy calculation will underestimate the long term costs to the taxpayers and therefore require the CBO scoring convention that requires a taxpayer funded appropriation of 1% of the loan guarantee authorization levels sought; and
6. Issuing an Executive Order pertaining to Title XVII to provide unambiguous direction to the agencies responsible for its implementation. This also serves to provide credible project sponsors, investors and the supply chain confidence that Title XVII will be a reasonable, predictable and available Federal credit program.

Each of these issues is addressed separately below.

FAITHFUL IMPLEMENTATION OF THE FEDERAL CREDIT REFORM ACT AND CALCULATING THE BORROWER PAID CREDIT SUBSIDY FEE

Key Concerns in Properly Calculating Federal Credit Subsidy

For the U.S. Government, an accurate calculation of the credit subsidy fee is important because:

1. It is required under the Federal Credit Reform Act of 1990;
2. It is a requirement of §1701(2) and §1702(b)(2) of Title XVII;

3. It ensures that the U.S. taxpayer is compensated for the risks that they are assuming in providing for a loan guarantee;

4. It ensures that the Administration is properly protected through a thoughtful and statutorily rigorous methodology; and,

5. An accurate calculation will provide project sponsors, the Administration, Congress and the American people with the full potential of the Title XVII loan guarantee program to achieve the economic, environmental and domestic energy objectives and policies of the President and Congress.

For the borrower, an accurate calculation of the credit subsidy fee is important because the borrower is required to pay upfront for the full cost of the obligation as calculated by the Federal Credit Reform Act and therefore it should be done so in a manner that is faithful to the relevant statutes, rules, regulations, OMB Circulars, and transaction specific facts. The credit subsidy affects the overall costs of the investment and borrower's need to have confidence that whatever the final outcome, the amount that they would be charged reflects the statute and their particular project.

Critical Definitions and Requirements of the Federal Credit Reform Act

There are several critical definitions and requirements that impact the credit subsidy calculation and therefore are important to be aware of. Specifically:

1. §502(5)(A) defines the term "cost" as meaning "the estimated long-term cost to the Government of a direct loan or loan guarantee or modification thereof, calculated on a net present value basis, excluding administrative costs and any incidental effects on governmental receipts or outlays."

2. The term "direct loan" is relevant here as a Federal Financing Bank financing converts a "Loan Guarantee" into a "Direct Loan" and therefore triggers the calculation of the credit subsidy cost under the provisions of §502(5)(B) which reads: "The cost of a direct loan shall be the net present value, at the time when the direct loan is disbursed, of the following estimated cash flows: (i) loan disbursements; (ii) repayments of principal; and (iii) payments of interest and other payments by or to the Government over the life of the loan after adjusting for estimated defaults, prepayments, fees, penalties, and other recoveries; including the effects of changes in loan terms resulting from the exercise by the borrower of an option included in the loan contract.

3. The discount rates used to calculate the net present value is established in statute. §502(5)(E) reads "In estimating net present values, the discount rate shall be the average interest rate on marketable Treasury securities of similar maturity to the cash flows of the direct loan or loan guarantee for which the estimate is being made."

Important Differences between Title XVII and other Federal Credit Programs

As previously discussed, most Federal credit programs involve longstanding programs characterized by a large number of transactions, relatively small dollar amounts per transaction, and the U.S. taxpayer being responsible for paying the Federal credit subsidy as calculated under the Federal Credit Reform Act through an appropriation. Because the U.S. Government pays for the credit subsidy costs of these transactions, the mechanics of the calculation and the underlying assumptions used by OMB are of less import to the borrower. As a result of the nature of these programs, certain calculation shortcuts that are perfectly acceptable from a broad portfolio perspective and that are administratively more efficient are certainly reasonable, particularly when the U.S. Government is responsible for the Federal credit subsidy appropriation. However, this approach can be quite costly to the borrower when the transactions themselves are highly customized and part of a unique self-pay program.

Title XVII provided that the Federal credit subsidy appropriation required could be funded by U.S. Government provided (taxpayer) appropriations as it is in all other Federal credit programs through §1702(b)(1), or alternatively could be funded by the borrower paying the same amount upfront through §1702(b)(2). Congress established the alternative approach of §1702(b)(2) because it understood that the limited budget dollars available for a new Federal credit program would not be sufficient to achieve the statutory objectives of Title XVII given the number and types of technologies eligible under §1703. Importantly, by enacting a later and more specific law, the provisions of Title XVII supersede conflicting provisions of previously enacted laws, most relevant in the instant case, the Federal Credit Reform Act.

Implementing under the borrower pay provisions of §1702(b)(2) inherently requires the recognition of the unique characteristics of each project. This requires a literally faithful interpretation of the Federal Credit Reform Act.

CONCERNS ABOUT OMB'S APPROACH TO CALCULATING FEDERAL CREDIT SUBSIDY

There are a variety of concerns about whether OMB is calculating the Federal credit subsidy in a manner that is literally faithful to statute. There are a lot of inputs and assumptions that are required to be made in the modeling of the spreadsheet that feeds OMB's Credit Subsidy Calculator. While the following are not a complete listing of the issues, they do represent significant concerns that are particularly important in a statutorily faithful calculation.

1. The cash flows to the U.S. Government from project sponsors are not fully incorporated into the model that OMB is using for Title XVII. These concerns center on several areas:

a. The interest spread above the Federal Financing Bank's cost of funds (which is the Treasury rate for a given maturity) should be treated as a cash flow to the U.S. Government;

b. Fees collected from the borrower that are not specifically cost based should be treated as a cash flow to the U.S. Government;

c. Recovery values should be fully analyzed, valued and treated as a cash flow to the U.S. Government. This represents a significant issue because:

i. As outlined in the DOE/OMB Report to the Committees on Appropriations entitled "Credit Subsidy Methodology", OMB established a "base recovery rate" that could be notched up or down according to a "number of factors";

ii. In practice, OMB has adopted a base recovery rate of 55% for all projects, regardless of individual project-specific factors;

iii. Recovery values will vary on a project-by-project basis. This is due to the technology, nature and structure of the project, the project sponsors, contractual differences, as well as other factors. Recovery values need to be considered in a project-specific context as there are likely to be multiple sources of recoveries for any particular project. Examples of different sources of recovery include:

1. From the sale of the underlying asset serving as the collateral;

2. From sponsor commitments to inject new equity based on contractual commitments;

3. From commitments from the project's technology and/or EPC contractors to cover certain obligations, such as cost overruns or other contingencies;

4. From other collateral provided to the U.S. Government, such as cash collateral accounts; and,

5. From other contractual or structural protections agreed to by the project sponsor.

One concrete example of multiple sources of recovery occurred during the execution of the ATSB. The Board hired a variety of valuation experts to provide opinions on a range of collateral that the ATSB ultimately became contractually entitled to. These experts opined on items that would generate recovery cash flows to the U.S. Government such as aircraft, real estate, simulators, equipment, gates, routes, slots, warrants and contractual provisions. The retention of these experts and use of their valuations provided the ATSB with a sound and supportable basis to make recovery valuation estimates and incorporate the data into the credit subsidy calculation.

2. The discount rates used in OMB's Credit Subsidy Calculator model reflect the assumptions used in the President's Budget and not the actual "average interest rate on marketable Treasury securities of similar maturity to the cash flows of the direct loan or loan guarantee for which the estimate is being made" as directed in §502(5)(E). This is particularly meaningful as the loan guarantees are being financed by the Federal Financing Bank based on the Treasury rate for a given maturity at the date of disbursement.

As OMB recognized in a March 11, 1998 letter to GAO pertaining to a GAO report on credit reform (GAO/AIMD-98-14), "subsidy rates are highly dependent on the interest rate that is used to discount the cash flows. A change in the discount rate will cause the subsidy rate to change, even if the cash flows are unaffected."

Recognizing the importance of the discount rates and the statutory language and intent that the Federal Credit Reform Act provides, it is critical that this component be faithfully executed. In the instant case of Title XVII, this is especially important because the Federal Financing Bank is the required lender

where the U.S. Government is guaranteeing 100% of the guaranteed obligation (see Final Rule at §609.10(d)(4(i)). The importance is clear as the Federal Financing Bank is providing financing based on the Treasury rate for a given maturity at the time of disbursement. A faithful interpretation of the discount rate required under the Federal Credit Reform Act would suggest that the discount rate employed would be equal to the base Treasury rate that the Federal Financing Bank is using in its financing to the borrower. Utilizing the Treasury rate assumptions in the President's budget would generally be acceptable as long as the borrower's interest payment cash flows to the U.S. Government are modeled off the same Treasury rate assumptions.

3. OMB is providing guidance and direction to DOE (and indirectly to applicants) that is inconsistent with the underlying statutes and rules. Specifically, the Final Rule and the relevant solicitations provide for a non-binding estimate of the Federal credit subsidy costs of a proposed project but recognize that the final Federal credit subsidy amount can only be determined near the date of financial closing and disbursement. Common language in the solicitations says "The final Credit Subsidy Cost determination must be made at or prior to the closing on the Loan Guarantee Agreement and may differ from the preliminary estimate of the Credit Subsidy Cost, depending on project-specific and other relevant factors including final structure, the terms and conditions of the debt supported by the Title XVII guarantee and risk characteristics of the project." This is consistent with the requirements of the Federal Credit Reform Act of 1990, Title XVII, the Final Rule and the relevant solicitations. However, OMB has suggested that the non-binding estimate of the Federal credit subsidy is actually an amount that the final credit subsidy required will not be below. This is problematic for four reasons:

a. It is not consistent with the Federal Credit Reform Act requirement that the credit subsidy cost be determined at the "date of disbursement";

b. It suggests that changes in the final business plan, project rating or transaction structure (whether positive, negative or neutral) are not relevant to the final credit subsidy cost calculation;

c. The existing assumptions and inputs to used to calculate the Federal credit subsidy estimates have not been faithful to the Federal Credit Reform Act; and,

d. It is important for project sponsors and other stakeholders to know that there is a statutory and fact-based framework that will be followed with respect to the calculation of the credit subsidy payment required and that positive or negative factors that arise after the term sheet but before financial closing will be fully considered in accordance with the law.

The faithful implementation of the Federal Credit Reform Act is a very time sensitive and critical issue, particularly for those project sponsors in the due diligence queue at DOE. The reason is that the non-binding Federal credit subsidy cost estimates that OMB and DOE provide project sponsors, gives the sponsor its first look at the expected check that the U.S. Government will seek, and this informs their investment decision. If the number provided is at a particular level that makes the project uneconomic, principally because the calculation was not faithful to the statute, and this drives a project sponsor and its investors to abandon a project that would otherwise have been viable, then not only have the purposes of Title XVII been frustrated, but the loss to everyone is irreplaceable.

AMENDING THE FINAL RULE

The Final Rule needs to be amended to address rules that are inconsistent with the statute, congressional intent, the Federal Credit Reform Act, and OMB Circulars pertaining to Federal credit programs. The Final Rule was originally issued in October 2007. Under Secretary Chu's leadership, DOE reviewed the Bush Administration's Final Rule and issued a Notice of Proposed Rulemaking in August 2009 to correct what it viewed as statutory misinterpretations on several narrow issues. While it was clear that DOE was correct to pursue the proposed changes, there are in fact other areas where the Final Rule is inconsistent with the underlying statute and Congressional intent of Title XVII, inconsistent with other applicable statutes, inconsistent with OMB Circular's pertaining to Federal credit programs and which impede the ability of Title XVII to achieve its purposes.

The specific items include:

1. Elimination of the partial guarantee in the Final Rule (§609.10(d)(4)(ii) and (iii) and in the §609.2 definition of "Guaranteed Obligation". Partial guarantees

are inconsistent with the statutory definition of "Full Faith and Credit" provided in §1702(j) and impede execution of Title XVII.

In providing for a partial guarantee in the Final Rule, OMB and DOE have usurped the power that the Constitution gave solely to Congress under Article I, Section 8; the power to pledge the credit of the United States.

Institutionally, both OMB and Treasury have had a preference for partial guarantees and for which OMB provides guidance under OMB Circular A-129 (Appendix A (II) (3) (a)). The principal rationale for this position pertains to the need for the beneficiary of the loan guarantee to have "skin in the game". This particular view fails to recognize that Congress ensured that the project sponsor had "skin in the game" by limiting the guarantee to 80% of the project cost in §1702(c). Regardless of an agencies institutional position, it cannot be imposed in a manner that is inconsistent with the Constitution and the statute, which the current Final Rule is.

Beyond the Constitutional issues, Congress and the Executive should be concerned whenever rules or regulations cast doubt on the meaning of the U.S. Government's pledge of its full faith and credit as it is detrimental to the U.S. Government's interest in the financial markets. It also creates uncertainty with project sponsors, eligible lenders, financial partners and other stakeholders, all of which impede the execution of Federal credit programs and their general purposes, including correcting a private market failure for credit availability.

While this particular issue originated in the 2007 Final Rule, in October 2009, DOE created the Financial Institution Partnership Program to implement a partial guarantee program under §1705. For the reasons discussed herein, this is inconsistent with the statutory language of Title XVII and the Executive and Congress should be very concerned about the implications for both Title XVII and future Federal credit programs.

The inclusion of §609.10(d)(4)(ii) and (iii) and the §609.2 definition of "Guaranteed Obligation" are of particular concern. As it relates to the definition, the inclusion of the words "or any part of" is troubling as these words are used by Congress when they seek to provide the Executive with discretion to provide less than a full faith and credit obligation; however these words were not included in Title XVII and are inconsistent with the underlying statutory meaning and congressional intent of the words "Full Faith and Credit" used in Title XVII.

> §1702(j) reads: "FULL FAITH AND CREDIT.—The full faith and credit of the United States is pledged to the payment of all guarantees issued under this section with respect to principal and interest."

The concept of full faith and credit is well established in the Constitution, in statute and in U.S. Attorney General Opinions. After a long history of agencies seeking the formal opinion of the Attorney General as to whether the full faith and credit of the United States is pledged to a particular obligation, Attorney General Elliott L. Richardson issued a Memorandum to the Heads of Executive Departments dated October 10, 1973 in which he memorializes the Attorney General's opinion on the meaning of "full faith and credit of the United States". The third sentence reads, "More frequently, however, the pledge of full faith and credit is not in doubt and may well be specified in the statute itself." This is the fact in the instant case.

In 6 U.S. Op. Off. Legal Counsel 233, 1982 WL 170692 (O.L.C.), the Attorney General opinion on a full faith a credit question recalls an earlier Attorney General opinion in which he says ". . .If there is statutory authority for the guaranties, absent specific language to the contrary such guaranties would constitute obligations of the United States as fully backed by its faith and credit as would be the case were those terms actually used."

In 6 U.S. Op. Off. Legal Counsel 262, 1982 WL 170697 (O.L.C.), the Attorney General says "It has long been the position of the Attorney General that when Congress authorizes a federal agency or officer to incur obligations, those obligations are supported by the full faith and credit of the United States, unless the authorizing statute specifically provides otherwise."

An example of where Congress expressly provided discretion to limit the guarantee can be seen in P.L. 107-42 (Air Transportation Safety and System Stabilization Act).

> Sec. 107 (2) reads "FEDRAL CREDIT INSTRUMENT—The term "Federal credit instrument" means any guarantee or other pledge by the Board issued under section 101(a)(1) to pledge the full faith and credit of the

> United States to pay all or part of any of the principal of and interest on a loan or other debt obligation issued by an obligor and funded by a lender."

In establishing the regulations for ATSB, the Board used the discretion that Congress provided under §107 (2) to limit guarantees to less than 100% of the principal and interest (see 14 CFR §1300.14).

There seems to be very little ambiguity in the statutory understanding of "full faith and credit" either by Congress or by the Attorney General. To suggest that the specific statutory language of §1702(j) referencing "full faith and credit" with respect to principal and interest can be further limited beyond the specific limiting statutory language of §1702(c) seems entirely inconsistent with the historical use and understanding of this language. In fact, this would require one to assume that an agency or officer, authorized by Congress to incur an obligation, has the independent authority to determine the quality or quantity of the guarantee different from any specific limiting language. This presumption has been rejected by the Attorney General and was cited in U.S. Op. Off. Legal Counsel 262, 1982 WL 170697 (O.L.C).

2. Elimination of the unilateral right of the Secretary to terminate a Conditional Commitment as currently provided in the Final Rule definition of "Conditional Commitment" (§609.2). This provision is inconsistent with §502(4) of the Federal Credit Reform Act, the standards of the private financial markets for debt and equity conditional commitments and impede execution of Title XVII.

The Final Rule definition of "Conditional Commitment" (§609.2) contains the provision that "Provided that the Secretary may terminate a Conditional Commitment for any reason at any time prior to the execution of the Loan Guarantee Agreement; and Provided further that the Secretary may not delegate this authority to terminate a Conditional Commitment."

In Federal credit programs, and in the private financial markets for debt and equity, fulfillment of agreed upon conditions precedent is the legal standard for removing any conditionality to an agreement. §502(4) of the Federal Credit Reform Act reads:

> The term "loan guarantee commitment" means a binding agreement by a Federal agency to make a loan guarantee when specified conditions are fulfilled by the borrower, the lender, or any other party to the guarantee agreement.

While it might be argued that absent language providing the Secretary with the unilateral right to terminate the conditional commitment, the borrower would be required to pay the full amount of the credit subsidy upon the issuance of the conditional commitment, this fails to distinguish between implementing the program under §1702(b)(1) and §1702(b)(2) where the guarantee is also conditioned on the borrower paying the full cost of the obligation at closing. Further, the idea that the borrower should pay the credit subsidy at the time of the conditional commitment in order to remove Secretary's unilateral right to terminate conditional commitment exposes the taxpayer to unnecessary risk that they should not face given the time lag between conditional commitment and the satisfaction of the conditions precedent.

Providing the Secretary with the unconditional right to terminate a commitment after fulfillment of the conditions precedent introduces a very high level of uncertainty that is detrimental to the interests of the U.S. Government. This negatively impacts the perception of Federal guarantees in the financial markets not only for Title XVII, but in other programs as well. It also provides project sponsors with the unhelpful signal that despite fulfilling the conditions precedent, they may never close on the loan guarantee. This type of language discourages project sponsors from advancing eligible projects. The Executive and Congress should each be concerned about setting new standards and precedents that adversely impact their ability to execute statutes and their priorities.

3. Elimination of the solicitation requirement in §609.3 of the Final Rule. This requirement is inconsistent with a program where the borrower is responsible for paying the full cost of the credit subsidy and administrative fees as they are for §1703 technologies and the intent of Title XVII to get technologies into general use. Conforming changes are needed in §602.2 definition of "Application" and "Pre-Application", § 609.3(a) and (b), §609.4, §609.5, §609.6, and §609.7.

The solicitation approach creates a greater likelihood of suboptimal applications as applicants/sponsors are forced into submitting an application at the time and choosing of DOE as opposed to when they, their partners and the financial markets are in the best position to do so. A new "as-ready" approach

for applicants/sponsors to submit applications should replace the current solicitation process. Applications should then be subject to a simple approval or denial consistent with the statute, rules, regulations, and policies.

4. Elimination of the competitive evaluation requirement in §609.7 of the Final Rule. The competitive evaluation requirement is inconsistent with a program where the borrower is responsible for paying the full cost of the credit subsidy and administrative fees as they are for §1703 technologies and the intent of Title XVII to get technologies into general use.

It is helpful to frame this issue in the context of all other Federal credit programs, where the U.S. Government is directly paying for the appropriation of the credit subsidy with taxpayer funds. Under the traditional approach, there is a finite amount of monies available to support the credit subsidy and administrative expenses of the program and therefore a finite amount of loan guarantee authority. In this traditional approach to Federal credit programs, where the appropriations are made with U.S. Government funds and specifically limited, it is entirely appropriate to establish the solicitation and competitive evaluation process as a way of allocating scarce resources.

The "borrower pay" mechanisms in §1702(b)(2) and §1702(h) statutorily provide the appropriations necessary for both the credit subsidy and the administrative expenses required to evaluate and execute the program subject to the time limitation that a technology is considered in "general use" and the project sponsor's willingness to pay for the credit subsidy and therefore the competitive evaluation process only serves to impede the statutory objective of Title XVII.

5. Elimination of the one project, per technology, per sponsor limitation in §609.3(a) of the Final Rule. This requirement is inconsistent with a program where the borrower is responsible for paying the full cost of the credit subsidy and administrative fees as they are for § 1703 technologies and the intent of Title XVII to get technologies into general use.

The limitation on a sponsor to one project per technology is also inconsistent with the statutory purposes of Title XVII which are to commercialize clean energy technologies that reduce greenhouse gas emissions. Title XVII recognizes that the private sector will not fund the targeted technologies on its own and therefore it is in the U.S. Government's interest to participate in its funding until the market failure is corrected. Some of the technologies supported by Title XVII require very large capital commitments and involve a limited number of uniquely and highly qualified operators that are subject to a high degree of regulation. The current prohibition is inconsistent with the statutory and congressional intent of Title XVII, impedes a technology from becoming a commercial technology in general use, and may result in the highest quality sponsors limited to one project with a given technology or proposing multiple technologies for their generation fleet that add complexity and costs unnecessarily, and in ways that are reminiscent of acknowledged mistakes from the past.

6. Remove the ban on Federal entities in the definition of "Applicants" included in §609.2. Federal power agencies that are directed to the private markets for borrowings and that were not statutorily excluded from the Title XVII program should not be excluded by rule. This is inconsistent with the intent Title XVII to get innovative clean energy technologies into general use.

7. Include in the definition of "Credit Subsidy Cost" in §609.2, the definition of the "cost of a direct loan" as provided in §502(5)(B) of the Federal Credit Reform Act for those instances where the Federal Financing Bank is providing the financing pursuant to the DOE guarantee.

8. Assuming implementation under the borrower pay provision of §1702(b)(2), elimination of the requirement under §609.9(c)(1) for receipt of authority in an appropriation act as the specific authority is provided by §1702(b)(2).

ELIMINATING MAXIMUM LOAN GUARANTEE AUTHORIZATION LEVELS

Historical Context

Prior to the Federal Credit Reform Act of 1990, the costs of Federal credit programs were only evaluated, and appropriated for, at the time of default. Over the years, this approach was the subject of significant criticism from OMB, CBO, Congress and GAO. During these pre-credit reform days, GAO strongly encouraged the imposition of limits on the total dollar amount of loans or loan guarantees to be issued and OMB often agreed.

Since enactment of the Federal Credit Reform Act of 1990, the standard operating procedure for Federal credit programs has been to insert maximum volume author-

ization levels. This is provided in OMB Circular A-129 (prior version Appendix A (II)(3)(e), current version on OMB website Appendix A (II)(3)(5)) which reads:

> Maximum amounts of direct loan obligations and loan guarantee commitments should be specifically authorized in advance in annual appropriations acts, except for mandatory programs exempt from the appropriations requirements under Section 504(c) of the Federal Credit Reform Act of 1990.

As a practical matter, the post-FCRA era establishes maximum authorization levels for those programs subject to the FCRA. GAO's Principles of Federal Appropriations Law, Volume II, Chapter 11, page 11-23 notes:

> As a result of FCRA, guarantee programs are no longer unrestricted. Even if the applicable appropriation act does not explicitly set a maximum program level, the program level that can be supported by the enacted cost appropriation, reinforced by the Antideficiency Act, constitutes an effective ceiling.

Title XVII's Unique Structure—Borrower-Pays In Lieu of an Appropriation

In providing the "borrower pay" option in §1702(b)(2) as a substitute for a taxpayer funded appropriation, and requiring that the "cost of the obligation" be measured by the standards in the Federal Credit Reform Act, Congress was structuring a program that would not impact the Federal budget, would fully compensate the U.S. Government for the risks that it was assuming, and would be of sufficient size to get clean energy technologies into general use.

On April 20, 2007, GAO issued its Opinion B-308715 where it concluded that §1702(b)(2) confers upon DOE independent authority to make loan guarantees, notwithstanding the FCRA requirements. GAO said:

> The language of section 1702(b) makes clear that Congress contemplated two possible paths for making loan guarantees under title XVII. DOE, consistent with FCRA (2 U.S.C. § 661c(b)), could issue loan guarantees pursuant to appropriations for that purpose (EPACT, § 1702(b)(1)); or DOE could issue loan guarantees if it receives payments by borrowers of the "full cost of the obligation" (EPACT, § 1702(b)(2)). To read section 1702(b) as subjecting title XVII loan guarantees to the requirements of FCRA would read subsection (b)(2) out of the law, and we cannot do that; we have to give meaning to all of the enacted language. E.g., 70 Comp. Gen. 351, 354 (1991); 29 Comp. Gen. 124, 126 (1949). See also 2A Sutherland, Statutory Construction, § 46:06 at 193—94 (6th ed. 2000). Section 1702(b)(2) is clearly inconsistent with FCRA, and it is a later enacted, more specific law. It is well established that a later enacted, specific statute will typically supersede a conflicting previously enacted, general statute to the extent of the inconsistency. E.g., Smith v. Robinson, 468 U.S. 992, 1024 (1984); B-255979, Oct. 30, 1995. For these reasons, we conclude that EPACT section 1702(b)(2) allows DOE to issue loan guarantees if the borrowers pay the "full cost of the obligation." The alternative path clearly represents authority to make loan guarantees independent of and notwithstanding the earlier, more general FCRA requirements.
>
> Given our answer to the first part of this question, we need not address the second part which asks whether, in the alternative, section 1702(b)(2) constitutes new budget authority for the purposes of FCRA. Suffice it to say that section 1702(b)(2) provides DOE authority to make loan guarantees independent of FCRA.

Future Approach

The Administration should eliminate the current approach of establishing arbitrary dollar limits for loan guarantees on different technologies. The current approach is not only inconsistent with the "borrower pay" appropriation model and the statutory intent to get commercial technologies into "general use", it harms the U.S. Government's ability to incent sponsors and third-party providers of capital to invest in new technologies when they consider the cost of each technology, the number of projects needed for a given technology to become a commercial technology as defined, and the amount of loan guarantee authority arbitrarily allocated in the current approach.

The U.S. Government should acknowledge that under the "borrower pay" mechanism authorized in Title XVII and implemented for the loan guarantee program, the total amount of potential loan guarantees will be dependent on:

1. the amount of time before a technology becomes a commercial technology in "general use";

2. the number and quality of applications/applicants and the applicants willingness to pay the required credit subsidy and application fees;

3. the ability of the applicants to meet the statutory requirements and rules established under Title XVII; and,

4. the success of the program in achieving the policy objectives of the U.S. Government.

This is not to say that every project will or should be approved, as thoughtful implementation of Title XVII still subjects each application to a rigorous process and those projects that are not credible should be rejected. However, thoughtful implementation that removes improper rule based impediments and arbitrary limits will advance a program that is consistent with the underlying statutes and Congressional intent. It will also enhance Title XVII's credibility with the private sector and should bring highly qualified project sponsors and their projects to the U.S. Government for reasonable consideration.

This approach is consistent with the statute and Congressional intent of Title XVII as well as GAO's opinion on DOE's authority. It also provides applicants, sponsors, investors, contractors, third parties that provide other financial or risk support, and other stakeholders with clarity that does not exist today. This clarity will incent sponsors to commit to spending the substantial dollars necessary to bring projects to a financial closing and provide supply chain partners with the business visibility that is necessary for them to make new U.S. based investment in manufacturing and operations to support their partner's projects.

Congress Appropriation Control

Congressional concerns over control should be considered through agreed-upon formal reporting mechanisms that provide transparency and confidence that the program is being implemented thoughtfully and that the individual loan guarantees are being structured to achieve the objectives of Title XVII, including the long-term protection of the taxpayer.

DISCONTINUATION OF THE FINANCIAL INSTITUTION PARTNERSHIP PROGRAM

Discontinue the Financial Institution Partnership Program ("FIPP"). First, the execution of a partial guarantee program is inconsistent with the Full Faith and Credit provided under §1702(j) as discussed earlier. Second, the financing execution provided under FIPP is inferior to that of the Federal Financing Bank and significantly more costly to the U.S. Government and the borrower, all of which impedes the program, particularly §1705 projects. This will have significant positive impacts on the implementation and execution of §1705 projects, addressing a major source of unnecessary friction with key constituents.

ADDRESSING CBO'S CREDIT SUBSIDY CONCERNS AND SCORING CONVENTION

Establishment of a "credit subsidy downgrade fee" as a way to address CBO's concerns that the credit subsidy calculation will underestimate the long term costs to the taxpayers. CBO's scoring convention currently requires a separate 1% credit subsidy appropriation for Title XVII loan guarantees (over and above the borrower paid credit subsidy fee).

The "credit subsidy downgrade fee" would be a contractual provision that addresses CBO concerns that principally result from "project downgrade risk". Operationally, DOE would require every term sheet, conditional commitment and final documentation, to include the credit downgrade trigger that would require the borrower to pay 25 basis points in additional interest rate spread for each two notch downgrade up to a maximum of 50 basis points ("credit subsidy downgrade fee"). This contractual provision would be in lieu of the current CBO requirement of a 1% credit subsidy appropriation. The credit downgrade trigger would be activated upon the downgrade by one or more of the rating agencies and would remain in effect as long as the downgrade persists. Subsequent upgrades that return the project rating to the original rating will reduce the credit subsidy downgrade fee up to the 50 basis points maximum.

This approach saves the U.S. Government from having to use scarce budget dollars for the CBO 1% credit subsidy appropriation, yet provides the U.S. taxpayer with the protection from the downgrade risk that CBO is seeking. All of this is accomplished through a borrower paid contingency fee, maintaining the statutory intent of §1702(b)(2).

ISSUING AN EXECUTIVE ORDER ON TITLE XVII

Issuance of an Executive Order pertaining to Title XVII, the Final Rule issues to be addressed, the operational execution of maximum loan guarantee authority issues and calculation of the Federal credit subsidy, appropriation issues as well as Administration policy and objectives pertaining to jobs, clean energy infrastructure development, domestic energy supply, the environment and domestic manufacturing priorities.

This approach provides the Executive Branch agencies with the unambiguous Presidential leadership and direction necessary to establish a fully functional Title XVII. It also provides the private sector with an equally clear message that Title XVII will be a reasonable, predictable and available Federal credit program.

SUMMARY

In summary, Title XVII is a very powerful policy tool that provides a means to achieve the priorities and policies of the President and Congress pertaining to jobs, the economy, clean and secure domestic energy capacity, and the environment. It does so through a clean energy infrastructure build that is fully funded by the private sector. This build will also be the engine of growth in the investments that develop our domestic supply chain manufacturing base in supporting industries such as iron and steel. The key to all of this is a fully functional Title XVII. The President and his Administration can accomplish these critical objectives by exercising their discretion to amend the Final Rule and to provide direction to OMB, DOE and Treasury on the operational execution of this Federal credit program as well as his policies and priorities. I am pleased to answer any questions that you may have.

The CHAIRMAN. Thank you very much.

Mr. Fertel, we're glad to have you here. Go right ahead.

STATEMENT OF MARVIN S. FERTEL, PRESIDENT AND CHIEF EXECUTIVE OFFICER, NUCLEAR ENERGY INSTITUTE

Mr. FERTEL. Thank you, Mr. Chairman and thank you, members of the committee for holding this important hearing today.

The nuclear industry is encouraged by the award of conditional commitments to the Vogtle nuclear power project and the Eagle Rock uranium enrichment facility and the fact that 3 other nuclear power projects and one additional uranium enrichment project are well advanced in due diligence process. We are also encouraged by the Administration's willingness to address challenges associated with implementing this program including the President's proposal to authorize an additional $36 billion in loan guarantee volume in Fiscal Year 2011 and the revision to the final rule governing the program to allow sharing of collateral with other lenders.

However despite this progress the Title XVII Loan Guarantee Program faces significant challenges. For the nuclear industry one of the most significant challenges involves determining the credit subsidy cost of the title XVII loan guarantees. Since borrowers receiving loan guarantees for nuclear projects are expected to pay the cost associated with those guarantees the industry has a legitimate interest in the assumptions and methodology used to calculate the credit subsidy cost.

Credit subsidy cost are calculated using a credit subsidy calculator developed by the Office of Management and Budget. Of the major inputs to the calculator 2 of them the fall probability and recovery rate in the event of the default have the greatest impact on the results. It is our understanding that the Executive branch employs a recovery rate of 55 percent across the board for all energy technologies and projects being considered for loan guarantees.

Using a standardized recovery rate does not satisfy the requirements of the Federal Credit Reform Act. In addition a recovery rate

chosen of 55 percent does not, based on our research, have any basis in actual market experience with financial structures like those being proposed under title XVII. Consistent with FCRA, NEI believes that the most accurate and equitable process for calculating credit subsidy cost is a detailed, project specific assessment.

FCRA requires the government to consider all the cashflows from the terms of the loan including fees, defaults and recoveries. For large customized transactions like those authorized for the Energy Policy Act of 2005 accurate estimates of a recovery can only be derived from project specific analysis. Even if it were acceptable to use standardized "one size fits all" assumptions the 55 percent recovery rate now used is well below the recovery rates observed historically for regulated utility debt and project finance debt.

According to historical data recovery rates for these types of debt typically range from approximately 85 percent to 100 percent. NEI has developed the White Paper* that provides historical perspective on these issues. I ask permission to have that White Paper be included in the record of this hearing.

The CHAIRMAN. We'll be glad to have that as part of the record.

Mr. FERTEL. Thank you.

It is vitally important that the credit subsidy cost be calculated accurately. If current practices continue the Executive branch will continue to produce inflated credit subsidy costs. Project sponsors in turn will simply abandon otherwise credit worthy, in our case nuclear projects and the Nation will forgo the carbon free energy and tens of thousands of well paying jobs represented by these facilities.

The difficulties in implementing the Title XVII Loan Guarantee Program cannot be laid entirely at the Department of Energy's doorstep. Other Executive branch agencies, as we've already heard, including the Office of Management and Budget play a very significant role, often governing, in determining the rules and protocols up for this program. In our experience the Department of Energy staff working on loan guarantees from senior leadership to program management, from loan offices to legal, financial and market advice as on the due diligence teams are experienced, highly trained professionals. They're committed to trying to make this program work.

Mr. Chairman, we have reviewed the 2 pieces of legislation you introduced, S. 3746 and S. 3759 which make a number of changes to the underlying statute to address some of the difficulties that have arisen during the implementation. Many of these changes are designed to address issues encountered by the renewable energy community and not nuclear energy projects. However we fully support them and I would also say I fully support what my colleagues have said about extending the time line on 1705, even though nuclear has no role in 1705 program.

NEI believes all these programs must operate efficiently and effectively for all clean energy technologies. We have identified a few additional statutory changes largely designed to address the defects in the current process for developing credit subsidy costs. Among these are these:

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*Document has been retained in committee files.

Require the Executive branch to use project specific analysis in developing recovery rates and other inputs to the credit subsidy calculator.

Allow project sponsors to pay the credit subsidy cost annually based on the next years anticipated draw.

Address the lack of transparency that characterizes the current process for determining the credit subsidy fee.

We would say the final authority in determining credit subsidy costs with the Secretary of Energy.

Mr. Chairman, we would appreciate the opportunity to work with the committee staff in developing these proposals further. We hope you and other members of the committee would support such an initiative.

One other challenge deserves mention. The success of the Clean Energy Loan Guarantee Program has been hampered by a lack of certainty over loan volume. Project developers must have clear lines of sight that financing will be available if we expect them to continue spending millions of dollars or in the case of new nuclear projects and fuel supply facilities, billions of dollars, necessary to maintain project schedules.

In this regard, Mr. Chairman, let me commend this committee for having recognized long ago that the scale of the energy and environmental challenges facing our nation requires an effective, long term financing platform to accelerate deployment of clean energy technologies. For this reason NEI continues to support creation of the Clean Energy Deployment Administration as envisioned in S. 1462, the American Clean Energy Leadership Act which was approved by the committee in June 2009.

Thank you, Mr. Chairman. I would be pleased to answer any questions you and the committee have.

[The prepared statement of Mr. Fertel follows:]

PREPARED STATEMENT OF MARVIN S. FERTEL, PRESIDENT AND CHIEF EXECUTIVE OFFICER, NUCLEAR ENERGY INSTITUTE

Chairman Bingaman and members of the committee, thank you for your interest in the loan guarantee program authorized by Title XVII of the 2005 Energy Policy Act, and your commitment to address the issues and challenges that have arisen in the course of implementing this important program.

My name is Marvin Fertel. I am the President and Chief Executive Officer of the Nuclear Energy Institute (NEI). NEI is responsible for establishing unified nuclear industry policy on regulatory, financial, technical and legislative issues affecting the industry. NEI members include all companies licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, labor organizations, universities and other organizations and individuals involved in the nuclear energy industry.

NEI recognizes the challenges associated with establishing a financing program of this magnitude. The nuclear energy industry is encouraged by the award of conditional commitments to the Vogtle nuclear power project and the Eagle Rock uranium enrichment facility, and the fact that three other nuclear power projects and one additional uranium enrichment project are well-advanced in the due diligence process. These projects, and many more like them, are essential if our nation is to meet our goals for clean energy and job creation.

Since taking office, the Obama Administration has demonstrated a willingness to address major challenges associated with implementing this program, including the president's proposal to authorize an additional $36 billion in loan guarantee volume in fiscal year 2011, and the revision to the final rule governing this program to allow sharing of collateral with other lenders, without which the program simply would not function.

Despite this progress, however, the Title XVII loan guarantee program faces significant challenges that will limit its effectiveness. For the nuclear energy industry, one of the most significant challenges involves determining the credit subsidy cost of Title XVII loan guarantees. Since borrowers receiving loan guarantees for nuclear energy projects are expected to pay the cost associated with those guarantees, the industry has a legitimate interest in the assumptions and methodology used to calculate credit subsidy cost.

Credit subsidy costs for the Department of Energy's loan guarantee program are calculated using a credit subsidy calculator developed by the Office of Management and Budget. Of the major inputs to the calculator, two of them (default probability and recovery rate in the event of default) have the greatest impact on results.

For the purposes of Title XVII, it is our understanding that the Executive Branch employs a recovery rate of 55 percent across the board for all energy technologies and projects being considered for Title XVII loan guarantees. The 55-percent recovery rate was set during the administration of President George W. Bush, prior to the submission deadline for detailed Part II loan guarantee applications . The use of a standardized recovery rate does not satisfy the requirements of the Federal Credit Reform Act (FCRA) of 1990. In addition, the recovery rate chosen—55 percent—is an arbitrary number and has no basis in actual market experience with financial structures like those supported under Title XVII. Nor did the decision to set an arbitrary 55 percent recovery rate have the benefit of the project-specific recovery information provided in the Part II applications for nuclear power loan guarantees.

We believe the methodology used by the Executive Branch inflates the credit subsidy cost well beyond the level required to compensate the federal government for the risk taken in providing the loan guarantee. At least one nuclear power project was quoted an unrealistically high credit subsidy cost, which ignored the project's strong credit metrics and the robust lender protections built into the transaction, and limited the estimate of recovery rate to 55 percent, significantly lower than the recovery estimate in the credit assessment of the project by an independent rating agency.

Consistent with FCRA, NEI believes that the most accurate and equitable process for calculating credit subsidy costs is a detailed, project-specific assessment. The current approach, which relies on standard assumptions applied to all technologies, with limited project-specific flexibility, cannot produce accurate results, and will not serve the loan guarantee program's objectives—to support deployment of clean energy technologies in such a manner that the risk to the federal government is fully offset by fees paid by the borrower.

In fact, a project-specific approach is explicitly required by the Federal Credit Reform Act (FCRA). FCRA requires the government to consider all of the cash flows over the term of the loan, including fees, defaults, recoveries and contractual and structural protections.[1] For large, customized transactions like those authorized by the Energy Policy Act of 2005, accurate estimates of recovery can only be derived from detailed project-specific analysis. Recovery values will vary from project to project, depending on the technology, nature and structure of the project, the project sponsors, contractual issues, and many other factors.

The vast majority of federal credit programs are characterized by high volumes and relatively low dollar amounts, concentrated in housing, education, rural development and small business. In calculating credit subsidy costs for these program, the Executive Branch makes a number of simplifying assumptions and, because the federal government pays for the credit subsidy costs of these transactions, borrowers are generally indifferent to the methodology by which credit subsidy costs are calculated. These simplifying assumptions should not be used in lieu of project-specific assessments in the case of a program involving multi-billion-dollar transactions, in which the borrower pays the credit subsidy cost.

Even if it were acceptable to use standardized, "one-size-fits-all" assumptions, the 55-percent recovery rate now used is well below the recovery rates observed historically for regulated utility debt and project finance debt. According to historical data from Moody's Investors Service and Standard and Poor's, ultimate recovery rates for

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[1] Section 502(5)(B) of the Federal Credit Reform Act of 1990 provides:

"The cost of a direct loan shall be the net present value, at the time when the direct loan is disbursed, of the following estimated cash flows:

(i) loan disbursements;

(ii) repayments of principal; and

(iii) payments of interest and other payments by or to the Government over the life of the loan after adjusting for estimated defaults, prepayments, fees, penalties, and other recoveries; including the effects of changes in loan terms resulting from the exercise by the borrower of an option included in the loan contract."

regulated utility debt range from 87 percent to 99 percent. Recovery rates for project finance debt are comparable, in the range of 90 percent to 100 percent, because project finance transactions employ structural features designed specifically to maximize recoveries in the event of default. NEI has developed a detailed white paper that provides historical perspective on these issues, and I ask permission to have that white paper included in the record of this hearing.

It is vitally important that credit subsidy costs be calculated accurately. If current practices continue, the Executive Branch will continue to produce inflated credit subsidy costs. Project sponsors, in turn, will simply abandon otherwise creditworthy nuclear energy projects, and the nation will forego the clean energy and thousands of well-paying jobs represented by these facilities.

The difficulties encountered by the nuclear energy industry and the renewable energy community in implementing the Title XVII loan guarantee program cannot be laid entirely at the Department of Energy's doorstep. Other Executive Branch agencies and offices—including the Office of Management and Budget—play a significant, often governing, role in determining the rules and protocols governing this program. In our experience, the Department of Energy staff working on loan guarantees—from senior leadership to program management, from loan officers to the legal, financial and market advisers on the due diligence teams—are experienced, highly trained professionals committed to making the program work.

Mr. Chairman, we have reviewed the two pieces of legislation you introduced—S. 3746 and S. 3759—which make a number of changes to the underlying statute to address some of the difficulties that have arisen during implementation. Although many of these changes are designed to address issues encountered by the renewable energy community, we fully support them. NEI believes this program must operate efficiently and effectively for all clean energy technologies that are eligible, not just a few.

We have identified a few additional statutory changes, largely designed to address the defects in the current process for developing credit subsidy costs. Among other items, these changes would:

- require the Executive Branch to use project-specific analysis in developing recovery values and other inputs to the credit subsidy calculator;
- allow project sponsors to pay the credit subsidy cost annually, based on the next year's anticipated draw;
- address the lack of transparency that characterizes the current process for determining credit subsidy cost, and
- vest final authority in determining credit subsidy cost with the Secretary of Energy, since it is the Department of Energy that is responsible and accountable for implementing the loan guarantee program, and since DOE is equipped with the corporate and project finance expertise necessary to make those determinations.

Mr. Chairman, we would appreciate the opportunity to work with committee staff in developing these proposals further, and we hope that you and other members of the committee would support such an initiative.

One other challenge deserves mention. The success of the clean energy loan guarantee program has been hampered by lack of certainty over loan volume. Project developers must have clear line of sight that financing will be available, if we expect them to continue spending millions of dollars—or, in the case of new nuclear power and fuel supply facilities, billions of dollars—necessary to maintain project schedules. If Congress chooses to impose limitations on loan volume—and we are not persuaded that such limitations are necessary in a program where project sponsors pay the credit subsidy cost—then those limitations should be commensurate with the size, number and financing needs of the projects. In the case of nuclear power, $18.5 billion is not sufficient. NEI continues to support the President's request for an additional $36 billion in loan volume.

Finally, Mr. Chairman, let me commend this committee for having recognized long ago that the scale of the energy and environmental challenges facing our nation—large-scale deployment of clean energy technologies, modernizing the U.S. electric power supply and delivery system, and reducing carbon emissions—requires a broader financing platform than the program envisioned by Title XVII. An effective, long-term financing platform is necessary to ensure deployment of clean energy technologies in the numbers required, and to accelerate the flow of private capital to clean technology deployment. For this reason, NEI continues to support creation of a Clean Energy Deployment Administration, as envisioned by S. 1462, the American Clean Energy Leadership Act, which was approved by this Committee in June 2009.

Thank you, Mr. Chairman. I would be pleased to answer questions.

The CHAIRMAN. Thank you very much. Thank you all for your excellent testimony. We have 3 members who've arrived and have not yet had a chance to ask questions. Let me call first on Senator Dorgan, then Senator Risch, then Senator Cantwell and then Senator Shaheen and I will follow up with questions that occur to us.

Senator RISCH. I'm going to pass. Thank you.

The CHAIRMAN. Alright. Senator Dorgan, start.

Senator DORGAN. Mr. Chairman, thank you very much. Thanks to the witnesses. I was at a panel discussion and missed the first part of this testimony at the hearing.

I ask whether Mr. Silver was in any way critical of OMB because I notice that some of you have referred to OMB. The answer is of course not because I don't think that would be the proper role for him to come to this table and be critical of OMB. But I think it is the case and it's a fair point some of you have made that trying to move things through OMB is a little like walking through wet cement. I mean, it's really hard to get through it.

We passed in EPAC in 2007 some legislation that provided title XVII loan guarantees. We were really excited about that. We also have now written legislation that is not yet enacted that has the Clean Energy Development Act, CEDA.

You know going back, Senator Bingaman and Senator Domenici, I think, have provided great leadership to this committee. I, as chairman of the Appropriations Subcommittee, have provided, as a result of the authorization, $49 billion in loan guarantees. So all of us have been very excited about, I think, an unparalleled amount of investment capability in clean energy that is available through loan guarantees.

But we also in addition to being excited have been enormously frustrated. As the years passed and the months passed that the money doesn't seem to get where it's needed to go in order to see projects built and completed and people put to work and clean energy moving across the wire. So this has been both a time to be excited about the ability to offer something and then frustrated about the pace of that offering.

I note that in the Department of Agriculture they have the capability to offer loan guarantees in renewable fuels projects. They're moving money out. Projects are getting built. I'm wondering if it's so different to provide loan guarantees for fuel than it is to provide loan guarantees for electricity or something to put on the wire out there.

So I think, having said all that, let me ask the witnesses about the Office of Management and Budget. I think some of you have referred to it directly, some obliquely. But do you see that as the major problem?

I think Secretary Chu came in and said, look, DOE didn't have much experience in this. You've provided a lot of capability. It's been slow. We understand that. But Secretary Chu came in and said, I'm going to try to change that.

So tell us the record here.

Mr. Meyerhoff.

Mr. MEYERHOFF. Ok. I'm happy to start. So I will tell you, Senator, that we don't have necessarily direct line of sight as an applicant into what the OMB does, right? So our primary interface is

the DOE and there may be a process then in the background, right, that then through the DOE of which results are being brought back to us through the DOE.

I believe that we have been through cycles of learning. I understand your disappointment. I think we're getting actually now more traction. I mean, I would tell you is that the trend is toward goodness.

Having said that I think there would be a fairly simple set of rules I think we could institutionalize that would drive accountabilities throughout the process. I don't want to single out OMB here.

Senator DORGAN. No.

Mr. MEYERHOFF. I would apply that actually to all participants.

Senator DORGAN. You say the trend is positive. So if we're not galloping along at least do you think, most of you think, we're at least trotting along to make some progress here?

Mr. MEYERHOFF. So I would say for our own experience. It's hard for me to speak for everybody else, but from our experience right now we're moving forward. We're hopeful to see funding for a fully shovel ready project hopefully in the first quarter of next year.

Senator DORGAN. Mr. Fertel.

Mr. FERTEL. Senator, I would say we're walking along, I think. Mr. Silver, I think explained how they're going through growing pains which we appreciate. We think he's doing a very good job.

I would agree with Jens that more transparency. We can't see. It's very opaque what happens within the group.

Also I think clarity on who's responsible for making the decisions. Senator Burr asked a number of questions about who does make the final decision. I think Mr. Silver did what he had to do in answering the question.

Senator DORGAN. Witnesses have to be circumspect in terms of looking out for their own interest at that table. Let me ask a question about whether aside from the potential delivery of CEDA and the future, I hope, and loan guarantees now?

Aside from that where are we with respect to our comparison with other countries in the ability to produce projects that have competitive pricing because of subsidies and so on? Are we somewhere in the ballpark of what other countries are doing in this area?

Mr. MEYERHOFF. So maybe I take the first shot because First Solar operates in these markets very actively. I would say the U.S. market with a lot of support coming out of the government is now emerging as the fastest growing solar PV market in the world. We're very grateful for that.

A lot of things have been done that has enabled us, we as a company have responded with just about a billion dollar investment around development assets and manufacturing capacity alone for that growth outlook. So if you think about deficiency and what we're talking about today on the financing side. However I would tell you that a large scale European solar PV project will turnkey finance with the full funding commitment and financial close and probably about 4 to maximum 5 months today for us.

So if you compare that to where we're at today our applications have been in the process anywhere from 9 months to an excess of over a year without having funded yet. So I believe we need to as-

sign, again very clear, accountability set time lines with respect to how much time is spent in each part of the process to have more predictability around that part. But I would say we're moving in the right direction. I would say there are good pieces of evidence and learning that can be found just out of what has been done in Europe.

Senator DORGAN. My time has expired. I actually have to be at another hearing as well. But Mr. Chairman, I think the testimony, I've read some of it previously. I think it's really helpful to have had this hearing to keep pressure and pushing and try to understand how do we make this user friendly.

How can we get it out? How can we have this program accomplish what we intended to accomplish? Thank you, Mr. Chairman.

The CHAIRMAN. Thank you.

Senator Cantwell.

Senator CANTWELL. Thank you, Mr. Chairman. I too, want to add my thanks for having this hearing today. I do recognize the important and critical role this loan program plays on large scale energy projects. I do believe we should replace the money that has been taken from this program.

Like my colleague who just mentioned the word, the discussion of transparency and urgency, I think those need to be the 2 mantras for this program. But I would also like to get the panel's feedback on, I think my colleague from Colorado may have brought this up in the previous panel. But about the 1603 program and how it fits with this whether you think it fits with this or how you view that reauthorization of that program in getting projects.

To me, I look at the numbers and they're quite staggering. 55,000 jobs created since 2009 in wind and geothermal as a result of the program, that is the Treasury Grant Program. 17,000 solar jobs since 2009 and estimation of 6,500 additional jobs in that industry if we could get this program reauthorized.

Then also, another concept in the chairman's renewable energy standard legislation that was just introduced is a provision on a low interest, clean energy fund. So if I could get comments on those 2 concepts as they relate to the Treasury—I'm sorry, as they relate to the loan program that we're talking about this morning. How you see them fitting together and how you see this issue of capital and different ways of getting capital infusion into the marketplace.

So Mr. Newell or Mr. Meyerhoff, if you had any comments about that?

Mr. NEWELL. The 1603 program has been a very successful program and we think is a critical program in order to continue to attract investments and to be able to bring renewable energy projects, specifically, to financial close to get them built. Right now we're seeing a flurry of activity as companies try to meet the deadlines under the current 1603 with the expiration coming up on that. It is affecting how the loan guarantee program works because it is really affecting what applications can go in and not go in because for many of these companies if they believe they're not going to be able to get the loan application through the process in time enough to be able to qualify and bring down the 1603 Treasury Grant.

Then they won't go through the process on the loan application. It is difficult at this point in the process to be able to look forward. There's just not transparency to be able to look forward and know that you're going to be able to get through in that amount of time that we have left not knowing whether the 1603 will be extended.

1603 is important now because there is a real lack of tax equity available in the marketplace. For better or for worse the system that the U.S. uses primarily to incentivize renewable energy production is a system of tax credits. In a time now when many companies have less appetite because of their financial conditions for tax affected investments it has really taken a lot of the wind out of that market. You've seen a lot of the players leave that market.

There was a——

Senator CANTWELL. No pun intended. Yes.

Mr. NEWELL. Yes.

There's a recent study by the American Council on Renewable Energy that showed that we were about—that the impact of 1603 being center verses not was really the difference of a risk of about 100,000 jobs moving forward. It seems like a pretty straight forward calculation to make right now. There is a question about how the Loan Guarantee Program is structuring some of its loans with respect to the use of tax affected structures.

There are reports of applicants being advised that they should not use tax affected structures aggressively because those loans may have a harder time being approved through the process. I think that's something that needs to be made much more transparent. To the extent that the tax credits are the mechanism that we use to incentivize construction of renewable energy projects and other kinds of energy projects than it's important for the companies who are promoting those projects to be able to aggressively use those incentives that have been provided by Congress to the maximum extent possible.

One of the areas of inquiry that we suggest for the committees to look at how the loan program is operating with respect to those tax structures. We'd recommend that. I would add, Senator Cantwell, to your list of transparency and urgency, I would add consistency to what we need.

Because in some ways more than we need to have a maximum volume of supporting any of these is what we really to be able to do the long term financings. To make long term investments in these is we really need consistency whether it be on 1603. Knowing it's going to be there and moving along or a permanent financing structure or an extension of the Loan Guarantee Program or refinancing of the Loan Guarantee Program through 1703 that doesn't have a deadline. Any of those structures can work for us.

But that consistency is really crucial for us.

Senator CANTWELL. I don't know it's up to the chairman. I'd love to hear from you, Mr. Meyerhoff. Is that? I know my time is expired.

The CHAIRMAN. Go right ahead and respond.

Mr. MEYERHOFF. I will make it just quick. I echo everything that has just been said but I want to reemphasize that the different programs that are in place are not harmonized. They cannibalize each other. So the 1603 grant which is extremely important to this in-

dustry. There are enough studies that show there's not enough tax appetite available to realize all the projects out of different renewable resources.

However the 1603 program has a cashflow through the project entity reduces right now through the DOE Loan Guarantee Program and reduces the amount of debt available. So we're taking liquidity from one part and we're moving it to the other end. We're reducing the overall economic potency that the 2 programs would have individually on paper. So I think it is important to harmonize those.

There's a third aspect which is also tax driven which is the accelerated depreciation. So we have the grant in lieu program. We have the DOE loan program, but the accelerated depreciation is another key economic driver.

So now you have cash on cash returns but you still have a tax component. We're still, if you really want to optimize the structure, you're still requiring tax appetite. I think if you look at everything available I think it would be worthwhile to analyze how to harmonize these programs to their full efficiency.

Senator CANTWELL. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much.

Senator Shaheen.

Senator SHAHEEN. Thank you, Mr. Chairman. I just have 2 quick questions.

Mr. Newell, in your list of recommendations of things that you thought could be done, one of the things that you mentioned was provide increased access to—I forget exactly how you phrased it, but I translated it into small companies that may not have the capacity to keep up with what's going on in the Federal Government. How do you suggest that be done? Do you recommendations?

Mr. NEWELL. We do have some recommendations. I would like to say, Senator, that this is an area which I would particularly want to commend Mr. Silver and the program. Because we have been working with them over the past 6 months to a year on that issue specifically and they have made really great strides and have devoted a significant amount of resources within the program to easing the way for smaller developers. They're to be commended for that.

There are some significant issues that affect smaller developers some of which are—have to do with the requirements of the program.

One is NEPA. While we're very supportive of the NEPA process and work through it. I think that for the smaller developers, I think there could be focus on streamlining the NEPA requirements.

I think you should consider limiting NEPA's applications for project that are smaller than $200 million or to clarify the categorizations for projects such as rooftop solar or ground mount solar installations where the length of time you go through relative to the actual benefit you're getting from that process. So there's a miss match between those 2 things.

Second is I think that you could reasonably eliminate the need for credit ratings below—for projects below a certain size. The costs of getting those credit ratings. There's a floor on the cost of getting

a credit rating and that cost becomes prohibitive the smaller you go down the scale.

Again, relative to the amount of risk that the government is taking that the being able to eliminate that need is a—would seem to be a reasonable step forward. That scenario where I know it has been proposed in legislation that we would strongly support that.

Reducing the administrative and diligence in loan costs for small energy projects could be done without significantly impacted the financial burden on the overall program because it had to be small programs, small projects, as well as mitigating duplicative diligence cost by using things like common council and common consultants there. There's just some very straight——

Senator SHAHEEN. Sure.

Mr. NEWELL. Common sense things you could do.

Senator SHAHEEN. These are all part of your written testimony? I haven't seen your written testimony.

Mr. NEWELL. They are. They are in the written testimony.

I think that in this case you—I would recommend that the Department or the committee consider guidance in which some amount of the financing is in some way guided toward small developers because otherwise it is just the natural course of process that when you have a whole series of applications sitting at your desk. Five of them are for a billion, a billion to a billion 2, a billion 3 each, important as they are. Then 6 of them are for $37 million for a solar developer in New Hampshire or——

Senator SHAHEEN. Right.

Mr. NEWELL. A biofuels developer, it just tends to be that those applications because in some sense that they take the same amount of work because you're going to do the others. They just end up getting put to the side or the bottom of the pile. It really takes keeping an eye on those.

Because those small developers are a really important part of our ecosystem. They allow us to put the energy projects in place and the other ones wouldn't go.

Senator SHAHEEN. Certainly in New Hampshire, that's the case. So, thank you.

Mr. Fertel, you were talking about the credit subsidy analysis. I missed—you had a list of things. I missed the second one. I wonder if you could elaborate a little bit on that as you were talking about looking at future years?

Mr. FERTEL. Yes, the second one, Senator, was to allow the project sponsor to pay the credit subsidy fee cost annually as they draw. Right now as soon as you basically are given the thing, you get assessed the whole thing. If I'm going to draw it out over 2 years, 3 years or 4 years.

We're saying is just allow them to pay it——

Senator SHAHEEN. Ok.

Mr. FERTEL. Proportionately over that period of time.

Senator SHAHEEN. Great. Thank you. Thank you.

The CHAIRMAN. Thank you.

Let me ask, Mr. Meyerhoff. You described what you referred to as the higher leverage ratios that are applicable for projects in Europe, I believe. That's one of the disadvantages that we're operating under now is, as compared to Europe.

Could you go over that ground again and explain how you believe we need to get that fixed?

Mr. MEYERHOFF. So I would say obviously the leverage ratio or the debt service coverage ratio is a key component of the credit worthiness of a project. What I was alluding to is that if we think about credit risk and as we think about subsidy cost in Europe you see that even at much higher leverage ratios the default rates have been very low. Obviously a higher leverage gives better economics to the project which ultimately means lower electricity cost to the ratepayer.

So I think as we're driving through the cycles of loaning we should be open minded. But we have seen that in the DOE process absence of 80 percent leverage ratios. Let's talk about maybe more U.S. market ratios of even 70 percent.

We've seen a lot of debate around this. It may be in part due to the portfolio approach discussed in the earlier panel where other decisions or other dimensions seemed to come into the credit evaluation and into the debt quantum of the projects. So I think we should try to find balance where we're saying ok, if the solar PV project or the wind project or whatever gets supplied for usually there's a range of debt service coverage ratios of x and y.

As we get more experience and more understanding that the credit quality of these projects and their actual behavior becomes better and better than obviously we can increase the leverage. That is what we've seen in Europe. Europe started with a less aggressive leverage ratios too, but increasingly has grown more comfortable with the high credit quality of these generation assets.

The CHAIRMAN. So you think that we are, to a point, to where we should also move to higher credit quality assumptions with regard to these types of projects?

Mr. MEYERHOFF. What I would say, I would urge us to take the learning out of the European market and apply those learnings. I would urge us for consistent application by generation asset of certain ranges of debt service coverage ratios and not necessarily discriminate the project based on other factors. Such as, for example, the corporate strength of the corporation building the project because generally a company like us was financially fairly strong but will sell that asset independently off independent of our corporate strength.

So the project has to be viewed in isolation and receive—achieve the desired debt service coverage ratio and debt quantum based on its own cashflows.

The CHAIRMAN. Ok. Anyone else have a comment on this issue?

Mr. Fertel.

Mr. FERTEL. From a nuclear standpoint our merchant generators look at a much higher debt to equity ratio, generally 80/20 or 70/30 than the regulated utilities who would probably be in the 50/50 range. From the impact on customers, on consumers, or our economy doing that, looking at an 80/20 versus 50/50 for a nuclear plant roughly decreases the cost of electricity from that nuclear plant on the order of 4 cents a kilowatt/hour for the reasons you heard because the return on debt is lower than the return on equity. The loan guarantees, to be honest, provide the ability to get a lot more debt and a lot more leverage.

So it reduces your cost of capital which helps. But its big thing is that the return on your debt is so much better than the return on your equity that it does have a very measurable impact on the cost of the electricity coming into the economy. So I would support what was said as something that should certainly be looked at as a positive public policy move.

The CHAIRMAN. Alright. Yes.

Mr. NEWELL. This is related to the discussion of the recovery rates earlier because to the extent that you're using recovery rate assumptions that are too conservative than it's going to lead you to assume that you have to have lower ratios. I think if you really go back and look at what the recovery rates really are in the commercial markets for these types of projects they are very high. It is very rare to not recover fully any debt that you put into these projects.

That the idea that you need to then keep conservative coverage ratios seems at odds with the very long history of financings in this market.

The CHAIRMAN. Yes, Mr. Fertel.

Mr. FERTEL. Just to the point that Mr. Newell made. Right now in our country if the credit subsidy fee cost goes the way they look like they're going now by holding this 55 percent recovery rate. You probably will preclude, probably preclude merchant nuclear generators and probably any merchant large generation source from getting a loan guarantee to help them because it just makes it too expensive.

So it actually has a direct impact on whether projects will go forward on whether they can go forward without a loan guarantee, I think for merchants, becomes very, very difficult.

The CHAIRMAN. Alright.

Senator Cantwell, did you have additional questions?

Senator CANTWELL. Yes. Thank you, Mr. Chairman. I want to go back to Mr. Meyerhoff's point about cannibalization or the distinction between these programs because I think it's critically important that we focus on the difference between the 1703 program and its, you know, 1705 whatever you want to call that. I don't want to say mutation, but, you know, its continuation into that program.

That's about risk. That's about first commercialization and scalability as Mr. Fertel was saying that you can't get in the market. But then there's another issue which is really about proven technology that we believe, particularly from the RES perspective of renewable energy that isn't as much about risk. But we have a capital market that basically blew up. There's no more capital.

Even though we wanted to get the credit program on at least a level playing field with the incentives that were given to the fossil fuel industry. So thereby 6, you know, 3. Now we know it's been hugely successful.

But what about the, you know, the idea of low interest capital to renewable energy, clean energy projects at very low interest with a revenue stream basically as a protector because you're having the value of electricity being produced. So now we're taking the risk out of the equation. Why that's important is because if you're talking to DOE and you're giving DOE a program that is all about risk

I guarantee you they're going to take a long time to make up their minds about things.

But if you get a streamline turnkey approach that is about less risk and it's about getting capital to the market at low interest. Then you're going to literally get these projects moving. So I'd like some comment or feedback if I'm on the right track about that distinction.

Mr. MEYERHOFF. Yes, so I mean I couldn't agree more with the statement. I mean we're looking at, as I mentioned, the 1703 program. That obviously allows innovation that is not quite bankable, to be bankable through the program. It's a very important incubator, right, to drive further the cycles of innovation to keep R and D in this country and to motivate it. There's a lot of opportunity, obviously, in our sector to do that.

Under 1705 then, as you mentioned, we're taking commercially proven technologies and we're financing them. We're financing them through not only because the capital markets are still struggling out of a crisis. But also solar, in particular solar PV, has never issued an institutional bond.

We're about through the 1705 program in a controlled way to issue the first solar bonds probably within the next 6 to 9 months. The 1705 program plays a very important role in actually opening that market educating classic institutional debt investors around the high credit quality of that generation asset. We can do so because the institutional tranche under the 1705 program is small enough that we can do this in a controlled way which then means every time that we do this a few times we can open the institutional capital markets with an asset class. So these programs actually in our mind, have a certain harmony to them and allows that migration path.

Now the 1603 program obviously as I mentioned before it represents the equity side of it. So this stop and go on the equity side impairs possibly all the great efforts being put in place on the debt financing because if we don't find efficient equity to invest into these projects we're back to square one. So the 1603 program has been extremely important.

It has been extremely important also to the smaller companies and to the smaller rooftop installations that are really, I think, predominately have been executed through that program. Now what we've encountered is—and as we're bringing now our shovel ready projects into the market for equity investors. We've actually seen through the treatment under the DOE program that leads us to prefer tax capable equity investors over an investor that would go with a grant for the simple reason that I'm deleveraging the project in the DOE Loan Program by getting the grant through the project.

So again, this is where they cannibalization. The cannibalization is not between 1703 and 1705. It's between 1603 and the DOE Loan Guarantee Program. That's where I think we can harvest some efficiency.

Senator CANTWELL. I think, Mr. Chairman, if we're talking about jobs today and clearly we are talking about a lot of jobs that were created in 2009, then it's about getting the equity into the marketplace through the easiest turnkey process that we can establish for capital.

Thank you. Thank you, Mr. Chairman.

The CHAIRMAN. Senator Shaheen, did you have additional questions?

Thank you all very much. It's been very useful testimony. I think we can take your suggestions both oral and written and try to make progress with them.

Thank you very much.

[Whereupon, at 11:35 a.m. the hearing was adjourned.]

APPENDIXES

APPENDIX I

Responses to Additional Questions

RESPONSES OF JONATHAN SILVER TO QUESTIONS FROM SENATOR BINGAMAN

Question 1. In previous hearings we've heard testimony about how government agencies such as the Overseas Private Investment Corporation, Ex-Im Bank, and USDA seem to manage risk, similar to private sector investors, on a portfolio rather than transaction-by-transaction basis—and are assessed by OMB on that basis, rather than examining every transaction independently. Do you understand this to be the case, and is there some statutory difference that would lead to this different treatment? Is there anything in the current laws governing the loan guarantee program that would preclude the assessment of risks on a portfolio basis rather than a transaction-by-transaction basis?

Answer. As with all other federal credit programs, OMB's responsibility for determining the credit subsidy cost associated with DOE's loan guarantees is found in Section 503 of the Federal Credit Reform Act of 1990, which states that the Director of OMB is responsible for credit subsidy cost estimates. Under the oversight authority in Section 503, OMB delegates the modeling of credit subsidy costs to agencies, and issues implementing guidance to ensure consistent and accurate estimates of cost. For new programs or programs where actual experience is not available, such as the Title XVII program, OMB works closely with agencies to create or revise credit subsidy models. DOE has worked with OMB to develop the credit subsidy estimation methodology used for the Loan Programs, and OMB approved DOE's credit subsidy cost model in 2008. Title XVII loan guarantees generally support large and diverse investments with a wide variety of underlying projects, risks, and contract terms. These loan guarantees are scored on a loan-by-loan basis, as are those of other similar federal credit programs.

Question 2. You mention in your testimony that deals are presented to OMB and Treasury for review prior to presentation to the CRB or the Secretary "consistent with statutory requirements." Title 17 requires consultation with the Treasury Secretary before a loan can be issued, which I read as final close of the transaction, and the Federal Credit Reform Act charges OMB with "coordinating" cost estimates, which also seems to implicate final close—is there some additional statutory requirement that requires OMB and Treasury involvement so much earlier in the process?

Answer. The authorizing statute governing the Title XVII Loan Guarantee Program is silent on exactly when in the review process either Treasury or OMB must be involved. The statutory basis for Treasury's consultative role is found in Section 1702 (a) of Title XVII of the EPAct of 2005, which authorizes the Secretary of Energy "to make guarantees . . . for projects on such terms and conditions as the Secretary determines, after consultation with the Secretary of the Treasury." (Sec. 1702(a)). The Final Rule governing the Section 1703 of the Title XVII loan guarantee program provides for Treasury involvement before a conditional commitment is issued. Specifically, 10 C.F.R 609.7(a) states that, concurrent with the review process that precedes issuance of a conditional commitment, "DOE will consult with the Secretary of the Treasury regarding the terms and conditions of the potential loan guarantee."

OMB's authority is derived from Section 503 of the Federal Credit Reform Act (FCRA), which provides: "For the Executive Branch, the Director [of OMB] shall be responsible for coordinating the estimates required by this title. "Under this authority, the director of OMB delegates the authority to agencies to make estimates,

while OMB reviews and must approve credit subsidy costs for all programs. The Title XVII implementing regulations provide that OMB must review and approve DOE's calculation of credit subsidy costs, consistent with the FCRA. Under the program's Final Rule, OMB must review and approve DOE's calculation of the credit subsidy cost prior to issuance of a loan guarantee.

Question 3. At what point in the process does DOE submit an estimated subsidy cost for a given project for review by OMB? At what point does OMB finalize a subsidy cost estimate? Please answer for both subsidized (1705) and "self-pay" transactions.

Answer. For both of the Title 17 loan guarantee programs, DOE currently submits each proposed transaction—including a preliminary credit subsidy cost estimate—to OMB for review at the end of the initial due diligence phase, prior to the issuance of a conditional commitment. Following conditional commitment, after all conditions have been met by the borrower and 30 days prior to financial closing, DOE submits a final credit cost estimate to OMB for its review and approval. Consistent with statutory requirements, the credit subsidy cost is finalized at closing, and reflects the final contractual terms and conditions and all available information.

Question 4. I understand that DOE requires biofuels projects to have an off-take agreement, something that makes a lot more sense for an electricity project than a fuels project. The RFS mandate that requires consumption of those fuels apparently does not qualify as an off-take agreement, and the fact that we have a law requiring the use of renewable fuel is not factored into DOE's decision-making process in any way. I think you're aware that the RFS waiver for cellulosic biofuel basically only requires oil companies to purchase fuels that are available in the marketplace. If DOE is saying that it will only help those fuels become available in the market place if the oil companies sign up to buy it, it seems to me we are giving all the cards to the oil companies. Am I missing something here? How do we fix this problem?

Answer. The Department is committed to promoting biofuels and has led in this area through investments under the Recovery Act, our work on Ely testing, and much more. The loan guarantee program welcome biofuels projects as they can help diversify our transportation fuel supply. Biomass loan guarantee applications present a number of challenges including, but not limited to, significant technology, production, and commodity price risk. These risks present challenges in structuring projects that comply with the Title XVII requirement that the Secretary determine that there is a "reasonable prospect of repayment" of each loan guaranteed under Title XVII. That being said, the DOE does not require offtake agreements for biofuels projects, though they are desirable and enhance a project's creditworthiness. Nor do we ignore the existence of RFS-2 in our analysis; in fact, it is an important part of our credit analysis of each project. Despite the challenges presented by biofuels projects, the loan programs currently have several biofuels projects in due diligence, and DOE hopes to be able to issue a conditional commitment to a biofuels applicant in the near future. The Loan Guarantee Program is one of several incentives that developers of biofuels can potentially use. As you know, DOE invests heavily in energy research and development and demonstration programs for biofuels, including numerous cost-shared grants, and there are significant tax advantages included in the tax code. Additionally, DOE, USDA and EPA have formed a joint working group, which is investigating ways to support the industry.

Question 5. Has DOE submitted new solicitations or proposed modifications to existing rules to OMB for approval? How long has OMB review been for submitted solicitations? Do you anticipate producing any more solicitations under the program?

Answer. The Department has not submitted any new solicitations or proposed modifications to existing rules that are pending approval at OMB. Our most recent solicitation—Federal Loan Guarantees for Projects that Manufacture Commercial Technology Renewable Energy Systems and Components—was published August 10, 2010. In light of the 2011 sunset date for Section 1705 authority, and the available Section 1703 authority, DOE has no current plans to issue new solicitations. New solicitations will depend on future programmatic authorities and appropriations.

Question 6. You mention in your testimony the significant experience in financial transactions possessed by the members of the DOE team. Can you elaborate on that a bit? Is this experience particularly unique or are there other areas within the government where similar experience can be gained?

Answer. The Loan Programs Office has assembled a world-class team of federal employees and expert contractors with specialized expertise in both domestic and international project finance. The federal employees on our origination team, alone, have well over 300 years of energy-related project finance experience. Our professionals have worked at an array of sophisticated public and private sector finance entities. We have similar levels of experience and expertise among our legal, tech-

nical, and other staff members, and the consultants engaged to support them in their work.

Question 7. Most applicants have indicated that, in order for the program to be effective, they need a predictable process that can result in at least a conditional commitment (or a much more timely rejection) within 6 months of application. Assuming an adequate application is submitted, does DOE have sufficient resources in place to meet this timeline?

Answer. The Department is committed to ensuring that the Loan Programs have the resources needed to process and review applications as efficiently and effectively as possible. To that end, the Loan Programs have made a number of improvements over the last 18 months, including a significant increase in qualified personnel. We are now well-positioned to process transactions at a rate that meets the business needs of our applicants, while ensuring that taxpayer monies are properly safeguarded.

Question 8. Has DOE reviewed the CEDA legislation contained in S. 1462? Can you share any views on how we might see that implemented differently than the current loan guarantee program?

Answer. While the Administration has not taken a position on this particular piece of legislation, we would work to leverage the lessons learned, including through the Loan Programs Office and build on the programmatic improvements we have made to date. The Administration also believes that the taxpayer protections in the Federal Credit Reform Act are necessary for any credit program underwritten by the taxpayers.

Question 9. How are other benefits conveyed by the federal government, such as tax credits or "1603 grants," viewed when constructing the terms of a deal? Does the presence of such other benefits affect the subsidy cost calculation or the amount of equity required of an applicant?

Answer. In assessing each transaction, the total amount of federal subsidy is an important. factor in the review to ensure the most efficient use of taxpayer dollars; appropriate risk sharing, including sufficient 'skin-in-the-game' for project sponsors; and accurate cost estimates that reflect the total cost to government, consistent with program regulations and solicitation requirements. Other federal government benefits are taken into account in a number of ways. For example, the impact of cash received by the sponsor from a 1603 grant is analyzed in terms of a sponsor's continuing commitment to the transaction.

Question 10. Have OMB or Treasury submitted questions on, or requested the adjustment of, terms of a transaction for such things as returns to investors, stock option terms, or other "operational" aspects of an applicants business? Have negotiations related to such questions or terms extended the time to issuance of a conditional commitment or led to any

Answer. The model and methodology used to calculate the credit subsidy cost for any given transaction incorporates an array of inputs and information about the underlying project and its sponsors—including many that would be considered "operational." OMB's review of a given credit subsidy cost necessarily incorporates these elements, and questions often arise about deal terms and structure that affect the cash flows to and from the government. Similarly, the Treasury consultation relates broadly to the "terms and conditions" of a proposed loan guarantee, so it also gives rise to such questions. The Department works closely with OMB and Treasury to address these issues.

RESPONSES OF JONATHAN SILVER TO QUESTIONS FROM SENATOR MURKOWSKI

BUDGETING

A total of $3.5 billion has now been taken away from the temporary Section 1705 program created by the 2009 stimulus bill. $2 billion was taken for Cash for Clunkers, and $1.5 billion was taken for the state bailout bill. That leaves just $2.5 billion of the original $6 billion for loan guarantees for renewable, transmission, and biofuel projects.

Question 1a. Does the Department or the Administration intend to request a "refill" for part or all of the funding that has been taken from the Section 1705 program?

Answer. The Administration strongly supports the DOE loan guarantee programs, as evidenced by the President's FY11 budget request for additional credit subsidy for Title XVII loans. The Administration is monitoring the programs and will continue to seek appropriate funding levels to ensure they can achieve their objectives. In the meantime, the DOE Loan Programs Office is committed to utilizing the funds it has in the 1705 program to fund solid projects to achieve the program's statutory

objectives. As you know, the Administration has supported an array of incentives for the renewable energy industry. In addition to the additional credit subsidy appropriations for the Title XVII programs, the FY11 budget includes $5 billion in Section 48C renewable energy manufacturing tax credits and over $700 million in research development and demonstration funding in the Energy Efficiency and Renewable Energy Account. Also, the Administration has supported extension of the 1603 grant program.

Question 1b. Given the types of projects involved in the program, and the length of time it takes for new applications to be considered, do you believe that such appropriations should qualify as "emergency" funding? Do you believe it would be acceptable to include such funding in a supplemental appropriations bill?

Answer. The Administration believes that honest budgeting is a key to fiscal discipline and that the bar for emergency funding designations should be a high one. The Administration also believes that the projects that have received financing through the Loan Programs Office will have an important and positive impact on our clean energy economy, in terms of job creation, economic competitiveness, energy security, and our environmental legacy, and continues to support clean energy through the regular budget process. The Administration is monitoring the Loan Guarantee Program and will continue to seek appropriate funding levels to ensure the program can achieve its objectives. The Administration has a broad array of support for the renewable energy industry. The FY2011 budget request included $5 billion in Section 48C renewable energy manufacturing tax credits, over $700 million in research development and demonstration funding in the Energy Efficiency and Renewable Energy account, $500 million in credit subsidy in the Loan Guarantee program for renewable energy and energy efficiency projects, and $36 billion in loan authority for nuclear power facilities. In addition, the Administration has supported extension of the 1603 grant program.

JOB CREATION

In July, GAO issued a report stating that the Department's "performance goals are too few to reflect the full range of policy goals for the LGP. For example, there is no measurable performance goal for job creation." In your testimony, you discussed a number of metrics by which performance can be judged, but with regard to job creation.

Question 2a. Can you provide the number of actual, private-sector jobs—not a projection of them—that have been created as a result of the Loan Guarantee Program as of today? And how does that compare to the number of government and contracting jobs created at the Department itself to administer the Loan Programs?

Answer. The sponsors of the projects that have received conditional commitments to date under the Title XVII loan programs estimate that their projects will create over 4100 permanent jobs and over 14,000 temporary construction jobs. Construction has already begun on most of these projects, and several are either complete or scheduled to be completed in 2011. As of November 1, the LPO had approximately 70 full-time federal staff, supported by approximately 60 full-time contractors and 45 part-time contractors.

Question 2b. Under the 1705 program created by the stimulus bill, DOE pays applicants' credit subsidy cost with taxpayer money. If we assume those credit subsidy costs to be 10 percent of loan value for renewable projects, and divide that share by the number of permanent jobs that are supposed to be created, the results are a little concerning. For example, a solar project in California works out to $1.6 million for each of the 86 permanent jobs that are supposed to be created. Is that representative of how much each job costs in the Section 1705 Program?

Answer. The 1705 program has a number of goals, including the creation of permanent and temporary jobs (and saving jobs). It is also intended to encourage commercial development and adoption of new or significantly improved energy technologies, which reduce greenhouse gas emissions, contribute to our national energy security and economic growth, and improve the environment. Furthermore, the program funds a broad portfolio of technologies and projects with different mixes of labor and capital intensity that diversify our supply chain, which can lower prices through competition and reduce system vulnerability to shocks and disruptions. The calculation underlying the question does not account for achievements related to any of these other goals; nor does it address the many construction jobs that have been created. Thus, it fails to reflect the full value of the program.

CREDIT SUBSIDY COST TRANSPARENCY

It appears to be the case that applicants spend a great deal of time calculating and negotiating with DOE the credit subsidy costs associated with their individual

applications. Those figures then go to the Office of Management and Budget and are apparently re-worked in some way.

Question 3a. As a general matter, does the estimated credit subsidy cost tend to increase after OMB review, decrease, or remain the same?

Answer. As a general matter, the estimated credit cost at the time of conditional commitment does not tend to vary greatly from the estimate initially submitted by DOE to OMB. DOE and OMB work closely to ensure that the agreed-upon methodology for calculating credit subsidy costs is applied appropriately, that cost estimates reflect all project characteristics and other factors, and that cost estimates are consistent with all applicable statutory and regulatory requirements.

Question 3b. Do applicants get to participate in the OMB's portion of the review process at all, or at least to the same extent they are able to interact with DOE earlier in the process?

Answer. While the Department certainly has extensive interactions with applicants during the due diligence and negotiation phases, it would be inaccurate to say that applicants are involved in "calculating and negotiating with DOE the credit subsidy costs associated with their individual applications." The Department actively negotiates deal terms with applicants, and those terms have an impact on the ultimate credit subsidy cost; but the cost itself is not negotiated or calculated with applicants. Consistent with statutory requirements and good stewardship of taxpayer resources, the cost is calculated by the Department, and reviewed and ultimately approved by OMB, using an agreed-upon methodology and model. The Department is responsible for selecting projects and negotiating deal terms. OMB is responsible for approving the credit subsidy cost, and, OMB personnel do not have direct negotiations with applicants.

Question 3c. Are the OMB models and methodologies for analysis and calculation of credit subsidy cost publicly available?

Answer. The Department is responsible for, and maintains the methodologies and models for calculating credit subsidy costs. OMB reviews and approves the model and cost estimates for each Title XVII loan guarantee, as it does for other, similar federal credit programs. The exact models and methodologies are not publicly available, since they contain proprietary and business confidential information. The Department calculates the estimated credit subsidy cost based on the agreed upon term sheet between the applicant and DOE, using a methodology approved by OMB. As part of this analysis, the Loan Programs Office credit staff reviews and scores every aspect of the transaction, including, but not limited to: pledged collateral, market risk, technology risk, regulatory risk, contractual foundation, operational risk, and recovery profile. The result is a credit subsidy range that incorporates all available information regarding the project and financing at the time. The approach to determining the credit subsidy is based on transaction risk analysis which is similar to that conducted by private sector lenders.

Question 3d. Why is the DOE review of credit subsidy cost conducted separate and apart from OMB's? Is there a way to integrate the two processes so that applicants have a more definitive answer once they've incurred the expenses and expended the effort necessary to get through the process?

Answer. Fundamentally, it is the Department's obligation to conduct due diligence on a project, negotiate the terms of a transaction and to calculate the credit subsidy cost based on those terms. The role of OMB is to review and approve DOE's calculation. The Department and OMB are committed to ensuring that the interagency processes associated with the Loan Programs Office are conducted as efficiently and effectively as possible, and in a manner that is consistent with our mandate to safeguard the taxpayers' money.

ACCOUNTABILITY FOR PERFORMANCE

As Executive Director of the Loan Programs Office, presumably you report to Secretary Chu. In terms of White House involvement though, there seems to be some level of confusion about who is monitoring not only the Department's activities, but also the involvement of the Office of Management and Budget. Just as the Environmental Protection Agency interacts with the President's Council on Environmental Quality and Carol Browner, I assume a similar construct exists for the Loan Programs Office.

Question 4. What individual or entity at the White House, and more directly engaged with the President, is responsible for oversight of the Loan Programs Office?

Answer. As you stated, as Executive Director of the Loan Programs Office, I report directly to Secretary Chu, who is responsible for carrying out Administration policies within the Department of Energy, and has statutory authority to administer the Loan Programs. In carrying out these activities for the Loan Programs, the De-

partment coordinates with appropriate offices throughout the Administration, to ensure the programs are executed in a manner consistent with the governing statutes, regulations, and Administration policies.

GAO REPORT

The July 2010 GAO report found that the Department has "treated applicants inconsistently ... in at least five of the ten cases in which DOE made conditional commitments, it did so before obtaining all of the final reports from external reviewers, allowing these applicants to receive conditional commitments before incurring expenses that other applicants were required to pay."

Question 5a. Please provide the Department's perspective on the statement above.

Answer. The Department takes very seriously the analysis and recommendations put forth by GAO. We disagree, however, with GAO's assessment that we treat applicants unfairly. The Loan Programs are solicitation-based—meaning that we accept applications only in response to specific solicitations that we issue, each of which is tailored to a specific category or categories of technologies or project types.

Each solicitation clearly lays out the criteria that are used to analyze applications submitted in response to that solicitation—and DOE is committed to applying them on a consistent basis within each category.

Question 5b. Why were some conditional commitments made before DOE received the final reports from external reviewers?

Answer. The issue of whether DOE will require external reviews is based on DOE's review of the application and the specific characteristics of a project. Where DOE has required an external report to be prepared in connection with a project, DOE requires a final report prior to closing of the loan guarantee. The Department believes that LGP staff can prudently draw conclusions and make recommendations based on near final draft reports. Receipt of a final report is often a condition precedent to closing but is not needed to make a conditional commitment. This is a standard business practice in the project finance industry. The federal government is not legally obligated until the closing of the loan guarantee, and any necessary actions can be taken to address material changes identified in the final report prior to closing of the loan guarantee.

Question 5c. Pages 12 and 13 of the GAO report contain four recommended actions for the Secretary of Energy. Has the Department taken, or intend to take, action on any of those items?

Answer. We take all recommendations seriously and are either actively taking steps to make these improvements or have completed them, or disagree with the recommendations and believe that we already have the necessary actions in place. In reference to the four recommended actions on pages 12 and 13, the Department takes the following positions:

1. The Department agrees that it is important for the Loan Guarantee Program to accurately track its progress and the impacts that the projects it supports are having. It has long tracked important metrics for our projects—including greenhouse gas emissions avoided, power generated, and individual loan performance. We believe that these are important measures of the effectiveness of our program. In addition, we continue to work to improve our methods for tracking and measuring success in the context of the loan programs.

2. We disagree with GAO's assessment that we treat applicants unfairly. The Loan Programs are solicitation-based—meaning that we accept applications only in response to specific solicitations that we issue, each of which is tailored to a specific category or categories of technologies or project types. Each solicitation clearly lays out the criteria that will be used to analyze applications submitted in response to that solicitation—and DOE is vigilant in applying them on a consistent basis within each category.

3. The Department believes that current process for rejected applicants is working. Each application receives a full and fair review by the Program, comparable to the lending process in the private sector. These reviews consist of highly sophisticated technical and financial analyses conducted by our experienced professional staff.

The Department agrees that more transparency was needed and LGP has worked hard to improve this. To that end, we have implemented a more proactive communications policy with applicants. Our intake staff is empowered to reach out to applicants to ask questions of, seek information from, and work with applicants to ensure that each application is complete, and fully and fairly reviewed.

4. The Department agrees with the overall goal to systematically obtain and address feedback from applicants. The Loan Guarantee Program talks regularly

with stakeholders to receive feedback. In addition, we recently implemented a feedback page on our new website that allows stakeholders, including applicants, to provide feedback anonymously.

Question 6a. Section 1705 Deadline Extension: On August 5, the Department extended the application deadline for the renewable energy loan guarantee solicitation by six weeks, to October 5. Secretary Chu stated that this would allow the Department to "support additional projects..."

Has the Department had difficulty attracting applications for this program?

Answer. No. The loan programs have received over 230 applications from projects seeking Section 1705 funds. Over 100 of these applications remain active or have already resulted in a conditional commitment. Of course, not all of the original applications were eligible for the program, and not all of the active applications will result in a loan guarantee.

The Loan Programs Office extended the application deadline not because of a lack of demand, but because our process improvements permitted us to give applicants additional time to submit their applications and to have the best applications possible.

Question 6b. Please share any information you have about the number of applications that have been submitted so far, the total amount of funding they request, and the status of those applications.

Answer. The information you have requested is continually changing, as projects move through the review process. As of January 5, 2011, the status of loan guarantee requests for projects eligible for the 1705 program, is as follows:

Application Status	Total 1705 Applications	Loan Request (in billions)
Received (see Note 1)	239	$90
Rejected/Withdrawn/Inactive	132	$35+
Active, but Part H Application Not Yet Submitted (See Note 2)	12	$2
Projects in Part II Intake Review (See Note 3)	41	$19
Due Diligence; Pre-Term Sheet Issuance	19	$11
Due Diligence; Draft Term Sheet Issued to Applicant	23	$11
Conditional Commitment	4	$1.8
Closed	8	$3.9

Note 1: There is a difference between the total loan amount requested by all submitted applications and the cumulative loan request amounts listed in the various subsets on this chart. This is because, as a project progresses through the review process, the size of the proposed guarantee may change from the amount originally requested.

Note 2: The Loan Programs have a two-part application process. Twelve active projects have not yet submitted their Part II application; they may do so until the relevant, upcoming deadline. For FIPP projects, the deadline is January 6, 2011. Under the Manufacturing solicitation, the deadline is January 31, 2011. Projects that submit their Part II applications by the appropriate deadline will be put into Part II Intake review and considered for further due diligence.

Note 3: The majority of these applications were recently submitted on or immediately prior to the December 31, 2010 final Part II deadline under the 2009 Energy Efficiency, Renewable Energy and Advanced Transmission and Distribution Technologies solicitation. They are currently being reviewed and considered for further due diligence.

ATVM PROGRAM

Question 7a. In June 2009—roughly 15 months ago—Secretary Chu announced $8 billion in conditional loans to three auto companies. He stated at the time that, "Over the next several months, additional loans will be awarded to large and small auto manufacturers and parts suppliers up and down the production chain." Only one new loan has been announced since then, however, and it remains conditional almost a year later. When can we expect to see movement in this program again?

Answer. DOE recently announced another conditional commitment under the ATVM program. This brings to six the number of conditional commitments that have been made under the program. Four of these transactions have already

reached financial close, while one recipient decided not to proceed to financial close. DOE anticipates offering several more conditional commitments over the next several months.

Question 7b. The administrative budget for the ATVM program was $20 million in FY2010, and the Department has requested another $10 million for FY2011. With very little public activity taking place in the ATVM program over the past year, can you explain what these administrative funds are being used for? How many government personnel and private consultants are working for the ATVM program?

Answer. The funds cover all of the program's administrative costs to manage its existing portfolio, in addition to expenses incurred in reviewing applications and negotiating loan terms. In FY 2010, this included administrative funding used to close three loans that were committed in that year, in addition to the costs of 10 full-time federal employees and one private contractor working for the program. Additional funding was needed to pay for financial and market consultants and outside legal advisors who were assisting in the analysis of projects in the pipeline.

Question 7c. At your briefing with congressional staff on September 21, you noted that a very large loan is in the works and you expect it to be completed next spring. Can you provide additional details about who the loan would be for, or, at the very least, whether it is for a large manufacturer, an OEM, or another part other industry?

Answer. The Department is working on a variety of proposals with large and small projects but, because of the confidential nature of these discussions, we cannot release any other details at this time.

Question 7d. The Energy Committee recently reported a substitute amendment to S. 2843 that would remove the ATVM program's existing loan cap and expand eligibility to additional classes of vehicles. Does the Department have a position on these provisions? Please explain DOE's views on both the loan cap and expanded eligibility.

Answer. DOE is committed to executing the ATVM program consistent with its statutory requirements and does not have a position on either of these amendments.

BIOFUELS

A number of biofuels companies have met with Senators to express their significant dissatisfaction with the Department's loan guarantee programs. Several have also written letters to Secretary Chu, pleading for clarification about what, exactly, is required for them to secure a loan guarantee for their projects.

Question 8a. DOE has not selected any biofuels project to receive loan guarantees. Please indicate whether the Department believes that corn starch ethanol, cellulosic, algae, and/or any types of other biofuel projects qualify for consideration under either the 1703 program or the temporary 1705 program.

Answer. As a general matter, biofuels projects are eligible for consideration under both programs. However, eligibility decisions are made on a project-by-project basis, and are dependent on the specific attributes of a given project.

Question 8b. Are any specific factors preventing DOE from awarding loan guarantees to the cellulosic biofuel industry?

Answer. The Department is committed to promoting biofuels and has led in this area through investments under the Recovery Act, our work on E15 testing, and much more. The Program welcomes biofuels projects as they can help diversify our transportation fuel supply. However, biomass applications present a number of challenges including, but not limited to, significant technology, production, and commodity price risk. These risks present challenges in structuring projects that comply with the Title XVII requirement that the Secretary determine that there is a "reasonable prospect of repayment" of each loan guaranteed under Title XVII. However, we do currently have several biofuels projects in due diligence, and DOE hopes to be able to issue a conditional commitment to a biofuels applicant in the near future.

The Loan Guarantee Program is one of several incentives that developers of biofuels can potentially use. As you know, DOE invests heavily in energy research and development and demonstration programs for biofuels, including numerous cost-shared grants, and there are significant tax advantages included in the tax code. Additionally, DOE, USDA and EPA have formed a joint working group, which is investigating ways to support the industry.

CELLULOSIC BIOFUELS

In February 2010, a number of cellulosic biofuel companies wrote to Secretary Chu to highlight the "method by which credit evaluation for next-generation biofuels projects is conducted" by DOE. According to the letter, the LGP office is interpreting

a provision in the Energy Policy Act of 2005 as "requiring long-term, fixed-price offtake agreements [and] the absence of such agreements as constraining its ability to make loans to the biofuels sector." The cellulosic industry contends that "the liquid fuels market does not operating within such a framework; long-term, fixed-price forward contracting mechanisms, offering assurance of predictable future revenue streams, simply do not exist in our target markets."

Question 9a. Could you please provide DOE's perspective on and approach towards loan guarantees for the cellulosic biofuel industry?

Answer. The Department is committed to promoting biofuels and has led in this area through investments under the Recovery Act, our work on E15 testing, and much more. The Program welcomes biofuels projects as they can help diversify our transportation fuel supply. However, biomass applications present a number of challenges including, but not limited to, significant technology, production, and commodity price risk. These risks present challenges in structuring projects that comply with the Title XVII requirement that the Secretary determine that there is a "reasonable prospect of repayment" of each loan guaranteed under Title XVII. However, we do currently have several biofuels projects in due diligence, and DOE hopes to be able to issue a conditional commitment to a biofuels applicant in the near future.

The Loan Guarantee Program is one of several incentives that developers of biofuels can potentially use. As you know, DOE invests heavily in energy research and development and demonstration programs for biofuels, including numerous cost-shared grants, and there are significant tax advantages included in the tax code. Additionally, DOE, USDA and EPA have formed a joint working group, which is investigating ways to support the industry.

Question 9b. Approximately how many loan guarantee applications has DOE received from companies within the cellulosic biofuel industry?

Answer. As of January 5, 2011, DOE had received a total of 19 Part II applications for cellulosic biofuels projects.

Question 9c. Have any specific factors prevented DOE from awarding loan guarantees to cellulosic biofuel projects?

Answer. The most significant impediments to biofuels projects receiving loan guarantees from the Program include significant technology, production and commodity price risks.

Question 9d. Are cellulosic biofuel projects eligible for loan guarantees under the temporary Section 1705 program?

Answer. Yes, leading edge biofuels projects are eligible under 1705 a(3)which states: "Leading edge biofuel projects that will use technologies performing at the pilot or demonstration scale that the Secretary determines are likely to become commercial technologies and will produce transportation fuels that substantially reduce life-cycle greenhouse gas emissions compared to other transportation fuels."

DOE has issued two solicitations under which these projects could apply: the FY09 Energy Efficiency, Renewable Energy and Advanced Transmission and Distribution Technologies; and the Financial Institution Partnership Program—Commercial Technology Renewable Energy Generation Projects Solicitations. As with all other eligible technologies, these projects must also meet all of the other requirements of the Section 1705 program.

RESPONSES OF JONATHAN SILVER TO QUESTIONS FROM SENATOR DORGAN

In the Omnibus Appropriations Act of 2009 (P.L. 111-8) and the Supplemental Appropriations Act of 2009 (P.L. 111-32) as well as S. 3635, the Fiscal Year 2011 Energy and Water Appropriations bill, language has been carried at the request of the Congressional Budget Office (CBO) that prohibits DOE from making loan guarantees to project applicants if they have already received federal grants and cooperative agreements. As chairman of the Senate Energy and Water Subcommittee, we carried these provisions in order to address scoring implications required by the CBO. This is commonly being referred to as the double dipping provision.

At the same time, there are concerns that have been raised by some project applicants that the Department of Energy's (DOE) loan guarantee program has placed too many conditions on the loan program and made the process too difficult even for strong projects to get through the process to close on a loan guarantee commitment. One example of this problem is that certain projects that have already received a grant from the federal government, for instance for CCS programs funded by the DOE, are disqualified from receiving a loan guarantee through your office. On the one hand, the Energy Committee has authorized such grant programs to demonstration and commercialization of CCS, and the DOE has committed serious funds in support of those projects through the ARRA and appropriations bills through my Energy and Water Development Appropriations Subcommittee. On the

other hand, these same projects are disqualified from receiving a DOE loan guarantee, a loan that may be essential to commercialization of the overall project because of the lack of financing that is available in the capital financial markets.

Furthermore, the Interagency CCS Task Force Report, which the DOE co-chairs with the Environmental Protection Agency, released its report on August 12, 2010, and recognized the need to overcome the barriers to CCS deployment within 10 years with a goal of 5-10 commercial-scale demonstration projects by 2016. With this goal in mind, many of the projects in the pipeline today are likely going to need a variety of incentives to achieve that end.

Question 1. Is the DOE willing to work with Congressional Budget Office and Office of Management and Budget to find a workable solution or interpret the provisions in a manner that would recognize the importance of strong projects and work with some grant recipients depending upon the difference of loan and grant assistance?

Answer. The Department recognizes the importance of advanced fossil projects, and we look forward to working with CBO and OMB to address the issue you have raised.

Question 2a. I understand that DOE requires biofuels projects that are seeking a loan guarantee to have a dedicated buyer, or "off-take agreement." For liquid fuels, we can assume that a dedicated buyer would be a major oil company. While this kind of requirement may make sense for an electricity project, it does not make as much sense for a fuels project, because off-take agreements do not generally exist in the liquid fuels industry. The Renewable Fuels Standard (RFS) mandate that requires consumption of biofuels apparently does not qualify as an off-take agreement, in fact the national requirement of the use of renewable fuel does not seem to be factored into DOE's decision-making process in any way. The RFS waiver for cellulosic biofuels basically only requires oil companies to purchase fuels that are available in the marketplace. It seems that the purpose of a DOE loan guarantee is to help new market entrants, however DOE is effectively only agreeing to issue loan guarantees to companies producing fuels that are already in the market. Due to the ability of the oil companies to not use fuels not already in the market place, it seems that we are giving all the cards to the oil companies. This situation suggests two questions:

Is the market for fuel fundamentally different from the market for electricity? Should there be different guidelines for fuels projects?

Answer. There is no question that the market for fuel is fundamentally different than the market for electricity. The loan programs welcome biofuels projects as they can help diversify our transportation fuel supply. Biomass loan guarantee applications present a number of challenges including, but not limited to, significant technology, production, and commodity price risk. These risks present challenges in structuring projects that comply with the Title XVII statutory requirement that the Secretary determine that there is a "reasonable prospect of repayment" of each loan guaranteed under Title XVII, Despite the challenges presented by biofuels projects, the loan programs currently have several biofuels projects in due diligence, and DOE hopes to be able to issue a conditional commitment to a biofuels applicant in the near future.

As you know, the Loan Guarantee Program is one of several incentives that developers of biofuels can potentially use. DOE invests heavily in energy research and development and demonstration programs for biofuels, including numerous cost-shared grants where repayment is not required, and there are significant tax advantages for biofuels included in the tax code.

Question 2b. Does DOE have the authority to establish different guidelines for fuels?

Answer. DOE reviews each loan guarantee application on its own merits against a common set of criteria outlined in each solicitation. All projects must meet the basic eligibility criteria, at a minimum, including the statutory requirement of a "reasonable prospect of repayment."

RESPONSES OF JONATHAN SILVER TO QUESTIONS FROM SENATOR BARRASSO

Mr. Silver, thank you for your testimony. According to the Department of Energy's "The Loan Programs: An Overview" briefing paper (page #12) from September 21, 2010, the Loan Guarantee Approval process goes from the "Solicitation" stage all the way to the "Deal Monitoring" stage.

Question 1. At what point on this chart does the Office of Management Budget (OMB) become involved?

Answer. OMB is currently involved during the Approval Process, where it reviews the deal prior to the issuance of a conditional commitment, and again during the Closing Process, where it approves the final credit subsidy cost.

Question 2. Is the technology evaluation solely up to the Department of Energy (DOE)?

Answer. Yes, the Department oversees the technology analysis of applications.

Question 3. Has the White House engaged in the review process for any specific applications?

Answer. The Secretary of Energy has ultimate responsibility for approving the issuance of a loan guarantee. The Department, in reviewing each transaction, coordinates with appropriate offices throughout the Administration to ensure the loan programs are executed in a manner consistent with relevant statutes, regulations, and Administration policies.

Question 4. After the Department sends out a solicitation, does the Department change criteria for selecting and evaluating technology?

Answer. No. Projects are evaluated and selected according to the criteria laid out in the solicitation to which they are responsive and the requirements of Title XVII.

Question 5. What is involved in the Due Diligence part of the approval process?

Answer. "Due Diligence" is a broad term; the Department engages in "due diligence" throughout the review process, all the way to financial close. The initial due diligence phase, which occurs before conditional commitment, includes, among other things, a close examination of the technology, and an analysis of the financial model and plan for the project. The projects also undergo detailed legal, market, and environmental reviews, including an evaluation to determine if they are and will be in compliance with the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), Davis-Bacon labor requirements, and other state and local laws and regulations. It is during this work that the Loan Programs Office (LPO) deal team engages outside consultants and advisors with specialized expertise relevant to the project to assist with the transaction.

After due diligence has proceeded to a point where discussion of substantive business issues makes sense, LPO begins an often lengthy negotiation with the applicant on the terms and conditions of the potential loan guarantee. In some instances, the proposed project must be significantly restructured to ensure that it is creditworthy and meets the statutory requirement of a reasonable prospect of repayment.

During the initial due diligence phase, the LPO credit staff undertakes a comprehensive credit analysis of the proposed transaction. The credit team calculates an estimated credit subsidy cost based on the agreed upon term sheet between the applicant and the Department. This credit subsidy cost is calculated using a methodology approved by OMB. As part of this analysis, LPO credit staff reviews and scores every aspect of the transaction, including, but not limited to: pledged collateral, market risk, technology risk, regulatory risk, contractual foundation, operational risk, and recovery profile. The result is a credit subsidy range that incorporates all available information regarding the project and financing at the time.

Due diligence continues after a conditional commitment is made, all the way up to financial close. Conditional commitments are "conditional" because they are contingent on the applicant meeting a number of conditions precedent to financial close, and which are laid out in the commitment. During the post conditional commitment period, DOE staff completes any remaining due diligence, with a primary focus on ensuring that all conditions precedent (of which there generally are many) are met. The parties simultaneously negotiate and draft final loan documentation during this period. Once all outstanding issues have been addressed, DOE staff conducts a final credit analysis to calculate the final credit subsidy cost. The credit subsidy cost is then reviewed and approved by OMB. Once the credit subsidy cost is finalized, the project immediately moves to financial closing, at which point any fees due from the borrower, including those for the credit subsidy cost, must be deposited into Treasury, and budgetary resources supporting the loan guarantee are obligated.

Question 6. If an applicant promptly provides all the information requested by DOE, how long will the due diligence part take?

Answer. In order to ensure that taxpayer monies are properly safeguarded, the Department uses best practices, similar to those private sector lenders would use in reviewing such deals. It is important to keep in mind that these transactions are large and complex and that no two deals are alike. In the private sector, the due diligence associated with such transactions is measured in months, not weeks. And, because of considerations that are unique to federal financing (e.g., environmental and labor regulations), the Department's process is even more robust in some regards. Given the complexities associated with these deals, it is very difficult to apply timeframes to any one part of the process with any specificity.

RESPONSES OF JONATHAN SILVER TO QUESTIONS FROM SENATOR CANTWELL

Mr. Silver, in 2008, GAO found significant shortcomings with the current DOE loan guarantee program, many of which still remain unaddressed.

This past summer GAO issued another critical review of the program. They found that DOE had not developed the tools necessary to assess progress within the program, noting the program lacked adequate performance goals to help operationalize its policy goals.

GAO acknowledged that DOE has established some performance goals and measures. However, GAO found that the measures were too few to reflect the full range of policy goals for the Loan Guarantee Program. As an example, GAO noted that there is no measurable performance goal for job creation.

Moreover, they found that the performance goals for the program do not reflect the full scope of the program's authorized activities; for example, they say nothing about promoting energy efficiency. Without sufficient performance goals, DOE cannot know whether the Loan Guarantee Program is achieving the desired results.

Question 1a. What are DOE's plans to remedy these concerns raised by the GAO?

Answer. The Department takes very seriously the analysis and recommendations put forth by GAO. The Department agrees that it is important for the Loan Guarantee Program to accurately track its progress and the impact that the projects it supports are having. It has long tracked important metrics for our projects such as greenhouse gas emissions avoided, power generated, and individual loan performance. We believe that these are important measures of the effectiveness of our program. In addition, we continue to work to improve our methods for tracking and measuring success in the context of the loan programs.

Question 1b. Does DOE have plans to revisit its performance measures and goals? If so, what is the status of that effort?

Answer. The Department continuously looks for the best ways to measure the Loan Programs' projects performance and goals.

Question 1c. Does DOE plan to do a post-hoc analysis of the projects that have received loan guarantees to determine the success of the program?

Answer. The Department's involvement with projects does not end at financial close. The Loan Programs Office has a portfolio management team that will be involved in actively monitoring and managing the investments in the portfolio throughout their term. Separate and apart from this monitoring function, the Department is continually reviewing the progress of the loan programs, and the impact they have had, as part of the Department's strategic and budget planning.

Question 2a. Mr. Silver, in its report issued in July, GAO found that DOE "is implementing the program in a way that treats applicants inconsistently, lacks systematic mechanisms for applicants to appeal its decisions or for applicants to provide feedback to DOE, and risks excluding some potential applicants unnecessarily."

GAO found that DOE's implementation of the program has favored some applicants and disadvantaged others in a number of ways, including providing preferential treatment to applicants proposing nuclear projects.

Further, GAO found that DOE lacks systematic mechanisms for applicants to appeal its decisions or provide feedback to DOE on the department's administration of the program.

What is DOE doing to address these issues identified by the GAO investigation?

Answer. We take all recommendations seriously. In cases where we agree that improvements are needed, we are either actively taking steps to make these improvements or have completed them. On some of the recommendations, we believe that we already have the necessary procedures in place. Regarding the four recommended actions on pages 12 and 13 of the GAO report, the Department takes the following positions:

1. The Department agrees that it is important for the Loan Guarantee Program to accurately track its progress and the impacts that the projects it supports are having. It has long tracked important metrics for our projects—including greenhouse gases avoided, power generated, and individual loan performance. We believe that these are important measures of the effectiveness of our program. In addition, we continue to work to improve our methods for tracking and measuring success in the context of the loan programs.

2. We disagree with GAO's assessment that we treat applicants unfairly. The Loan Programs are solicitation-based—meaning that we accept applications only in response to specific solicitations that we issue, each of which is tailored to a specific category or categories of technologies or project types. Each solicitation clearly lays out the criteria that will be used to analyze applications submitted in response to that solicitation—and DOE is vigilant in applying them on a consistent basis within each category.

3. The Department believes that current process for rejected applicants is working. Each application receives a full and fair review by the Program, comparable to the lending process in the private sector. These reviews consist of highly sophisticated technical and financial analyses conducted by our experienced professional staff.

The Department agrees that more transparency was needed and LGP has worked hard to improve this. To that end, we have implemented a more proactive communications policy with applicants. Our intake staff is empowered to reach out to applicants to ask questions of, seek information from, and work with applicants to ensure that each application is fully and fairly reviewed.

4. The Department agrees with the overall goal to systematically obtain and address feedback from applicants. The Loan Guarantee Program talks regularly with stakeholders to receive feedback. In addition, we recently implemented a feedback page on our new website that allows stakeholders, including applicants, to provide feedback anonymously.

Question 2b. In general, has DOE and OMB determined that nuclear energy projects are more or less risky than other projects funded under this program?

Answer. Each transaction is evaluated on the specifics of that transaction. Some nuclear transactions may be less risky than some innovative technology transactions; for example, sponsors may have greater resources, management depth and expertise which they bring to the projects.

Question 3a. Mr, Silver, as I'm sure you can tell, there is a great deal of frustration amongst many of us in Congress about the speed and transparency of the Loan Guarantee Program. While there has been real progress from past years in both areas, further improvement is necessary, and quickly.

In my view, the greatest frustration stems from what seems to be a lack of urgency. The policy imperatives that motivated the creation of this program in the first place are no less pressing today than they were five years ago: job creation, energy security, environmental protection.

I believe all of these issues are more pressing than they were five years ago. They are all critical issues of national concern and they are good reasons to deploy more renewable energy. In addition, for both financial and statutory reasons, applicants for loan guarantees are often under tremendous pressure to move quickly. Yet DOE and OMB sometimes seem to operate as though there were no cause for urgency.

I would like to hear your assessment of whether that is an accurate perception. Are DOE and OMB personnel processing these applications with a sense of urgency?

Answer. The Department and OMB are processing applications with a sense of urgency. The Department takes its responsibility to both applicants and the U.S. taxpayer seriously. It is not uncommon for applicants to submit applications for projects that are not ready for deployment, and therefore, review may be delayed until necessary information is re-submitted. The due diligence process includes a thorough review of all financial, technical, legal, environmental and other relevant data. These reviews often demonstrate the need for material changes to the terms and structure proposed in the application, which in turn may lead to lengthy negotiations with the applicant. While deals have taken a long time to close in the past, the Department has made significant improvements that have increased the efficiency of the process. For example, it has hired more staff; launched an online application portal; streamlined the NEPA process; redesigned and launched a more user-friendly website; and initiated more proactive communication with applicants. Nonetheless, the unique and highly complex nature of each project, and the importance of ensuring that each project is structured and documented in a manner that minimizes the risk to the taxpayer, means that these are time-consuming and resource intensive projects to bring to closing. There is simply no generic "one-size-fits-all" method of reviewing the applications; and many of the time-sensitive issues—like issuance of regulatory approvals and conclusion of negotiations with off-takers, construction contractors, equipment suppliers and the like—are not within the Department's control.

Question 3b. Do you have any recommendation on legislation Congress could pass that would improve the DOE loan guarantee process more transparent and responsive?

Answer. The Administration has made a limited number of requested changes which we believe are either necessary or helpful, including allowing project credit subsidy costs for modifications to Title XVII loan guarantees, to be paid from a combination of borrower payments and appropriated funds; expanding the Section 1705 program to include efficient end use energy technology projects; reaffirming that the Loan Guarantee Program can provide guarantees to projects at multiple sites; and clarifying when project sponsors may be eligible for multiple loan guarantees for eli-

gible projects under the Section 1705 program. In addition, we believe that the programmatic improvements we have made will go a long way toward meeting the goals set for our programs. We also have previously submitted technical drafting assistance at the recommendation of this committee to improve the program. We continuously look for ways to improve the program and will work with OMB and the Congress if there are specific changes we believe could improve the program.

Question 4a. Mr. Silver, in the 1970's and 1980's, the Department of Energy wasted billions of taxpayer dollars on defaulted loans to subsidize synthetic fuels through the synfuels corporation. According to GAO, 10 of the 14 projects funded through that program resulted in defaults.

In spite of that history, DOE is now considering a loan guarantee application from a coal-to-liquids project in Wyoming.

According to analysis by the Natural Resources Defense Council, even if 90% of the CO_2 from liquid coal plants is captured, then well-to-wheels CO_2 emissions would be still be higher than emissions from today's crude oil system.

Why is DOE considering making new investments in synthetic fuels?

Answer. The Secretary of Energy has made the commercialization of technologies that enable carbon capture and sequestration (CCS) technologies a policy priority. Title XVII of the Energy Policy Act of 2005 (EPACT 2005), under which the DOE Loan Programs Office was established, expressly provides for loan guarantees for gasification projects incorporating carbon capture and sequestration, including integrated gasification combined cycle projects, industrial gasification projects, petroleum coke gasification projects, and liquefaction projects. Accordingly, the Loan Programs Office is considering several prospective projects deploying advanced gasification technology with CCS. The DOE invited these projects to enter due diligence after a competitive solicitation process and thorough preliminary review.

In addition to power, these projects may produce substitute natural gas, chemical feedstocks or transportation fuels. The program does not have a bias for or against any particular product of gasification technology. Instead, we focus on projects that have strong development teams capable of implementing complex technological projects. In addition, we evaluate prospective projects based on the degree to which each advances energy policy objectives, which includes the reduction or avoidance of greenhouse gas emissions compared with existing technology and competing technology investments.

Question 4b. What data do you have to suggest that such an investment is either economically or environmentally sound?

Answer. The Department's National Energy Technology Laboratory (NETL) has published extensive research over several years on the economics and lifecycle greenhouse gas emissions of coal-to-liquids (CTL) technology. NETL has examined, for example, coal-to-liquids technology using a methanol-to-gasoline production process and incorporating carbon capture and sequestration (CCS.)

These studies have found that the lifecycle greenhouse gas emissions of this process with 88 percent CCS are approximately five percent below the EPA Renewable Fuel Standards 2 (RFS2) petroleum baseline emission standards established under Section 526 of the 2007 Energy Independence and Security Act (EISA) of 2007. In addition, the studies found that the lifecycle emissions of CTL with CCS are substantially below many sources of imported crude oil, which currently account for a large portion of the oil refined in the U.S.

All of the advanced fossil technology projects currently in Loan Program due diligence were found to be economic upon preliminary review. The Program invited the projects into due diligence based on their economic viability. It is possible that the due diligence process will discover that economics of certain projects have changed. All projects to which the Department extends loan guarantees must, according to Section 1702 of EPACT 2005, have "a reasonable prospect of repayment of the principal and interest on the obligation by the borrower."

Question 4c. How do coal-to-liquids projects meet the statutory language of the Loan Guarantee Program requiring projects to "avoid, reduce, or sequester emissions of air pollutants or man-made greenhouse gases"?

Answer. The NETL studies cited above found that the lifecycle greenhouse gas emissions of a coal-to-liquids process with 88 percent CCS are approximately five percent below the EPA Renewable Fuel Standards 2 (RFS2) petroleum baseline emission standards established under Section 526 of the 2007 Energy Independence and Security Act (EISA) of 2007. In addition, the studies found that the lifecycle emissions of CTL with CCS are substantially below many sources of imported crude oil, which currently account for a large portion of the oil refined in the U.S.

The Loan Programs Office will verify the lifecycle greenhouse gas emissions for each project under review during the due diligence process. The Department will not extend a loan guarantee offer to any project that does not meet the statutory re-

quirement in Section 1703 of EPACT 2005 to "avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases."

Question 5a. Mr. Silver, in your response to a letter sent by Rhone Resch, President & CEO of the Solar Energy Industries Association (SETA), to President Obama regarding the $1.5 billion rescinded from the Loan Guarantee Program last month, you stated that "In the short term, we have the resources to support a broad portfolio of clean energy technologies and anticipate that those resources will allow DOE to support credit worthy projects across all open solicitations."

Does this mean that the estimated 81 projects requesting more than 30 billion dollars in loans will not get funded unless Congress restores at least $1.5 billion?

Answer. The Loan Programs Office is committed to utilizing the funds we currently have in the 1705 program to fund solid projects to achieve our statutory objectives. As discussed above, DOE is currently engaged in pre-conditional commitment due diligence on over forty 1705-eligible projects (in addition to the twelve 1705-eligible projects that have already received conditional commitments to date, and projects eligible under 1703 and ATVM). Twenty-three of these projects are sufficiently far along in the process that DOE has already provided a working draft term sheet and begun active negotiations with the applicant. DOE estimates that these twenty-three projects, cumulatively, would utilize most, if not all, of the uncommitted appropriated 1705 funds. Of course, as in the private sector, it is possible that not all projects that have received draft term sheets will ultimately reach the conditional commitment and/or closing stage. Accordingly, DOE will continue to move forward with due diligence on the other projects in its pipeline and will actively review the new Part II project applications that it expects to receive by the upcoming application submission deadlines.

Many projects that are eligible under 1705, but which do not receive loan guarantees under that program, will be eligible to receive loan guarantees under the 1703 program, which currently is a self-pay credit subsidy program.

In addition, the 2011 President's Budget includes $500 million in credit subsidy to support energy efficiency and renewable energy projects under 1703. The Administration is monitoring the Loan Guarantee Program and will continue to seek appropriate funding levels to ensure the program can achieve its objectives.

Question 5b. I interpret your statement to mean that now DOE plans to spread the available funds across all technologies and all solicitations; commercial renewable, innovative renewable, transmission and the new solicitation for commercial renewable manufacturing, is that correct? If so, is that decision based on any Congressional guidance?

Answer. DOE is committed to funding as many well-designed, well-structured, and creditworthy projects as possible. Projects from all of the open solicitations remain eligible for loan guarantees.

Question 5c. Would you agree that project sponsors believe that when they file an application pay all of the fees and costs—which could amount to millions of dollars in some cases—that if they meet all of the solicitation's criteria of a credit-worthy project there will be sufficient funds to cover the subsidy costs?

Answer. Each solicitation issued under the 1705 program makes clear that the Department's ability to pay the credit subsidy cost associated with loan guarantees is "subject to the availability of funds."

Question 5d. What are you telling applicants now with respect to the chance that projects may well not be funded due to lack of funds? How will DOE treat the fees of credit-worthy applicants in the event you are not able to offer a loan guarantee due solely to lack of funds to cover the subsidy cost? Are fees refundable?

Answer. Applicants to the Loan Programs Office are made aware that the Department's ability to pay the credit subsidy cost under the 1705 program is "subject to the availability of funds." Many projects that are eligible under 1705, but which do not receive loan guarantees by the September 30, 2011 sunset date, will be eligible to receive loan guarantees under the 1703 program, which currently is a self-pay credit subsidy program—though the 2011 President's Budget includes $500 million in credit subsidy to support energy efficiency and renewable energy projects under 1703. Administrative fees associated with applying for a loan guarantee are used to cover the expenses that the Department incurs in reviewing the applications, as required by Title XVII. They are not refundable.

Question 5e. Isn't there a possibility that the Section 1705 program could run out of funding early next year? Given this fact why would new applicants apply for loans under the open solicitations?

Answer. The Loan Programs Office is committed to financing well-structured, well-designed, and creditworthy projects that will be able to reach financial close by September 30, 2011, regardless of when their applications are received. As discussed above, as in the private sector, it is possible that not all of the twenty-three projects

that are in the process of term sheet negotiations will ultimately reach the conditional commitment and/or closing stage. Accordingly, DOE will continue to move forward with due diligence on the other projects in its pipeline and will actively review the new Part II project applications that it expects to receive by the upcoming application submission deadlines.

Question 6a. Mr. Silver, Master Limited Partnerships (also known as MLPs) have been used to help finance mining, as well as oil and gas drilling, supporting the development of critical domestic fuel sources.

Given the need for additional investment capital to support U.S domestic energy supply, do you think that this type of structure should be extended to include qualified renewable energy projects?

Answer. The Loan Programs Office has not formed a view on Master Limited Partnerships.

Question 6b. Do you agree that allowing MLPs to be used for renewable energy on a basis comparable to that afforded to fossil fuels could both expand the supply of domestic renewable energy as well as expand the base of investors eligible to invest in America's renewable energy resources?

Answer. The Loan Programs Office has not formed a view on Master Limited Partnerships.

RESPONSES OF JONATHAN SILVER TO QUESTIONS FROM SENATOR BENNETT

Scoring conventions of the Congressional Budget Office (CBO) require the Appropriations Committee to include a proviso in the Energy and Water Appropriations bill to prohibit projects that have previously received certain federal funding, such as grants, from receiving a Title 17 loan guarantee. CBO argues that using federal funds to support a project that receives a federally-guaranteed loan shifts risk from the developer to the federal government. As the loan guarantee program matures, the number of projects that would be disqualified because of their past funding history grows, particularly in the fossil energy category because of DOE's Clean Coal Power Initiative (CCPI). Although fossil is particularly affected, the problem also cuts across categories, and probably includes projects in the nuclear and renewable categories.

Question 1a. Does DOE agree with CBO's assessment that if a project has received a federal grant in the past that additional risk is assigned to the federal government?

Answer. The Department has not undertaken an analysis of this issue. The Department executes the loan programs consistent with its statutory requirements. More broadly, DOE seeks to ensure the most efficient use of taxpayer dollars and that sponsors have sufficient "skin-in-the-game".n all projects supported by the program.

Question 1b. Given that funding appropriated for loan guarantees in FY07 does not have the same prohibition on receiving federal grants, would the loans issued from FY07 loan authority therefore be inherently more risky to the federal government than those issued from FY09 and later, all things being equal?

Answer. Again, the Department has not undertaken an analysis of this issue. However, no project is funded, under FY07 or FY09 authority or otherwise, unless the Department has undertaken an extensive and rigorous review of the risks associated with the project, the Secretary has determined that there is a reasonable prospect of repayment, and OMB has approved the credit subsidy computation. It should also be noted that, although the FY07 appropriation does not contain this requirement, not all projects that may be funded under that authority will necessarily have received other federal support.

Question 1c. What protections does DOE have in place to ensure strong protections against default?

Answer. To protect against default, before issuing a loan guarantee, our team of highly qualified professionals thoroughly evaluates the technology, the structure and financial plan, the construction agreements and other project documentation, and costs and timeline to complete the project. From this review, we develop a detailed understanding of the sources of cash available for repayment of the loan. Our loan guarantee documentation includes the full range of customary lender protections—representations and warranties, detailed conditions precedent to each loan disbursement, covenants and events of default; we generally have a lien on all project assets; depending on the specific risks of the project, we include risk mitigants, such as debt service reserve accounts, cash sweeps, sponsor support agreements and mandatory prepayment provisions, among others; and we receive detailed financial and operating reports throughout the life of the loan, supplemented by independent engineering reports during the construction period and otherwise as appropriate.

Question 2a. There are at least three distinct exceptions to the ineligibility proviso discussed above: (1) the FY09 Supplemental Appropriations bill allows a project to receive both a loan guarantee and a federal grant or cooperative agreement as long as the grant or agreement was recorded on or before May 1, 2009; (2) the loan guarantee must be offered from the $4 billion authority from FY07, which is not subject to the prohibition; and (3) DOE may use a CCPI grant award to pay the cost of a loan guarantee for a specific project referenced in section 1703(c)(I)(C) of EPACT05.

Is DOE aware of any other exceptions to the ineligibility proviso?

Answer. The text of the prohibition contains a number of additional exceptions, including an exception for "otherwise allowable Federal income tax benefits."

In addition, the prohibition currently applies only to the 2009 appropriations authority for loan guarantees issued under Section 1703.

Question 2b. Is it DOE's position that if a project has received a federal grant (i.e. a CCPI grant) to support the project, and none of the above exceptions apply, the project would be ineligible to receive a loan guarantee?

Answer. If the grant proceeds are "expected to be used (directly or indirectly)" to support the project, the project would be ineligible to receive a loan guarantee under Section 1703 using FY09 budget authority. It is also worth noting that the FY09 Supplemental Appropriations bill provides that OMB must certify compliance with the restriction before a loan guarantee may be issued using the FY09 authority. In addition to the restrictions contained in the FY09 budget authority, there may be other reasons why a project that has received a grant may not qualify for a DOE loan guarantee. For instance, grants are often used to support technologies prior to their commercial readiness.

Question 2c. Has DOE examined the current list of applicants (or at least those in the short-term pipeline) and determined whether they are eligible for a loan guarantee in light of this proviso? At what time in the application process is this determination made?

Answer. Yes. Only one project currently in due diligence could be ineligible to receive a loan guarantee under the 2009 Supplemental Appropriations Bill because it has also received a Federal grant. DOE may proceed with this project using available authority from FY07. Although this statutory prohibition does not apply under the FY 2007 authority, DOE's analysis of the credit subsidy cost takes into account other forms of federal assistance. There is at least one other project that has been put on hold because the Tennessee Valley Authority was proposed to be the project off-taker, which would not be permissible under the terms of the FY09 restriction. Although we do not have complete data, we believe there are other projects (or potential projects) that may be inhibited from entering into off-take arrangements with TVA, or similar entities, as a result of the restriction. The eligibility determination is made during due diligence, before a term sheet for the project is final (although compliance must ultimately be certified by OMB prior to closing). We would not offer a conditional commitment to a project before ensuring all eligibility requirements can be met.

Question 2d. If the proviso is interpreted strictly, could the loan guarantee program potentially lose most if not all applicants?

Answer. The Department interprets the proviso strictly. As stated above, two of the current projects in due diligence would be ineligible to receive a loan guarantee using FY09 authority because of the proviso, but at least one of those projects may be funded from FY07 authority, to the extent funding remains available. Other projects that might be precluded by the prohibition may also be eligible under Section 1705, which does not include this prohibition. As stated above, even though the prohibition does not apply, the credit subsidy cost would take into account other forms of federal assistance.

Question 3a. According to your testimony, "[f]ollowing the Secretary's approval, LPO offers a conditional commitment for a loan guarantee.... This commitment is 'conditional' because it is contingent upon the applicant meeting certain conditions precedent to financial close." With regard to these "conditions precedent".

What specific measures are being taken by DOE to ensure the timely acquisition by the applicant of all the relevant federal, state, local, and tribal permits necessary to implement each loan guarantee project?

Answer. Beyond the clear incentives for a project sponsor to complete the project quickly, there are several means by which the Department ensures the timely acquisition of all relevant permits by loan guarantee applicants. First, the loan guarantee application instructions in program solicitations at Attachment 1, Section B. 10, instruct the applicant to "provide a list of all federal, state and local licenses, permits and approvals required to site, construct, implement and operate the project, including environmental authorizations or reviews necessary to commence construction and operation. For approvals already received, provide the filing and approval dates

and parties involved; for those not yet received, provide the filing date, steps to be taken to obtain them, and expected date(s) they will be obtained."

Further, Section IV. B. 1. a. vii. of the solicitation states that an evaluation criteria for Part II application review is: "the extent to which all necessary land rights and state and local permits, as well as the environmental clearances necessary to proceed, have been obtained or approved."

These requirements would be verified and part of the due diligence process; and, absent extraordinary circumstances, no guaranteed loan proceeds would be disbursed until all such permits and approvals have been issued.

In addition, the National Environmental Policy Act (NEPA) review process documentation (an environmental assessment or environmental impact statement) prepared for each project will include a description of the environmental permits required for implementing the proposed action. The analysis included in the NEPA documentation will address "whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment" (40 DFR 1508.27(10)). In the case of any necessary wetland permitting for the loan guarantee project by the U.S. Army Corps of Engineers, the Loan Programs Office's (LPO's) NEPA review process will involve the Corps as a cooperating agency, which enables the Corps to satisfy the requirements of Section 404 of the Clean Water Act using LPO's NEPA process. This avoids duplicative NEPA review processes and expedites permitting.

Question 3b. What specific measures are being taken by DOE to streamline the NEPA review process where applicable and to mitigate the associated time delays for applicants?

Answer. The Department is expediting the NEPA review process in numerous ways:

1) We have developed Memorandums of Understanding with the California and Nevada U.S. Bureau of Land Management (BLM) offices to serve as cooperating agencies on the NEPA review of any project that involves a DOE loan guarantee and a grant or permit from BLM. This avoids duplicative NEPA review processes and allows the Department to take advantage of the BLM "Fast Track" NEPA review process;

2) The Department adopts the NEPA review documentation prepared by other Federal agencies instead of performing separate reviews to ensure no duplicative processes. The Department has worked with BLM, the Army Corps, and the U. S. Department of Housing and Urban Development's NEPA documentation;

3) The Department worked with the Council on Environmental Quality (CEQ) to adapt existing categories of actions that do not require preparation of a NEPA environmental assessment or environmental impact statement (i.e., categorical exclusions). Exchange of letters between Secretary Chu and CEQ Chairman Sutley confirmed the appropriateness of applying the categorical exclusions to projects that retool and reequip existing facilities;

4) LPO environmental compliance staff conducted webinars for potential applicants to educate them on the NEPA review process associated with Loan Programs Office and DOE NEPA requirements;

5) The Loan Programs Office website was enhanced to include detailed information concerning the NEPA review process and examples of NEPA compliant documents prepared for loan program applications that can be used by applicants as templates for their project;

6) LPO environmental compliance staff meet with applicants prior to their submission of Part II applications to ensure the information provided expedites the NEPA review process. This includes encouraging applicants to submit their required environmental report in a format and content that closely resembles the final DOE NEPA document;

7) Loan Programs Office staff work closely with the DOE Assistant General Counsel for Environment's legal staff to reduce the time required for internal review and approval of LPO's NEPA documents. This involves providing project pre-briefings to legal staff before they receive a document for review. Loan Programs Office also established a single point of contact on the legal staff to coordinate the review and approval process; and

8) The Loan Programs Office Environmental Compliance Division increased the NEPA staff from a single contractor in August 2008 to a staff of eight Federal FTEs and numerous support contractors by September 2009, which increased the throughput of NEPA reviews by the office.

Question 3c. What specific measures are being taken by DOE to facilitate the acquisition of federal land permits by the applicants?

Answer. In addition to the measures described above to help facilitate applicant's acquisition of federal land permits for loan guarantee projects, the Department has also served as the lead federal agency to coordinate among federal regulatory and land management agencies responsible for administering federal lands. Specifically, the Department has stepped up to serve as the federal nexus for the Endangered Species Act Section 7 consultation with the U.S. Fish and Wildlife Service (FWS) that results in FWS issuing a Biological Opinion and Incidental Take Permit, which must be obtained before the applicant can obtain various federal land permits and close a loan guarantee agreement with DOE. The Department also negotiated agreements between BLM and other federal regulators (namely FWS) to expedite BLM right-of-way approval of transmission line corridors necessary to service renewable energy development projects. In addition, DOE works closely with loan guarantee applicants to ensure that they are fully apprised of land management agency requirements for permits and approvals early in the due diligence process. This eliminates surprises that could adversely affect the loan guarantee closing process.

RESPONSES OF JONATHAN SILVER TO QUESTIONS FROM SENATOR STABENOW

In 2007, I worked with House and Senate colleagues to ensure that Section 136 was in place to help auto companies manufacture new fuel efficient vehicles in the United States. To date the loans granted have been successful in producing new jobs and new domestic manufacturing. However, over 100 applications have been filed with the DOE and the vast majority of those applications are from suppliers. Furthermore, of the five companies that have received a conditional loan agreement from DOE under this program, only one was a supplier. That company, Tenneco, decided not to pursue finalization of the loan.

Participation of suppliers is critical to the deployment of advanced technology vehicles. Parts manufacturers contribute almost 30% of the $16.6 billion in automotive R&D and provide much of the intellectual capital required for the design, testing, and engineering of new parts and systems and play a major role in the deployment of established and emerging technologies. Recently, this Committee reported an amendment to section 136, in part to make it clearer that suppliers can qualify.

Question 1a. Are statutory changes necessary for DOE to administer the ATVM program in a way which more suppliers can take advantage of the program?

Answer. DOE is committed to working with all applicants who qualify under the ATVM loan program. Many suppliers have had difficulty qualifying, as there needs to be a nexus between the supplier and a specific ATVM car model. Section 136 of the Energy Independence and Security Act of 2007 states that the term "qualifying components" means that components must be:

(A) designed for advanced technology vehicles; and

(B) installed for the purpose of meeting the performance requirements of advanced technology vehicles.

Many of our applicants do not meet these requirements, or if they do, their production volumes for ATVM vehicles are too small as to make a loan feasible.

Question 1b. Are there other obstacles from your perspective?

Answer. Supplier contracts often have the OEM acquiring the components receiving the rights to intellectual property which DOE must receive from the component maker as collateral under the Act. In addition, payment terms with OEMs are often in arrears; such terms expose an ATVM component loan to additional risk.

Question 2a. Regarding loan guarantees under section 1705 and section 1703: Can you please provide specific information on how DOE analyzes applications to categorize, prioritize and evaluate financial health?

Answer. The Department's credit staff conduct a rigorous project finance underwriting and credit analysis similar to that conducted by commercial financial institutions. For project finance transactions, the critical element of the review is an evaluation of cash available for debt service after consideration of all costs and revenues and evaluation of all risks that could affect costs or revenues.

Question 2b. Please explain how DOE analyzes the debt of mature publicly traded companies with conventional debt?

Answer. Since most Department transactions do not involve recourse to publicly traded sponsors, DOE does not focus on the debt of such companies except to the extent DOE is analyzing the ability of such companies to fulfill their obligations such as to provide transaction equity or to backstop contractual obligations. In analyzing mature, publically traded companies, the Department utilizes conventional credit analysis.

Question 2c. Is there an acceptable debt-to-equity ratio or other measure of leverage for an application to be successful in securing a guarantee?

Answer. The acceptable debt-to-equity ratio varies with the risk associated with each project; there is no uniform standard.

Question 2d. In the private sector, investment bankers view applicants as partners and they communicate continuously as deals are being structured. Michigan companies tell us that there is zero or little interaction with applicants about timeline, company business models, or creditworthiness, that the process is a black box, that DOE simply takes written information and later renders a verdict. How much communication do you have with applicants about the above issues?

Answer. The Department has implemented a more proactive communications policy with applicants. Our intake staff is authorized to reach out to applicants to ask questions of, seek information from, and work with applicants to ensure that DOE's evaluation is fully informed. We seek to ensure that all projects are given a full and fair evaluation under the terms of the applicable solicitation and our governing documents. Once a project is in the due diligence/negotiation stage, our investment officers and attorneys are in regular and continual contact with applicants and their advisors.

Question 2e. When applicants have follow up questions about their loan guarantee, how are those handled? It seems logical that each applicant would get a "client manager" or "caseworker" to communicate with regarding their application.

Answer. The Department reorganized its staff into technology domain groups to create efficiencies and capitalize on the expertise of our staff. The Department also implemented a more proactive communications policy with applicants. The intake staff is authorized to reach out to applicants to ask questions of, seek information from, and work with applicants to ensure that DOE's evaluation is fully informed. We seek to ensure that all projects are given a full and fair evaluation under the terms of the applicable solicitation and our governing documents. Once an application is accepted into the due diligence/negotiation process it is assigned an investment officer who serves as the point of contact for incoming and outgoing questions between the Department and the applicant.

Question 2f. Has DOE been given any guidelines by OMB related to the process, communication or financial requirements for applicants?

Answer. DOE is responsible for carrying out the Title XVII program, and coordinates closely with Treasury and OMB consistent with statutory requirements. The programs' initial regulations, which provide public guidance on how the program operates, were developed through standard rulemaking procedures, which involve OMB by statute.

In addition, OMB has provided guidance to all agencies on various matters relating to the Recovery Act, including communications regarding applications for Recovery Act funding. Since Section 1705 funds came under the Recovery Act, some of that guidance applies. With respect to financial requirements, OMB Circular A-129 outlines policies for all Federal credit programs, to ensure efficient and effective use of budgetary resources.

Question 3. What is the nature of the working relationship between DOE and the Office of Management and Budget on loan guarantee applications and section 136 applications?

Answer. DOE is responsible for implementing the programs, including reviewing applications and making award determinations. Pursuant to OMB's oversight authority provided by the Federal Credit Reform Act, OMB and DOE coordinate closely to ensure accurate cost estimates for each of the awards.

RESPONSES OF JONATHAN SILVER TO QUESTIONS FROM SENATOR SANDERS

Question 1. Is it true that DOE is considering providing a clean energy loan guarantee to a coal-to-liquids project despite the fact that using coal to produce liquid fuel produces double the greenhouse gas emission impact of using conventional oil? If so what steps is DOE planning to take to mitigate the greenhouse gas emissions impacts of this project, and what criteria is DOE using to ensure that all loan guarantee projects result in the deployment of projects that are truly clean, meaning they result in a reduction of greenhouse gas emissions and other pollution and environmental degradation relative to conventional technologies?

Answer. It is the Department's policy not to comment on specific applications. However, DOE believes that coal-to-liquids (CTL) projects incorporating carbon capture and sequestration (CCS) may be eligible under Title XVII of the Energy Policy Act of 2005, provided that they meet the other requirements of the program such as economic viability and reduced greenhouse gas emissions. The DOE's National Energy Technology Laboratory (NETL) has published extensive research over several years on the economics and lifecycle greenhouse gas emissions of CTL technology incorporating CCS. These studies have found that the lifecycle greenhouse

gas emissions of this process with 88 percent CCS are approximately five percent below those produced by the EPA Renewable Fuel Standards 2 (RFS2) petroleum baseline established under Section 526 of the 2007 Energy Independence and Security Act (EISA) of 2007. In addition, the studies found that the lifecycle emissions of CTL with CCS are substantially below many sources of imported crude oil, which currently account for a large portion of oil refined in the U.S.

The Loan Program verifies the lifecycle greenhouse gas emissions for each project in our portfolio. The DOE will not extend a loan guarantee offer to any project that does not meet the statutory requirement in Section 1703 of EPACT 2005 to "avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases."

Question 2. Do you agree with C130 that the risk of default for a new nuclear power plant could be as high as 50 percent, and how will you protect taxpayers when the federal government is backing billions in nuclear loan guarantees?

Answer. As CBO noted earlier this year, the 50 percent default estimate was developed several years ago, prior to enactment of the Title XVII statute and regulations. CBO has since revised this estimate, reflecting the current market and additional information available at this time. DOE evaluates nuclear projects with a broad range of characteristics. For instance, some proposed loans are to corporate borrowers, while others are to project finance borrowers. Some plants have regulated rate bases, while others sell power on a merchant basis. The default risk depends on the type of borrower and project, among other things, and we ascribe the probability of default accordingly.

We seek to protect the taxpayer through a number of risk mitigants, including i) debt service reserves to cover operating costs during extended shutdowns or subpar performance, ii) cash sweeps, iii) mandatory prepayment provisions, iv) provisions for liquidated damages from the Engineering, Procurement, and Construction contractor, v) contingent equity commitments and vi) and a perfected security interest in the project.

Question 3. Regarding nuclear loan guarantees, what criteria, if any, are in place to ensure that entities receiving loan guarantees are meeting their obligations for adequacy of decommissioning funds for existing plants?

Answer. As a condition precedent to financial close, the project must receive a Combined Operating License (COL) from the NRC which requires the licensee to comply with NRC's regulations pertaining to adequate funding arrangements (among other matters)to ensure timely plant decommissioning. The Independent Engineer, on behalf of the DOE, reviews and validates the project's decommissioning plan, including the estimated decommissioning costs. The estimated decommissioning costs are included in the project's financial pro forma which is reviewed and validated to ensure that the forecasted annual plant operating revenues are adequate to cover all financial obligations, including the funding for plant decommissioning.

RESPONSES OF JONATHAN SILVER TO QUESTIONS FROM SENATOR LANDRIEU

Question 1. I am encouraged to hear that the V-Vehicle Company, whose original application was denied, is making significant progress with DOE on their second application under the Advance Technology Vehicle Manufacturing (ATVM) program. As you know, V-Vehicle's automobile is a low-cost, fuel-efficient vehicle that will meet aggressive emissions standards and the highest safety rating. In addition, the company wants to locate the facility in Monroe, LA, bringing jobs to a rural region of my state that so desperately needs good jobs. Can you comment to the V-Vehicle application and where it currently stands? When do you expect to award the next round of ATVM projects? Do you expect to announce multiple projects over the next several months? How many ATVM projects does DOE have in the pipeline for the rest of 2010?

Answer. It is the Department's policy not to comment on specific applications. DOE recently announced another conditional commitment under the ATVM program. This brings to six the number of conditional commitments that have been made under the program. DOE anticipates offering several more conditional commitments over the next several months.

Question 2. It has come to my attention that DOE has taken the position that its loan guarantee for wind energy does not have to apply to the U.S. government's maritime cargo preference statutes. Under that law, any U.S. financed project that ships cargo must use at least 50 percent of U.S. flagged vessels for transport of that cargo. This issue was most recently addressed in Section 3511 of the Defense Authorization Act of 2009 (PL 110-417), which strengthened any ambiguity that existed to which agency has the authority to determine the applicability of U.S. cargo

preference laws and conferred that responsibility to the U.S. Maritime Administration.

In addition, an underlying objective of the DOE loan guarantee programs is to create domestic investment and jobs, as funded through the President's Economic Stimulus Initiative. DOE's current position on the Cargo Preference Act runs counter to this objective, since domestic shipping jobs will be usurped by foreign flagged vessels. Having U.S. flagged vessels bring over wind mill blades from China and other foreign nations helps supply domestic jobs, since the manufacturing of these parts will not occur in the U.S. As such, I do not understand why DOE believes that projects financed by their loan guarantee programs need not abide by current law regarding cargo preference. Further, I understand that DOE has indicated to abide by terms governing the issuance of U.S. guaranteed credit, and, under the terms of the 1954 Cargo Preference Act, that all U.S. credit programs are subject to the terms of that Act.

I'd like to understand DOE's position on its ability to make determinations on U.S. Cargo Preference laws given the provisions of PL 110-417. I would also like to understand why DOE would take the position that stimulus funds should be used for the purchase of foreign exports and not be shipped by U.S. shipping companies. Can you tell me why DOE has taken the position that they need not abide by the Cargo Preferences Act?

If this is an oversight on DOE's behalf, can I get your commitment to reverse it immediately?

Answer. DOE is currently pursuing a consultative process on this matter with the Department of Transportation under 46 U.S.C. 55305(d) of the Act.

Question 3. I am concerned that the Loan Guarantee Program has placed too many conditions on the loan program and made the process too difficult even for strong projects to get through the process. For instance, I understand that projects that have received a grant or earmark from the federal goverment are disqualified from receiving a loan guarantee. This seems to make no sense. If the project has received the stamp of approval from another rigorous Federal approval process, why should they be automatically precluded from DOE programs?

My question is whether DOE is precluding applicants that have already received another source of Federal funding from participating in their loan guarantee programs?

If yes, do you support this practice and believe it should be continued?

Answer. DOE executes the loan programs in accordance with all relevant laws and regulations. The 2009 Supplemental Appropriations bill contains language that precludes DOE from offering loan guarantees using FY 2009 budget authority to projects that have received, or expect to receive, certain forms of federal government support, including grants. In addition, different government programs serve different purposes: a finding of suitability for a research grant based on promise or potential is not necessarily an indication that a technology or project is ready or able to enter the commercial market with a loan.

RESPONSES OF JENS MEYERHOFF TO QUESTIONS FROM SENATOR BINGAMAN

Question 1. The rapid growth and apparent success of First Solar in several markets appears to have given you access to capital that many others in the solar sector have been unable to find. Some may say this indicates you don't need the program, as the private sector should be available to you. Once could even go a step further and say financing for solar is moreikely to help your competitors than your company. What are your thoughts on these points?

Answer. Financing for solar projects at the project entity level is in its infancy in the United States. Banks carefully evaluate this emerging business opportunity and are in a steep learning curve. Solar generating systems are long lived (20+years) assets and the private sector today neither provides enough liquidity (debt capacity) nor adequate term/duration commensurate with the asset's longevity. Typically, bank loans will have a tenure of seven years, introducing refinancing risk or impairing the project economies.

Today's mid-sized solar projects of up to 50MW are generally financed through the corporate balance sheet of larger utility companies or financial investors with tax capacity. Smaller projects are mostly equity financed, making them most expensive.

The PV industry is in the process of opening and enabling private sector lending. This has been successfully accomplished in Europe with the support of the Germaneconstruction Bank. Over the past years, European banks have developed enough experience and comfort with solar PV, where the reliance on such programs has declined significantly.

Our competitors are equally active in accessing new sources of liquidity as evidenced by SunPower's recent announcement of rated solar bonds in Italy.

The focus of these financings is at the project level and not at the corporate level. So while First Solar can support construction and warranty/O&M viability with its balance sheet, the actual debt financings of the project is a matter of project viability, technology risk and asset maturity. In that aspect all industry participants face similar challenges.

Given First Solar's emphasis on very large scale solar installations, one could argue that these projects require more support to open large institutional financing capability than most others, as liquidity requirements are in excess of $1 billion, in most cases too large to be balance sheet financed by our utility customers.

To reiterate, the DOE 1703/1705 programs provide the following benefits in that aspect:

- Significant increase in debt liquidity.
- Important financing bridge, until the U.S. financing markets fully develop for utility-scale solar projects.
- Encourages development of innovative renewable technologies, including those which help utilities to integrate solar power projects into their grids.
- Reduces the cost of capital, which indirectly reduces the cost of renewable power.

Question 2. There are those that would argue that the United States doesn't need this type of program. Companies such as yours could take advantage of support offered overseas and prove the technologies there and then deploy them later in the US when they are sufficiently demonstrated that banks and utilities are more comfortable with them. Do you agree with this? What implications do you see for the United States in such a policy?

Answer. There are a few flaws to this logic:

a) The market dynamics between European FIT systems, which provide cash on cash returns compared to a much more complex tax incentive structure in the U.S. do not necessarily make the project financing structures transferrable. U.S. projects and their cash flows are USD denominated and span over 20-25 years. This adds significant currency risk and allows only large international banks to possibly participate.

b) US projects are larger in size and require institutional financing through bond issuance. These offerings access different capital sources that even in Europe are just emerging.

c) Grid integration of large scale solar is "local" and not easily transferred from Europe. The process of technology adoption by the utilities requires deployment of renewable sources in their infrastructure. These learning cycles are specific to each region and differ significantly even within the U.S. Given the U.S. market structure, it is the first large scale transition market and has the opportunity to lead large scale renewable integration, innovation and establish clear leadership for our industry. The size of power plants being realized in the southwestern United States will dwarf anything in Europe and allow cycles of learning and product innovation not previously achieved. A follower approach will allow others to capture this competitive advantage and the obvious economic benefits.

Question 3. Have you had the opportunity to review the CEDA legislation contained in S. 1462? Do you have any opinions you could share?

Answer. The Clean Energy Deployment Administration (CEDA), or Green Bank, is an important part of the American Clean Energy Leadership Act.

By providing loans and loan guarantees at federal treasury interest rates, the Green Bank would lower the cost of financing debt to renewable power projects by 2-4 percentage points. This would directly address the biggest obstacle to expanded deployment of renewable generation: the cost to utilities. The Green Bank would provide loans and loan guarantees at minimal risk to the taxpayer. The Green Bank would lend overwhelmingly to projects with a proven history of effective deployment. The default rates on such projects are extremely low and, even under the most cautious assumptions; the prospective default rate would be roughly 10%. The Green Bank would see the loans and loan guarantees repaid in the vast majority of the projects, which means the taxpayer will be exposed to minimal levels of risk.

The Green Bank is modeled after federal corporations with proven track records, such as the Export-Import Bank and the Overseas Private Investment Corporation. It would be a wholesale, non-profit corporation wholly owned by the government and accountable to Congress. It is a very low-cost way to generate the financing for large volumes of renewable power without materially affecting utility rates and disrupting

the economy. Establishment of a Green Bank would be a significant commitment to moving our energy supply—and our economy—toward clean, domestically produced sources of energy.

RESPONSES OF JENS MEYERHOFF TO QUESTIONS FROM SENATOR CANTWELL

Question 1. Over the past couple of years this committee has held several hearings on mechanisms to provide low-cost project financing to facilitate domestic deployment of renewable energy projects and manufacturing facilities.

Do you support such an idea? Do you believe it would be more straightforward than the current Loan Guarantee Program

Answer. Facilitating domestic deployment begins with demand creation. Finance support policies then enable providers to meet demand and help scale the industry, lower costs and advance product adoption. Generally, we support the idea of a national Renewable Energy Standard (RES) as a proven policy for creating market demand. We very much agree that a RES or Clean Energy Standard should not create additional significant cost to the consumers.

There are a few things to consider around a national RES:

a) Renewable energy resources generally have lower capacity utilization of transmission resources due to their intermittency. In order to protect the rate payer, the total cost of ownership of renewable energy needs to be understood. Generally, renewable energy has to be deployed in a portfolio approach. For example, wind generation happens mostly at night, providing base load, while idling transmission capacity during the day. In addition, wind generation is not very predictable and therefore provides little to no capacity value to a utility. However, when combing wind and solar, the two technologies become synergistic as solar is a peaking resource utilizing transmission capacity when wind does not. Adding biomass or natural gas generation to the mix provides further firming of the generation capacity. A national RES should consider carve outs for different technologies in order to motivate and drive true integration of renewable energy sources into the existing infrastructure. It should further comprehend hybrid solutions of natural gas and solar in order to incentivize technology integration of different generation assets without risking reliability in the electricity delivery mechanism. Natural gas and solar have interesting synergies which can be further optimized. Natural gas has fast response times to offset the intermittency of solar, but natural gas generation has high fuel cost component that over 20 years expose generators and rate payers to commodity risk. Solar on the other hand has no fuel cost and highly predictable long term generation cost and therefore offers a natural hedge to the natural gas generation asset.

b) Rate payer burden could be further reduced by restructuring commercial terms in the underlying power purchase agreements. Given our industry's outlook towards significant further cost reductions through technology advances and the fact that cost will scale with volume, one could consider escalation based PPA's that allow for lower rate payer burden in the near term until scale and cost reduction on a volume weighted average basis further scale electricity cost. In order to truly enable this while providing maximum debt quantum for project finance, a government backed loan program should consider more custom tailored DSCR structures and ratios in support of these commercial solutions.

With respect to project financing:

a) Predictability remains the single most important aspect of any program. If a program is not predictable, it becomes opportunistic and will likely not provide benefits to the rate payer. Any program must be aligned to the industry's development cycles in tenure and sunset dates must be application based and completion based.

b) Subsidy programs must be integrated and should be seen holistically. A program like the section 1603 treasury grant is equally important as the DOE loan programs. One covers equity the other debt. Both need to be liquid and affordable in a successful project finance structure.

c) The cost of solar PV financing to the tax payer are significantly overestimated. The current blended recovery rate does not discriminateetween generation assets and manufacturing assets. Europe has financed over €50 billion in solar PV assets with a very low default rate (virtually 0% for tier one suppliers). The current recovery rate of 55% either assumes defaults of investment grade utilities under rate based PPA's or fundamental flaws with the existing technologies.

Question 2. In your opinion, could such a direct loan program be established and get up and running more quickly than the loan guarantee program has?

Answer. The timing for such a program and how it would replace the existing 1703/5 programs would be the biggest concern. We would need a phased approach and keep the current programs in place while shifting over. The main concern as with the existing resources is that the government is not a bank and neither has the ability to easily make credit decisions nor does it have the ability to attract and retain the human capital to run such a program effectively. In Europe, most of these programs are facilitated by commercial banks that use their project finance resources for diligence matters. This allows thousands of transactions to be processed annually with cycle time of less than 3 month even for large scale projects.

Question 3. How do you think your company or the companies you represent could benefit from such a program?

Answer. A program as described in the prior paragraph would benefit all industry participants greatly. Germany's KFW program has allowed companies of all sizes including installers to scale and create a predictable business model. In order to avoid abuse or a taxing of the rate payer when combined with a national RES, one might think about a scaling function that correlates market size, generation cost to lending terms.

The direct loan program as defined is highly attractive and would provide significant renewable electricity cost reductions. It is a viable answer to the over $30 billion provided by the central bank of China to Chinese Solar Panel suppliers.

Question 4. Do you think that the low interest rates and long repayment schedules available under this program would positively impact the financings of clean energy projects and that any resulting savings would translate to lower costs for ratepayers?

Answer. They key constraint for solar PV financing in the US is liquidity, term (loan length) and cost of capital (interest rates). Renewable energy generation assets typically have limited operating expense and little to no fuel cost. This means that in large part their cost are all capital based. Loan tenure and interest cost have a significant impact on the electricity price. For example in the US desert southwest environment a reduction in the cost of capital of 100bps has the same effect on the power plant's levelized cost of energy (LCOE) as a reduction in the installed cost of $0.30/watt (DC). In order to reach the ratepayer, a few things would need to be assured:

a. The program has to be predictable, so its benefits can be priced into the electricity price without any risk.

b. A scale should be applied in terms of leverage ratio that is tied to electricity cost and solar resource. For example, if a generator offers $0.15/kwh at 1,800 hrs of irradiance, the leverage ratio should be less than a generator offering $0.13/kwh. In reverse the leverage ratio should also be higher if $0.15/kwh were offered at only 1,500 hrs of irradiance. The data for this is readily available and the algorithm is simple. This would motivate companies to drive electricity cost down and help scale the industry. It would maximize volumes and job creation.

RESPONSES OF MICHAEL D. SCOTT TO QUESTIONS FROM SENATOR BINGAMAN

Question 1. In your testimony you talk about what you view as an incorrect reading of the Federal Credit Reform Act as it applies to the loan guarantee program that leads to over-estimation of costs and excessive aversion to risk. Is this interpretation of OMB with regard to the program different than the way the statute was interpreted with regard to other credit programs you are aware of? Are you aware of what might cause such a different interpretation?

Answer. To answer the first part of the question, it is important to understand that Title XVII of the Energy Policy Act of 2005, created a unique Federal credit program that is substantially different from any other Federal credit program. It is also necessary to understand that the "excessive aversion to risk" is also addressed through requirements in the Final Rule that are not consistent with the underlying statute, Congressional intent, other statutory requirements, or published Federal credit policies.

With respect to the narrow issue of the calculation required under the Federal Credit Reform Act ("FCRA"), the first difference is that with implementation of Title XVII through §1702(b)(2), the borrower is responsible for the full cost of the obligation ("credit subsidy costs") as well as the administrative costs (§1702(h)) of the loan (evaluation, negotiation, and servicing). Under every other Federal credit program, the U.S. Government pays for the credit subsidy and administrative costs of the pro-

gram through taxpayer funded appropriations. This means that the borrower generally has very little interest in the mechanics of the calculations required under the FCRA. The second difference, which is also relevant in assessing OMB's approach, is that Title XVII will generate a relatively small number of loans with highly unique characteristics, each for relatively high dollar amounts. This contrasts with pre-crisis Federal credit programs that are characterized by a large number (often in the hundreds of thousands or millions) of homogenous loans, each for relatively small dollar amounts.

In general, OMB is doing many of the same things in executing the FCRA for Title XVII that it does in all other Federal credit programs. This approach fails to recognize the significant differences between Title XVII and all other Federal credit programs. The FCRA shortcuts that OMB takes in all other Federal credit programs are not appropriate for Title XVII.

In calculating the credit subsidy costs, OMB has significant control over critical inputs into the Credit Subsidy Calculator and for which the FCRA provides general or specific direction. For instance, the FCRA provides specific direction regarding the discount rates to be used in discounting the cash flows, general direction about measuring cash flows to and from the U.S. Government, and general direction on adjusting the cash flows for defaults (which requires the development of a cumulative probability of default curve).

DISCOUNT RATES

As it relates to the discount rates used to discount the cash flows, the historical practice of OMB is to use the discount rates (Treasury rates for a given maturity) included in the President's budget assumptions. While this approach is not strictly consistent with the statutory requirements of the FCRA (see §502(5)(E)), it is administratively simple for OMB and generally does not matter in the context of a program where the U.S. government is paying the credit subsidy costs. However, in Title XVII where the borrower is responsible for paying the credit subsidy costs and is in fact borrowing from the Federal Financing Bank ("FFB") at the same rate indicated in §502(5)(E), the mismatch between the two rates (an assumed rate versus an actual rate) results in an inaccurate calculation. OMB and Treasury have historically opposed the use of the discount rates required by §502(5)(E) because they do not believe that a corporate borrower reflects the same credit risk as the U.S. Government and therefore its cash flows should not be discounted at rates that reflect the U.S. Government's borrowing costs. While I certainly understand this view (and dealt with it in the context of the Air Transportation Stabilization Board as well as the expansion of the Rural Economic Development Loan and Grant Program from the 2002 Farm Bill) and further understand that OMB and Treasury have historically opposed this particular statutory direction, the way to deviate from it is to legislatively amend the provision in the FCRA, not to seek backdoor solutions to disagreements with the existing statute. Until the FCRA is so amended, it is OMB's duty to comply with the statute as written.

CASH FLOWS TO THE U.S. GOVERNMENT

With respect to the issue of what constitutes a cash flow to the U.S. Government, one explanation of OMB's approach might be that the §1701(2) reference to the term "cost of a loan guarantee" points to the definition included in the FCRA under §502(5)(C). In a "loan guarantee" program that does not use the FFB, this would be the appropriate reference. However, in establishing the Final Rule, OMB provided that where DOE guarantees 100% of the Guaranteed Obligation, the loan shall be funded by the FFB (§609.10(d)(4)(i)). The FFB is an instrumentality of the U.S. Government under the general supervision of the Secretary of the Treasury. Under the FCRA, use of the FFB results in a credit subsidy calculation done in accordance with the FCRA requirements under §502(5)(B) (cost of a direct loan). The main difference between the cash flows considered in the context of a loan guarantee and those of a direct loan are that the interest payments made to the U.S. Government, or by the U.S. Government (in the case of FFB payments back to Treasury for its own borrowings), are evaluated. The most substantial impact is that the spread above Treasuries (Treasuries represent the FFB's cost of funds) charged by the FFB to the borrower are considered a cash inflow to the U.S. Government. A historical example of this is the FFB's financing of the USDA's Rural Utilities Service ("RUS") electric program loans. The 12.5 basis points spread above Treasuries that the FFB charges on these loans caused a positive credit subsidy program (meaning that it cost the U.S. Government money) to turn into a negative credit subsidy program (meaning that it "makes" money for the U.S. Government). Prior to, and during much of my tenure at Treasury, OMB often opposed the use of the

FFB because they viewed it as expanding the subsidy provided to the borrower or the program. In the instant case of Title XVII, the spreads are wider than the 12.5 basis points charged in the RUS program and can generate significant net present value offsets even after factoring in the net post-default curve cash flows.

Another cash flow to the U.S. Government that is not currently included in the credit subsidy calculation is the "Facility Fee" payment required of the applicant at the signing of the conditional commitment. DOE charges an upfront "Facility Fee" based on the amount guaranteed that ranges from a low of 50 basis points to a high of 100 basis points. In the July 2010 GAO report (GAO-10-627), GAO observes in footnote "a" on page 22 that, "According to agency documentation, this fee is intended to cover the LGP's cost of loan setup and associated legal and finance fees." Using the Southern Company loan guarantee commitment as an example, Southern will be required to pay a Facility Fee of $41.6 million. The cost to set up the loan and the related legal fees are likely to be in the low to mid hundred thousand dollar range and should be paid "as-incurred" as a §1702(h) fee. The concept of charging a "Facility Fee" is common in the private sector where banks have reserve and capital requirements, and therefore legitimate costs associated with committing capital. However, the FFB does not incur finance fees to issue debt or incur charges for reserves or capital, so there is no legitimate expense here. Excluding the "Facility Fee" as a cash inflow to the U.S. Government increases the cost of the program on borrowers in a manner that is not consistent with the FCRA. The net of this particular issue is that fees that are charged to the borrower that are not cost based should be treated as a cash inflow to the U.S. Government for purposes of the Federal credit subsidy calculation. To the extent that a portion of the fee represents an actual expense of the U.S. Government, then that specific portion would not be included as a cash inflow to the U.S. Government. This approach is consistent with treatment of administrative expenses under §502(5)(A) and §504(g) of the FCRA as well as the §1702(h) requirements of Title XVII that "The Secretary shall charge and collect for guarantees in amounts the Secretary determines are sufficient to cover applicable administrative expenses." This approach is also consistent with SFFAS 2, "Accounting for Fees", paragraph 93 (at page 308 and 309).

Recoveries are a specified cash inflow to the U.S. Government under the FCRA definitions of the "cost of a loan guarantee" and the "cost of a direct loan". It has been therefore disappointing that OMB has not insisted that all sources of recoveries be fully analyzed, valued and treated as a cash inflow to the U.S. Government. This represents a significant issue because as outlined in the DOE/OMB Report to the Committees on Appropriations entitled "Credit Subsidy Methodology", OMB established a "base recovery rate" that could be notched up or down according to a "number of factors". In practice however, OMB has applied a base recovery rate of 55% for all projects, regardless of individual project-specific factors. While we understand that OMB may have done some minor notching in at least one instance, they have not required DOE to actually hire professionals (paid for by the borrower as a §1702(h) administrative expense) to provide expert valuations on the multiple sources of project specific recoveries available to the U.S. Government. This approach is implicit under the FCRA and is important because recovery values will vary on a project-by-project basis. This is due to the technology, nature and structure of the project, the project sponsors, contractual differences, loan amortization characteristics, as well as other factors. Examples of different sources of recovery include:

1. From the sale of the underlying asset serving as the collateral;
2. From sponsor contractual commitments to inject new equity;
3. From commitments from the project's technology and/or EPC contractors to cover certain obligations, such as cost overruns or other contingencies;
4. From other collateral provided to the U.S. Government, such as cash collateral accounts; and,
5. From other contractual or structural protections agreed to by the project sponsor.

One concrete example of multiple sources of recovery occurred during the execution of the loan guarantee program by the Air Transportation Stabilization Board. The ATSB hired a variety of valuation experts to provide opinions on a range of collateral that the ATSB ultimately became contractually entitled to. These experts opined on items that would generate recovery cash flows to the U.S. Government such as the sale of aircraft, real estate, simulators, equipment, gates, routes, slots, warrants and other contractual provisions. The retention of these experts and use of their valuations provided the ATSB with a sound and supportable basis to make recovery valuation estimates and incorporate the data into the credit subsidy calculation.

DEFAULT CURVE USED

In the FCRA definitions of the "cost of a loan guarantee" and the "cost of a direct loan", OMB is directed to adjust the cash flows for defaults. Beginning with the Emergency Steel Oil and Gas Loan Guarantee Board, the ATSB, and other Federal credit programs since, OMB and Treasury have preferred to have the rating agencies rate proposed transactions. This is because these loan structures are well within the wheelhouse of the rating agencies core evaluation competencies and the ratings can be directly linked to the vast statistical rating and default data available for periods reaching back 90 years and is consistent with OMB Circular A-11 direction to use statistical evidence where possible for credit subsidy calculator inputs. This approach is certainly preferred as compared with potentially more biased alternatives.

The default curve used by OMB is a critical component in determining the value of the cash flows. However, there is more than one default curve that could be selected and therefore default curve selection can be used to drive preordained outcomes. For example, there are at least three default curves available from the various rating agencies including:

a. All Issuer
b. All Non-Financial Issuer (excludes financials)
c. Utility

The "All Issuer" has the highest cumulative probability of default for a given rating, followed by the "All Non-Financial Issuer" and then the "Utility" default curve. There are reasons to exclude the "Utility" default curve (i.e., not exactly the same transaction structure seen in the historical data represented). Likewise the use of a default curve that includes financials is not representative of the transactions seen in Title XVII, so the most statistically valid default curve to use is the "All Non-Financial Issuer". While we are not certain as to which default curve OMB is using in the Credit Subsidy Calculator, this is a critical input that significantly impacts the credit subsidy calculation and should be well understood by the Administration to ensure that the most statistically relevant data is used.

OMB DIRECTIVES TO DOE REGARDING ESTIMATED AND FINAL CREDIT SUBSIDY AMOUNTS

OMB has provided guidance and direction to DOE (and indirectly to applicants) that is inconsistent with the underlying statutes and rules. Specifically, the Final Rule and the relevant solicitations provide for a non-binding estimate of the Federal credit subsidy costs of a proposed project but recognize that the final Federal credit subsidy amount can only be determined near the date of financial closing and disbursement.

Common language in the solicitations says "The final Credit Subsidy Cost determination must be made at or prior to the closing on the Loan Guarantee Agreement and may differ from the preliminary estimate of the Credit Subsidy Cost, depending on project-specific and other relevant factors including final structure, the terms and conditions of the debt supported by the Title XVII guarantee and risk characteristics of the project." This is consistent with the requirements of the Federal Credit Reform Act of 1990, Title XVII, the Final Rule and the relevant solicitations.

However, OMB has suggested that the non-binding estimate of the Federal credit subsidy is actually an amount that the final credit subsidy required will not be below. This is problematic for four reasons:

a. It is not consistent with the FCRA requirement that the credit subsidy cost be determined at the "date of disbursement";

b. It suggests that changes in the final business plan, project rating or transaction structure (whether positive, negative or neutral) are not relevant to the final credit subsidy cost calculation;

c. The existing assumptions and inputs used to calculate the Federal credit subsidy estimates have not been faithful to the FCRA and this approach will further compound the errors; and,

d. It is important for project sponsors and other stakeholders to know that there is a statutory and fact-based framework that will be followed with respect to the calculation of the credit subsidy payment required and that positive or negative factors that arise after the term sheet but before financial closing will be fully considered in accordance with the law.

The faithful implementation of the FCRA is a time sensitive and critical issue, particularly for those project sponsors in the due diligence queue at DOE. The reason is that the non-binding Federal credit subsidy cost estimates that OMB and DOE provide project sponsors, gives the sponsor its first look at the expected check

that the U.S. Government will seek, and this informs their investment decision. If the credit subsidy number provided is at a particular level that makes the project uneconomic, principally because the calculation was not faithful to the statute, and this drives a project sponsor and its investors to abandon a project that would otherwise have been viable, then not only have the purposes of Title XVII been frustrated, but the loss to all interested parties, including the Administration and Congress, is irreplaceable. This is a new issue in Federal credit programs as it is principally only relevant in a "borrower pay" program.

Question 2. You advocate for the removal of the limitation on total guarantee levels under the self-pay provisions of the loan guarantee program, as you would argue the FCRA provisions were overridden by the subsequent enactment of section 1702(b)(2). Critics have argued that this would result in increased risk to the taxpayers, as there would not be any inherent check on the volume of lending under the program. Do you agree with this assessment?

Answer. I do not agree with that assessment for the following reasons:

1. There are statutory, Final Rule, and solicitation based requirements that must be met by any applicant and these are challenging and limiting;
2. The self-pay requirement will limit interest and capacity and generally result in much higher quality project sponsors and underlying projects;
3. Project sponsors had requested almost $175 billion in guarantees over the prior four years (according to a GAO July 2010 report) and yet only $695 million has closed (and all under §1705 of the ARRA) which suggests that the program is unlikely to be unrestrained;
4. As a practical matter, many of the projects and the technologies have long lead times between application, submission, conditional commitment and satisfaction of the conditions precedent required for closing. During this time frame, sponsors and their investors will see many changes to their business plan, the market and the business environment that will impact the final investment decision and potentially lead to project cancellations before closing;
5. The five year history of the program does not inspire confidence with project sponsors, leading many sponsors to delay or abandon projects that they would otherwise have advanced because of the large upfront costs involved in developing projects;
6. The Administration and Congress have many levers to influence DOE to ensure that the program is executed responsibly; and,
7. There are opportunities to ensure oversight through required reporting mechanisms and perhaps non-volume limiting legislation that could provide Congress with confidence in the appropriateness of the utilization of the program.

Question 3. Have you had an opportunity to review the CEDA legislation contained in S. 1462? Do you have any opinions you could share?

Answer. Yes, I reviewed the CEDA legislation some time ago and have several comments. First, as we have seen with Title XVII and other Federal credit programs, executing Federal credit programs can be very difficult. They require the cooperation and coordination with the White House, OMB, Treasury, as well as the program agency. If there is internal opposition from any of these groups, the rules, regulations, ability to use the FFB, FCRA requirements can all be used to delay or derail the execution of the program. Allowing the recognized and known problems of Title XVII to remain unresolved creates precedent problems for the execution of future Federal credit programs, whether CEDA or an infrastructure bank.

Second, as a general matter, it is important to recognize the concerns that OMB, Treasury and others may have in the creation of the CEDA. For instance, if a portion of the targeted technologies are too new to be able to establish a "reasonable probability of repayment" (a fairly standard term included in rules/regulations, if not in the underlying statute, for Federal credit programs) it may be better to consider grants or equity investments, with appropriate upside for the taxpayer, for those technologies that cannot meet the "reasonable probability of repayment" standard needed for loan guarantees or direct loans.

Third, whenever the "full faith and credit" is pledged (as is the case in the version that I read) and not otherwise limited by statute, the U.S. Government is providing a full, 100% guarantee. As such, it can be better for the program and participants to allow or direct the use of the FFB to provide the financing. This is because it will lower the U.S. Government's net credit exposure, lower the credit subsidy amounts required and provide certainty of financing execution as compared with allowing or requiring private sector financial institutions to finance 100% U.S. Government guarantees. OMB has often supported private sector involvement in Federal credit programs under the belief that they will bring their credit analysis capa-

bilities to a program. My experience from Treasury demonstrated that the private sector does not apply the same credit standards for 100% guarantees or partial guarantees and therefore the value they add to a Federal credit program is questionable. While the private sector certainly likes to do this business because it represents a source of relatively risk free profits, they do not reduce the credit exposure of the U.S. Government, and in fact make it more expensive for the U.S. Government and the borrower. Further, as we saw in the most recent financial crisis, private sector financing of loan guarantees present real market execution issues which can significantly impede the objectives of the Federal credit program and potentially create market perception concerns for Treasury issuances.

Question 4. You have several concrete steps that you believe the President could take now to correct deficiencies in the loan guarantee process. Presumably, the deficiencies result from previous OMB interpretations of FCRA and Title XVII that you believe were incorrect. Assuming that OMB is disinclined to reverse those interpretations, are there specific changes that could be enacted to the guiding statutes that would clarify these issues for OMB and DOE?

Answer. I do not believe that it is possible to legislate program execution for Title XVII. OMB and Treasury have too many tools available to them to delay or derail any Federal credit program. Successful execution of Title XVII, or any Federal credit program, relies on a willing and knowledgeable Executive, particularly when multiple misinterpretations have been made.

One example of the problem with legislating a solution can be seen in the concept that the Secretary could independently assign a credit rating as opposed to having a credit rating agency do so. While the Secretary may take a more optimistic view of a particular sponsor and transaction than a rating agency, this approach would probably result in OMB developing its own default curve for those ratings assigned by the Secretary to be used in OMB's Credit Subsidy Calculator. OMB could reasonably justify developing its own default curve as the Secretary would not be able to demonstrate a multi-decade track record for his/her ratings. Further, even if this was not the case, there are a number of other inputs to the Credit Subsidy Calculator that OMB has control over and can influence in the event that one tool is removed via legislation. It is also important to recognize that OMB has significant control over an agency's budget and can influence the Secretary in ways that are less transparent.

RESPONSES OF MARVIN S. FERTEL TO QUESTIONS FROM SENATOR BINGAMAN

Question 1. Critics of the loan guarantee program argue that nuclear energy is a developed technology and that it is therefore unnecessary to provide loan guarantees since the private sector should be able to correctly price financing. How do you respond to this criticism?

Answer. New nuclear power plants deserve financing support for several reasons.

First, the new nuclear power plants now under development in several regions of the United States are the first nuclear energy facilities built in several decades. They are being built under a new Nuclear Regulatory Commission (NRC) licensing process that, although conceptually much improved from the process in place when the first plants were built in the 1970s and 1980s, is still untested. In the eyes of the financial community, the licensing process represents some level of risk and, until the companies and the NRC have demonstrated that the licensing process works as intended, the financial community is unable to quantify the degree of risk. In addition, although the nuclear reactor designs being developed in the United States are evolutionary advances on the 104 light water reactors in commercial operation, they do incorporate innovative technology enhancements and features that have never been used before. For this reason, they qualify as an "innovative" technologies eligible for loan guarantees under Title XVII of the 2005 Energy Policy Act.

In addition, loan guarantees for new nuclear power plants address a structural challenge facing companies interested in building new nuclear generating capacity. Unlike the many consolidated government-owned foreign utilities and the large oil and gas companies, U.S. electric power sector consists of many relatively small companies, which do not have the size, financing capability or financial strength to finance power projects of this scale on their own, in the numbers required. This challenge can be managed, with appropriate rate treatment from state regulators or credit support from the federal government's loan guarantee program, or a combination of both. Loan guarantees, in particular, offset the disparity in scale between project size and company size. Loan guarantees allow the companies to use project-finance-type structures and to employ higher leverage in the project's capital structure. These benefits flow to the economy by allowing more rapid deployment of clean

generating technologies at a lower cost to consumers. By reducing the cost of capital, loan guarantees reduce the cost of electricity and moderate the impact on the economy as the United States transitions to a lower carbon footprint.

Loan guarantees are a powerful tool and an efficient way to mobilize private capital. The federal government manages a loan guarantee portfolio of approximately $1.1 trillion to ensure necessary investment in critical national needs, including shipbuilding, transportation infrastructure, exports of U.S. goods and services, affordable housing, and many other purposes. Supporting investment in new nuclear power plants and other critical energy infrastructure—which will, in turn, create jobs and investment in the manufacturing supply chain—is a national imperative.

Question 2. You advocate for vesting final authority to determine credit subsidy costs in the Department of Energy, rather than OMB. In your view, would this entail a change in the Federal Credit Reform Act, or is there a way in which this would be consistent with that statute?

Answer. NEI does not believe it is necessary to amend the Federal Credit Reform Act in order to vest final decision-making authority over credit subsidy costs for the Title XVII loan guarantee program with the Secretary of Energy. We believe the uniqueness of this program justifies placing that authority with the Secretary of Energy. First, the Title XVII loan guarantee program is fundamentally different from other federal loan guarantee programs in that nuclear project sponsors are expected to pay the credit subsidy cost associated with loan guarantees. Second, unlike other federal credit programs, which consist of large portfolios of relatively small loans, the DOE loan guarantee program consist of a relatively small portfolio of large loans, at least with respect to nuclear projects. Third, the transactions under Title XVII are complex, highly structured financings—an area in which the Office of Management and Budget has limited experience and expertise. By contrast, the Department of Energy has acquired considerable expertise in this area and, through the due diligence teams working on its behalf to review and structure the projects to protect the taxpayer interest, is best-positioned to conduct the analyses and assessments necessary to derive reasonable and equitable credit subsidy costs. NEI believes that OMB can and should continue to play an advisory and oversight role, but we do not believe it is appropriate to vest final decision-making authority in an agency that does not have the experience or expertise to discharge that authority. In this instance, the Department of Energy, as the expert agency, should be accorded more deference than it currently enjoys.

Question 3. Have you had the opportunity to review the CEDA legislation contained in S. 1462? Do you have any opinions you could share?

Answer. NEI has reviewed the CEDA legislation in S. 1462 and supports CEDA enthusiastically. We appreciated the opportunity, during the early part of 2009, to work on a bipartisan basis with committee staff to structure the CEDA proposal. Given that more than a year has elapsed since the Senate Energy and Natural Resources Committee approved the CEDA legislation, it may be appropriate to review the CEDA legislation to address any lessons learned during implementation of the Title XVII loan guarantee program.

The U.S. electric industry faces a formidable investment challenge. Consensus estimates show that the electric sector must invest between $1.5 trillion and $2 trillion in new power plants, transmission and distribution systems, and environmental controls to meet expected increases in electricity demand by 2030. To put these numbers in perspective: the book value of America's entire electric power supply and delivery system today is only $750 billion, which reflects investments made over the last 60 years.

Addressing the financing challenge will require innovative approaches. Meeting these investment needs will require a partnership between the private sector and the public sector, combining all the financing capabilities and tools available to the private sector, the federal government and state governments—particularly if we hope to reduce the electric sector's carbon footprint, which will require replacement of a significant portion of our existing generating capacity with carbon-free capacity like nuclear energy and renewables.

The clean energy loan guarantee program authorized by the 2005 Energy Policy Act was an important step in the right direction, but only a small step. That program was designed to jump start construction of just a few clean energy projects with high technical risk. That goal remains as valid now as it was in 2005, but today we face an additional challenge—financing large-scale deployment of clean energy technologies. The $18.5 billion in loan guarantees currently authorized for new nuclear power projects might support three projects, at best. It does not come close to supporting the new nuclear power projects that will be ready to start construction over the next several years.

America needs 21st century institutions to manage 21st century challenges. The times demand a new federal financing corporation—a Clean Energy Development Bank—modeled on the U.S. Export-Import Bank, with sufficient financing capability to ensure that capital flows to clean technology deployment—renewables, advanced coal-based systems, nuclear and other clean fuels—in the electric sector. If it is sound public policy to support export of U.S. goods and services through the Export-Import Bank, which has $100 billion in financing capability at its disposal, surely it is also good public policy to support deployment of clean energy infrastructure and creation of green jobs in the United States.

RESPONSE OF MARVIN S. FERTEL TO QUESTION FROM SENATOR MURKOWSKI

Question 1. The Government of Japan has changed their laws to allow the Government of Japan (NEXI & JBIC) to financially support nuclear projects located in the U.S. that involve Japanese companies and/or technology (e.g., USEC; South Texas Project; SCANA; Comanche Peak). (Previously, the GOJ financial support was only for projects in developing countries.) But the GOJ assistance is conditioned on the USG providing similar support through nuclear loan guarantees. This GOJ support reduces the financial burden and risk to the USG from a loan guarantee. Given the delays in DOE acting on the various pending nuclear loan guarantees, some in Japan may be wondering about the degree of USG commitment to nuclear power. Are you aware of this financial support by the GOJ?

Answer. NEI is aware that the government of Japan altered its regulations governing financing by its export credit agencies (JBIC and NEXI) to allow those entities to support the financing of new nuclear power plants in the United States. We are also aware that the Japanese export credit agencies and COFACE, the French export credit agency, are prepared to invest approximately $6 billion in two new nuclear projects in the United States. This financing, of course, would reduce the amount of guaranteed debt that would be required from the Department of Energy and is conditional on the U.S. government providing guaranteed debt side-by-side with the French and Japanese debt (although Japan and France are not providing the same amount of debt as the United States). It is fortunate that the French and Japanese government are willing to be partners in new nuclear plant development in America, but it is necessary for the United States to provide financing support now and in the future if these partnerships are to succeed. This situation would be significantly strengthened with the existence of a permanent financing platform like CEDA.

RESPONSES OF MARVIN S. FERTEL TO QUESTIONS FROM SENATOR LANDRIEU

Question 1. Your testimony seems to argue for a much more transparent process at DOE and OMB in regards to the administration of the DOE loan guarantee program. Would you give us an example of the type of transparency you seek? How would a more transparent process assist in addressing the "defects" you identify in the development of the credit subsidy costs for clean energy projects?

Answer. Since borrowers receiving loan guarantees for nuclear energy projects are expected to pay the credit subsidy cost associated with those guarantees, the industry has a legitimate interest in the assumptions and methodology used to calculate credit subsidy cost.

The nuclear energy industry has two major concerns in this area. First, we are frustrated over the lack of transparency associated with the process of developing the credit subsidy cost. Second, from what we can deduce, we do not believe there is a defensible factual basis for the key assumptions and inputs—particularly regarding probability of default and recovery rate—used in the Credit Subsidy Calculator to estimate credit subsidy costs.

NEI recommends a number of steps to improve the transparency and accuracy of the process by which credit subsidy costs are calculated. Specifically:

1. For nuclear power projects, the most reasonable process for calculating credit subsidy costs is a detailed, project-specific assessment and credit analysis. We do not believe the current approach, which relies too heavily on standard assumptions applied to all technologies, with limited project-specific flexibility, can produce accurate results. The current methodology uses (1) composite data on default probabilities for corporate debt, and (2) a 55% recovery rate, applied without regard to when default might occur. Although admittedly simple, this formula-driven approach will not produce accurate or appropriate results, and will not serve the loan guarantee program's objectives—to support deployment of clean energy technologies in such a manner that the risk to the federal government is fully offset by fees paid by the borrower.

2. Loan guarantees for nuclear power projects—in which the borrower pays the cost of the guarantee—resemble a commercial banking transaction more than a typical federal loan guarantee program, and should, therefore, be managed like a commercial transaction, and aligned with standard commercial practices as nearly as possible. Among other benefits, such alignment will facilitate the transition to private sector lending for nuclear energy projects, once the first projects, financed with DOE loan guarantees, have demonstrated a successful track record. Like all other terms and conditions negotiated between the Department of Energy and a project sponsor, and incorporated into a term sheet, conditional commitment and final agreement, the credit subsidy cost must also be the product of a transparent and interactive process between the federal government and the applicant. Such transparency is lacking in the DOE loan guarantee program's calculation of credit subsidy cost.

3. The staff at the Department of Energy (DOE) and the Office of Management and Budget (OMB) responsible for developing estimates of credit subsidy costs should hold technical consultations with project sponsors for any loan guarantee request in excess of $1 billion. We believe that the magnitude and complexity of these transactions merits face-to-face interaction with the applicants. The purpose of these conferences would be to review the assumptions and estimates generated by DOE and OMB, and allow the sponsor to provide additional analysis as appropriate to DOE and OMB in specific issue areas. This could include project-specific default probabilities and recovery plans that would estimate recovery values under various default scenarios at various stages of the project. The recovery plans could then be subject to review by the DOE independent engineer. This process would produce a set of project-specific default probabilities and recovery estimates that could be used in the credit subsidy model. Since we are dealing with a limited number of large transactions, this additional step in the direction of greater transparency should not represent a significant burden.

Question 2. Your testimony states that the use of a standardized recovery rate by OMB in its credit subsidy calculator does not satisfy the requirements of the Federal Credit Reform Act (FCRA) of 1990, and that the 55% recovery rate used is an arbitrary number with "no basis in actual market experience with financial structures like those supported under Title XVII." Is it your belief that the standardized recovery rate fails to account for the uniqueness of the financing structures involved in large-scale clean energy projects? How do we know what recovery rate to use that will provide adequate protections for the taxpayer?

Answer. As noted above, the vast majority of federal credit programs are characterized by high volumes and relatively low dollar amounts, concentrated in housing, education, rural development and small business. In calculating credit subsidy costs for these program, the Executive Branch makes a number of simplifying assumptions and, because the federal government pays for the credit subsidy costs of these transactions, borrowers are generally indifferent to the methodology by which credit subsidy costs are calculated. These simplifying assumptions should not be used in lieu of project-specific assessments in the case of a program involving multi-billion-dollar transactions, in which the borrower pays the credit subsidy cost.

Recognizing the uniqueness of each project, the recovery rates for each transaction should be derived from detailed project-specific analysis, in the same way that detailed analysis produces a a credit rating (which includes a probability of default) for each project. The case-by-case process would protect taxpayers in the same manner that this process is routinely used to protect investors in commercial financing decision-making. Furthermore, the recovery rates derived from such analysis can then be benchmarked against historical experience. According to historical data from Moody's Investors Service and Standard and Poor's, ultimate recovery rates for regulated utility debt range from 87 percent to 99 percent. Recovery rates for project finance debt are comparable, in the range of 90 percent to 100 percent, because project finance transactions employ structural features designed specifically to maximize recoveries in the event of default.

Question 3. Do you think we have complete policy alignment within the Executive Branch with respect to the value, merits, and need for the DOE loan guarantee program?

Answer. NEI does not believe there is, or ever has been, the necessary policy alignment within the Executive Branch—and specifically between DOE and OMB—on the value and need for the clean energy loan guarantee program. Absent such alignment, it is difficult to imagine how the Title XVII program can be successful implemented over the long-term.

RESPONSES OF THE OFFICE OF MANAGEMENT AND BUDGET* TO QUESTIONS FROM SENATOR BINGAMAN

Question 1. In previous hearings we've heard testimony about how government agencies such as the Overseas Private Investment Corporation, Ex-Im Bank, and USDA seem to manage risk, similar to private sector investors, on a portfolio rather than transaction-by-transaction basis—and are assessed by OMB on that basis, rather than examining every transaction independently. Do you understand this to be the case, and is there some statutory difference that would lead to this different treatment? Is there anything in the current laws governing the loan guarantee program that would preclude the assessment of risks on a portfolio basis rather than a transaction-by-transaction basis?

Answer. OMB's role for the Title XVII program is consistent with that for other Federal credit programs under the Federal Credit Reform Act of 1990 (FCRA). Under the oversight authority in Section 503 of the FCRA (2 U.S.C. 661b), 011/113 delegates the modeling of credit subsidy costs to agencies, and issues implementing guidance to ensure consistent and accurate estimates of cost. OMB reviews and approves modeling methods, assumptions and credit subsidy cost estimates for each direct loan and loan guarantee program. For new programs or programs where actual experience is not available, OMB works closely with agencies to create or revise credit subsidy models. OMB also reviews any programmatic or legislative change that impacts the subsidy cost of new or existing credit programs.

For those credit programs that issue many loans or guarantees with relatively homogeneous or a standardized set of characteristics, contract terms and risks (e.g., student loans), the credit subsidy cost estimates are calculated on a portfolio basis, using an average subsidy cost per loan.

In contrast, reliance on a portfolio calculation for the credit subsidy cost is not appropriate in the ease of project finance or other programs (like DOE loan guarantees) that provide relatively large loans or guarantees, and for which the characteristics, terms, and risk vary greatly from project to project (and thus are not relatively homogeneous or standardized). In these credit situations, it is necessary to develop cost estimates on a loan-by-loan basis in order to accurately capture estimated costs.

Title XVII loan guarantees generally support large infrastructure investments, by nature, reflect a wide variety of underlying projects, risks, and terms. As a result, the subsidy cost will vary from project to project and therefore, an estimated subsidy cost must be developed for each award.

This is the same approach we use for loans or loan guarantees of other similar programs that involve larger deals or new structures. For example, in the case of those loans or loan guarantees made by OPIC, Ex-Im, and USDA that involve larger deals, new structures, or other special cases, the subsidy cost estimate is developed on a loan-by-loan basis. Each of these agencies also makes loans or loan guarantees that are smaller in size and that have standard characteristics and terms. For example, for OPIC and Ex-Im, OMB reviews and approves the general subsidy rate models for both agencies, which are then applied to calculate individual subsidy costs. Because both of these agencies can provide hundreds of loans/guarantees each year to small and medium enterprises, the credit risks for these loans/guarantees are diversified in a manner more resembling a portfolio program. For example, USDA's Rural Utility Service provides loan guarantees that finance traditional technologies and have standard characteristics and terms, and therefore the cost estimates are developed on a portfolio basis. In addition, these programs have existed for a number of years, which allows them to draw on historical (portfolio-based) experience in developing the subsidy cost estimates.

Question 2. What experience do program officers at OMB have in the evaluation of terms and conditions in transactions such as those produced by the loan guarantee program? Is such experience necessary at OMB for the production of accurate subsidy cost estimates?

Answer. OMB has been carrying out the responsibilities of the Federal Credit Reform Act (FCRA) for twenty years, since its enactment in 1990. As indicated in the prior answer, Section 503 of the FCRA gives OMB the responsibility for credit subsidy cost estimates for all Federal credit programs. Under FCRA, OMB reviews and must approve subsidy cost estimates for all loan and loan guarantee programs, including the credit subsidy cost estimates generated by the Department of Energy for the Title XVII program. This OMB review ensures that risks to the taxpayer are appropriately reflected and understood, and that the budgetary costs of Federal credit programs are accounted for appropriately and consistently across the various

*Answers provided by Jeffrey D. Zients, Acting Director, Office of Management and Budget.

Federal agencies and credit programs. As such, a core group of highly specialized professionals with experience in loan and other credit terms has been in place for many years and has increased over the past year to ensure timely review of DOE's submissions.

Question 3. Is there differentiation between different technologies in the subsidy cost model (and the incorporated estimated repayment rate baseline) that OMB uses to arrive at subsidy cost estimates? Has this model been compared to the model used by OPIC, Ex-Im, and equivalent private-sector lenders?

Answer. The subsidy cost model used by DOE to develop estimates of the credit payments to and from the Government for a Title XVII project was developed by the Department of Energy, and approved by OMB in 2008. For each loan, the methodology employed by the model considers project-specific characteristics including technology, project location, financial structure, risks and mitigants, and all other factors that would affect cashflows to and from the Government.

OMB must ensure consistency in subsidy cost estimates for all loan and loan guarantee programs, including the credit subsidy cost estimates generated by DOE for the Title XVII program, across various Federal programs, as stated in question 1.

Question 4. Has OMB reviewed the CEDA legislation contained in S. 1462? Can you share any views on how we might see that implemented differently than the current loan guarantee program?

Answer. To date, the Administration has not commented upon either the Senate bill or the House companion bill in detail; as this complex proposal moves through the legislative process, the Administration feels strongly that, among other things, legislation must meet the President's objectives of creating a clean energy economy through an efficient, cost-effective, and comprehensive approach. The Administration believes that the Federal Credit Reform Act (FCRA) is critical to accurately inform policy makers of the cost to taxpayers of credit programs, and for ensuring that the budgetary costs of Federal credit programs are accounted for appropriately and consistently across the various Federal agencies and credit programs.

Question 5. Past Appropriations bills have contained an "anti-double dipping" proviso that forbids the provision of a loan guarantee "for commitments to guarantee loans for any projects where funds, personnel, or property (tangible or intangible) of any Federal agency, instrumentality, personnel or affiliated entity are expected to be used (directly or indirectly) through acquisitions, contracts, demonstrations, exchanges, grants, incentives, leases, procurements, sales, other transaction authority, or other arrangements, to support the project or to obtain goods or services from the project". Although there are some exceptions provided for in subsequent language, this would appear to preclude any loan guarantee where some of the funding comes from a federal grant or where a federal instrumentality is the end user of the product (such as through a PPA or fuel contract). The Congressional Budget Office seems to argue that without this proviso there would be increased "costs" associated with loan guarantees. Do you agree with this view? Can you explain, for example, what effect having the federal government as a customer would have on the subsidy cost estimate for a given project?

Answer. The credit subsidy cost estimated by DOE and approved by OMB, whether paid by the borrower or through appropriations, reflects the estimated cost given all project-specific factors that affect the cashflows to and from the Government. To the extent that a project is dependent on future Federal appropriations, or where a Federal instrumentality is the end purchaser, this would be reflected in the credit subsidy cost.

Question 6. Most applicants have indicated that, in order for the program to be effective, they need a predictable process that can result in at least a conditional commitment (or a much more timely rejection) within 6 months of application. Assuming an adequate application is submitted, can the current OMB/Treasury/DOE review process accommodate this timeline?

Answer. OMB carries out its responsibilities as expeditiously as possible, and OMB has increased its allocation of staff resources to this program over the past year to ensure timely review of DOE's submissions. OMB will continue to allocate the resources needed for this program, including providing the resources needed to meet the Department of Energy's target of completing four to five projects a month.

Before this Administration took office, no projects were approved under this program. Since then, OMB has completed its review of 17 projects that DOE submitted to OMB for loan closing or a conditional commitment. To date, OMB has reviewed most of the Title XVII loan guarantee projects within 30 days, and in several cases considerably more quickly.

Each project is a complex financial transaction, often involving billions of dollars and oneof-a-kind structures. It is difficult to predict how long negotiations and due

diligence for these projects will take, given the size and complexity of these types of deals. As in the private sector, the due diligence and negotiations surrounding such transactions often takes many months, and involve many parties with varied interests. Flexibility in the DOE / Treasury / OMB review timeline is needed to ensure that DOE can complete the necessary due diligence, and coordinate with Treasury and OMB to complete the review needed to ensure that Federal taxpayers' interests are protected in these transactions.

RESPONSES OF THE OFFICE OF MANAGEMENT AND BUDGET TO QUESTIONS FROM SENATOR SANDERS

Question 1. How long does it currently take OMB to process a renewable energy loan guarantee application?

Answer. OMB carries out its responsibilities as expeditiously as possible. To date, OMB has reviewed most of the Title XVII loan guarantee projects within 30 days, and in several cases considerably more quickly.

Question 2. Does OMB support. a 30 day time requirement to process these applications?

Answer. Each project that OMB reviews is a complex financial transaction, often involving billions of dollars and first-of-a-kind structures. Flexibility in the OMB review timeline is needed in unusual circumstances to ensure that OMB is able to complete the review necessary to ensure that Federal taxpayers' interests are protected in these transactions.

Question 3. Does OMB support fully restoring funding to the Recovery Act loan guarantee program, making it whole following the decision to rescind funding?

Answer. The $1.5 billion rescission this summer was proposed by the Congress, not the Administration, to offset the cost of a bill that is supporting essential State and local needs. In the 2011 Budget, the Administration voiced its support for restoring the funds diverted in the summer of 2009. The 2011 Budget also includes $500 million in credit subsidy for energy efficiency and renewable energy projects applying to the loan guarantee program and an additional $5 billion in tax credits for renewable energy component manufacturing projects.

Question 4. Does OMB support an extension of the Treasury Department Renewable Energy Grant Program to continue to provide upfront incentives to promote renewable energy, given the continued difficulty in obtaining financing for renewable energy?

Answer. The Administration is considering all the tools at its disposal to arrive at the correct level of support for clean energy technology. Clean, renewable energy is a top Administration priority, critical to reducing our reliance on fossil fuels and our economic security. At the same time, we also are mindful of the significant challenges our country faces as we make the tough choices necessary to restore fiscal discipline and build a foundation for economic growth.

Question 5. Does OMB concur with a previous CBO estimate that the risk of default for nuclear loan guarantees could be as high as 50 percent?

Answer. Projects applying for Title XVII loan guarantees vary significantly. Project and sponsor characteristics, loan terms and conditions, and the various project risks vary greatly from project to project. As a result, credit subsidy cost estimates must be done on a project-specific, loan-by-loan basis, and do not depend solely on the type of technology. The Title XVII loan guarantee model takes into account all relevant project factors and available information in determining the risk of default, and potential recoveries on default.

Question 6. What will OMB do, in terms of calculating an upfront risk subsidy fee to project developers, to ensure taxpayers are protected as the federal government provides loan guarantees for nuclear power projects?

Answer. Under the oversight authority in Section 503 of the Federal Credit Reform Act of 1990 (2 U.S.C. 661b), OMB reviews and must approve subsidy cost estimates for all loan and loan guarantee programs. OMB delegates the modeling of credit subsidy costs to agencies, and issues implementing guidance to ensure consistent and accurate estimates of cost.

The process of estimating credit subsidy costs for Title XVII loan guarantees is complex and rigorous. The methods used by DOE and approved by OMB are used for a range of different clean energy technologies. Over the past year, the program has issued conditional commitments for multiple projects across a wide range of technologies including solar, nuclear, wind, and geothermal. Each of these projects involves large investments, varied technological, market, and financial risks (and risk mitigants), and complex contract terms. Accordingly, credit subsidy estimates for Title XVII loan guarantees reflect these various project-specific risks and mitigants, which vary not only by industry and technology but also by sponsor fi-

nancial strength, equity contribution, protections and collateral secured for taxpayers, and other factors. Two loan guarantees supporting projects using the same technology may have very different credit subsidies.

Title XVII credit subsidy estimates are determined on a loan-by-loan basis, not on the basis of the industry or technology used in the project. The Title XVII methodology takes into account each project's specific technology risk, and each loan's contract terms as well as other project specific factors. For nuclear power plant projects, the methodology specifically considers the risk of cost overruns, construction delays and the development of new technology. In conducting its underwriting and due diligence to inform these estimates, DOE also obtains input from third-party engineering, legal, financial and marketing advisors, as well as credit ratings provided by nationally recognized credit rating agencies. DOE's calculation of the credit subsidy cost is reviewed and approved by OMB.

[Responses to the following questions were not received at the time the hearing went to press:]

QUESTIONS FOR TIMOTHY NEWELL FROM SENATOR BINGAMAN

Question 1. Your previous government and private sector experience seems to have given you exposure to a number of public and private sector financing mechanisms, such as OPIC and Ex-Im. Are you able to contrast how they interact with both applicants and OMB with what you understand of DOE's interactions?

Question 2. Based on your experience in the US and abroad with your portfolio companies, is there any real alternative to governmental involvement in the early deployments of these technologies?

Question 3. Is the market for fuel so fundamentally different from the market for electricity that there should be different guidelines for fuels projects? Does DOE have the authority to establish different guidelines for fuels?

Question 4. Have you had the opportunity to review the CEDA legislation contained in S. 1462? Do you have any opinions you could share?

Question 5. According to OMB, their involvement in these transactions is largely related to calculation of subsidy cost estimates and they have not substantially been involved in an operational way. What has been your experience with either OMB or Treasury participation in the processing of individual transactions?

QUESTION FOR TIMOTHY NEWELL FROM SENATOR MURKOWSKI

REVIEW OF INSTRUMENTS

Question 1. According to a recent report from Harvard Kennedy School's Belfer Center, "Loan guarantees are one of several policy tools that can be used to support deployment of clean energy technologies. Which policy tool is most appropriate depends on the particular state of different technologies, and the principal market barriers they face." The report goes on to suggest that, "Given the wide range of tools available, and their potentially differing roles in promoting different technologies, Congress should consider asking for an independent review of the relative value of loan guarantees and other policies to support deployment of clean energy technologies."

a. Do you believe an independent review would be a useful undertaking?

b. Are there any policies outside of loan guarantees that you believe could be more beneficial to advancing clean energy technologies?

QUESTION FOR TIMOTHY NEWELL FROM SENATOR CANTWELL

Over the past couple of years this committee has held several hearings on mechanisms to provide low-cost project financing to facilitate domestic deployment of renewable energy projects and manufacturing facilities.

On more than one occasion, the Committee has received testimony on the DOE Loan Guarantee Program, as well as the development of a more comprehensive program, a "Clean Energy Deployment Administration", which was included in S.1462, the bill reported out of this committee well over a year ago.

In all of these hearings, one theme that has been articulated repeatedly is that there is a need for government support to overcome market failures and facilitate significant deployment of clean energy technologies. Unfortunately, as the testimony

here today has illustrated, we still have work to do to provide such support in a consistently effective way.

I have proposed what I believe could be a partial solution, in the context of the recently-introduced Renewable Electricity Standard. This bill would require that all major U.S. utilities get 15% of their power from renewable sources by 2021.

I contributed a provision (section k -- Loans for Projects to Comply with Federal Renewable Electricity Standard) that would authorize the Secretary to issue low-cost loans for renewable energy projects to meet the standard. The purpose of the loan program is to greatly reduce costs utilities might incur in complying with RES mandates, and thus to minimize the impact on the RES on consumer electricity rates.

I believe with such low interest rates and long repayment schedules, most renewable energy projects will become significantly more cost-effective at little or no cost to taxpayers. Energy efficiency projects in particular are likely to achieve rapid cost savings that exceed the value of monthly loan repayment requirements.

Moreover, the nature of RES compliance projects, such as construction of a wind farm or cost savings from an energy efficiency investment, provides for an almost certain revenue stream throughout the life of the loan, meaning there is very little risk of a loan recipient being unable ability to repay the U.S. Treasury.

Question 1a. Do you support such an idea? Do you believe it would be more straightforward than the current Loan Guarantee Program?

Question 1b. In your opinion, could such a direct loan program be established and get up and running more quickly than the loan guarantee program has?

Question 1c. How do you think your company or the companies you represent could benefit from such a program?

Question 1d. Do you think that the low interest rates and long repayment schedules available under this program would positively impact the financing of clean energy projects and that any resulting savings would translate to lower costs for ratepayers?

APPENDIX II

Additional Material Submitted for the Record

EXECUTIVE OFFICE OF THE PRESIDENT,
OFFICE OF MANAGEMENT AND BUDGET,
Washington, DC, October 19, 2010.

Hon. JEFF BINGAMAN,
U.S. Senate, Washington, DC.

DEAR SENATOR BINGAMAN: Thank you for your letter of September 20, 2010, to Director-designate Jacob Lew regarding the Department of Energy's (DOE) Title XVII loan guarantee program. Because many of the specific questions in your letter require detailed knowledge of implementation of this program, Mr. Lew has asked that I respond to ensure that you get full and complete answers to your questions.

The Office of Management and Budget's (OMB) role in reviewing DOE loan guarantee transactions derives from OMB's statutory oversight responsibility under the Federal Credit Reform Act of 1990 (FCRA). Section 503 of FCRA gives the Director of OMB the responsibility for the credit subsidy cost estimates for all Federal credit programs. Under this authority, OMB reviews and must approve subsidy cost estimates for all loan and loan guarantee programs, including the credit subsidy cost estimates generated by DOE for the Title XVII program, to ensure that costs are accounted for appropriately, as required by FCRA. Under the oversight authority in Section 503, OMB delegates the modeling of credit subsidy costs to agencies, and issues implementing guidance to ensure consistent and accurate estimates of cost. For new programs or programs where actual experience is not available, such as the Title XVII program, OMB works closely with agencies to create or revise credit subsidy models. OMB also reviews any programmatic or legislative changes that impact the subsidy cost of new and existing credit programs.

OMB's role does not overlap with or impede DOE's statutory authorities for the Title XVII loan guarantee program, and the law does not give OMB any role in accepting or rejecting projects. Instead, OMB ensures that the costs of direct loans and loan guarantees are presented, and reflect estimated risks, consistently across Federal agencies so that taxpayer funds are invested in a prudent and effective fashion. OMB's role for the Title XVII program is consistent with that for other credit programs Title XVII loan guarantees provide relatively large guarantees where characteristics, terms, and risks vary greatly from project to project and require cost estimates on a loan-by-loan basis. This is the same approach we use for loans or loan guarantees of other similar programs that involve larger deals or new structures, such as the Overseas Private Investment Corporation and the Export-Import Bank. In addition, most of these programs have existed for a number of years, which allows them to draw on historical experience in estimating costs.

OMB carries out its responsibilities as expeditiously as possible, and substantially increased its allocation of staff resources to this program over the past year to ensure timely review of DOE's submissions. OMB will continue to allocate the resources needed for this program, including providing the resources needed to meet the Department of Energy's target of completing four to five projects a month. Before this Administration took office, no projects were approved under this program. Since then, OMB has completed its review of 17 projects that DOE submitted to OMB for loan closing or a conditional commitment and continues to review projects as expeditiously as possible. As of October 15, 2010, OMB has one loan guarantee application under review for a conditional commitment, and expects to complete its review of this project by next week. The large majority of Title XVII loan guarantee projects reviewed by OMB to date have been reviewed within 30 days, and in several cases considerably more quickly. However, each project is a complex financial transaction, often involving billions of dollars and first-of-a-kind structures. There are many factors that might not be predictable in advance or are not in OMB's control that would make impractical a statutory time limit on OMB review. Flexibility

in the OMB review timeline is needed to ensure that OMB is able to complete the review needed to ensure that Federal taxpayers' interests are protected in these transactions.

It is OMB's understanding that DOE is proceeding with due diligence on 35 additional projects under the Section 1705 authority provided in the American Recovery and Reinvestment Act that have not yet been submitted to OMB for review. It is difficult to predict how long negotiations and due diligence for these projects will take, given the size and complexity of these types of deals. As in the private sector, the due diligence and negotiations surrounding such transactions often takes many months, and involve many parties with varied interests. However, OMB and DOE are working diligently to meet the statutory deadline for the Section 1705 authority. We are continuously assessing both administrative and legislative changes that can be made to streamline processing of these loan applications consistent with fulfilling our statutory responsibilities to protect taxpayer funds. The program appears to have sufficient funding to address the needs of the projects in the pipeline, and I can assure you we are making every effort to complete these applications and obligate all available Section 1705 funds by the statutory deadline.

Thank you, again, for your letter regarding OMB's role in the Title XVII loan guarantee program.

Sincerely,

JEFFREY D. ZIENTS,
Acting Director.

EXECUTIVE OFFICE OF THE PRESIDENT,
DEPARTMENT OF ENERGY,
November 5, 2010.

Hon. JEFF BINGAMAN,
Chairman, Committee on Energy and Natural Resources, U.S. Senate, Washington, DC.

DEAR CHAIRMAN BINGAMAN: Thank you for your continued interest in, and support for, the Section 1705 energy loan guarantee program. We share your view that the program plays an important role in advancing the deployment of clean energy technologies and the creation of jobs in the manufacturing, construction, and utility sectors. In response to your letter of October 14, 2010, we wanted to provide an update on progress to improve implementation of this program while we work on the detailed information you requested.

Since the start of this program, the Administration has continued to work to improve the process of soliciting applications, undertaking due diligence on the technological, financial, credit, legal, contractual. environmental, and operational aspects of each project, structuring the deals, and then scoring and reviewing them for conditional commitment in the 1705 program. As one part of this effort, our staffs have worked together to develop a more streamlined approach to the processing of these projects, including the credit subsidy scoring and policy review component of program implementation. At the same time, we have improved systems within the Administration to protect taxpayers' investment by rigorously reviewing the costs and estimated risks of these loans and ensuring that this information is presented accurately and consistently across Federal agencies.

Since October 1, 2009, OMB has completed the credit subsidy scoring review for all projects in the 1705 program submitted for conditional commitment, with a review time averaging 18 business days. DOE has added an online application portal which has reduced the initial eligibility decision from three to four months to about 10 days, and improved the diligence and negotiation process so it can be completed responsibly in several months. As you know, it had previously taken more than a year. DOE, OMB, and Treasury have made a concerted effort to identify new ways of streamlining the review process while still protecting taxpayer resources. As a result of this work, the Administration will commit to a goal of no more than 20 business days for OMB and Treasury to review any project that DOE has completed the due diligence necessary for a conditional commitment, and strive for a five-business day review when possible.

The Administration is committed to ensuring that the length of the review process will not stand in the way of advancing worthy projects in DOE's pipeline for the 1705 program. We can assure you that the interagency process is ready to review applications responsibly and quickly, while protecting taxpayer interests.

Thank you again for your interest and support of the energy loan guarantee program.

Sincerely,

JEFFREY D. ZIENTS,
Acting Director, OMB.

STEVEN CHU,
Secretary, DOE.

STATEMENT OF THE U.S. PARTNERSHIP FOR RENEWABLE ENERGY FINANCE

IMPACT ON JOBS THROUGH THE EXTENSION OF THE ARRA 1603 CASH GRANT

The American Recovery and Reinvestment Act's 1603 cash grant for the construction of renewable power plants stands as a policy success story over the past two years. However, this success is in jeopardy as the 1603 program sunsets after 2010, which is already having an effect on project pipelines. We estimate that the extension of the 1603 grant program can help to create or preserve over 100,000 "green" jobs.

EXTENSION OF THE 1603 GRANT AND 48C MANUFACTURING TAX CREDIT WILL HAVE POWERFUL EFFECT

The 1603 grant program is effective policy in its own right, creating economic activity and jobs, and has the double effect of "underpinning" the economic activity that is created by the 48C manufacturing tax credit. The 1603 cash grant provides more certainty of renewable tax equity financing, giving developers the confidence to make large capital equipment purchases from the renewable manufacturing base. The 48C manufacturing tax credit is stimulating a US domestic supply response to meet this demand. Thus, by providing tax equity financing certainty, 1603 helps to ensure demand for the supply being created under the 48C program. We see the extensions of 1603 and 48C as a 1+1=3 proposition.

It is also worth noting that in the recently released "The Recovery Act: Transforming the American Economy through Innovation," the Administration has reiterated the view that the US is on a track to "doubling US renewable energy generation capacity and the US renewable manufacturing capacity by 2012." Meeting this goal would require approximately 12 GW of capacity additions in 2011, assuming 6 GW of wind is installed by the end of 2010. We would see this goal as difficult to achieve even with an extension of 1603, along with the extension of 48C, and virtually impossible without such timely extensions.

With the above explanation of how the 1603 grant and the 48C manufacturing tax credit work together in the marketplace to create jobs, this paper goes on to explain how the 1603 grant is effective at mobilizing capital to project development in the United States.

SUCCESS SO FAR FROM THE 1603 CASH GRANT

First introduced in The American Recovery and Reinvestment Act (ARRA) in 2008, the 1603 cash grant allowed project developers to convert the existing investment tax credit (ITC) and production tax credit (PTC) for renewable energy investments into direct cash grants worth up to 30 percent of a project's capital cost. Most project developers have insufficient taxable income to use the tax credits effectively, which in the past has been addressed by bringing in passive "tax equity" investors—mostly large financial institutions. However the financial crisis sharply cut these institutions' own taxable income and led to the demise of a number of prominent tax equity providers. That meant that tax equity was particularly scarce and therefore not effective in spurring construction in renewable energy projects such as wind and solar.

The 1603 grant program has been a notable success. Despite the recession, and because of the 1603 Program, wind power installations reached nearly 10 GW in 2009, exceeding the previous record of 8.3 GW set in 2008 by 20%. Solar PV installations also continued strong growth, reaching 429 MW in 2009, 38% above the 2008 total.

Recent work conducted by the Lawrence Berkeley National Laboratory (LBNL) and The National Renewable Energy Laboratory (NREL) have so far estimated that the 1603 cash grant could create approximately 143,000 jobs in the wind industry, both in direct and indirect terms.

The Solar Industries Energy Association (SEIA) and International Solar (EUPD) [two renewable energy research institutes] have estimated that in the solar sector some 58,000 jobs will be created through the program so far out to 2016.

Over the last few years, the wind industry has demonstrated the importance of steady demand for renewable energy technologies in creating a domestic supply chain and jobs. According to Lawrence Berkeley National Lab, between 2006 and 2009, the domestic content of wind turbines installed in the US rose from 15% to 60%. We attribute this shift to the stability of the PTC during this period, which created a steady demand for wind turbines in the US. The $2.3 billion of 48C tax credits awarded in January 2010 as well as future awards may further increase domestic content if there is sufficient demand for these technologies.

OUTLOOK FROM 2011—100,000 JOBS AT RISK*

The 1603 cash grant is scheduled to sunset in the year 2011 (as does the 48C manufacturing tax credit which has already been fully allocated). Work done by members of US PREF shows that the expiration will have a significant impact in the face of a continuing constraint in the tax equity market, set out in detail in the recently released paper "Prospective 2010-2012: Tax Equity Market Observations"[4] and "U.S. Renewable Energy Tax Equity Investment and the Treasury Cash Grant Program." [5]

We have now looked at the impact that ending the cash grant would have on employment. In order to do this we first estimated what we considered to be the 2011 demand for renewables, in terms of MW's financed each year, based on industry consensus data. From this starting point we applied current industry cost estimates to derive the total investment capital needed, and estimated the share likely to be financed as separate projects (as opposed to projects financed by their owners at the corporate level) based on historical trends. The likely capital structure of these projects, assuming the 1603 grant is not renewed, comes from US PREF members' experience as lender and investors in the renewable energy project market. The result of this analysis is a need for an estimated $9 billion of "tax equity" commitments in 2011, as shown in Table 1:

Attracting $9 B of tax equity capital per year will likely be very difficult given only $6.1 B was raised in 2007, the industry's most prolific year, in a credit environment not likely to repeat itself soon. A June 2010 survey of all of the major renewable energy tax equity investors conducted by US PREF concluded that around $3 billion per year of tax equity might be available in 2011 and 2012. Table 2 shows the potential renewable deployment with that constraint:

Then using the NREL Jobs and Economic Development Impact (JEDI) models (used also by LBNL) we looked at the gap between the unconstrained scenario which would be supported by a 1603 cash grant extension, and the constrained tax equity outcome:

A key assumption is how much of the manufacturing is done onshore. While domestic manufacturing may grow in the future (possibly assisted by the expansion of the 48C manufacturing tax credit), we assumed that the level of domestic production would not change substantially in the near term. US manufacturing of wind turbines and their components has been increasing, Lawrence Berkeley National Lab estimates that imports represented 39% of the value of wind turbines installed in the US in 2009, down from 85% in 2006. (Source: 2009 Wind Technologies Market Report, R. Wiser and m. Bollinger, LBNL, August 2010.) Our analysis assumed that 50% of the value of wind turbines financed would be imported. The US is a small producer of solar modules, with a 7% share of the global market. (Source: U.S. Solar Industry Year in Review, Solar Energy Industry Association, May 2010.) Our analysis assumed that none of the solar modules, inverters, or other materials or equipment were manufactured domestically.

On this basis US PREF estimated around 104,000 jobs are forgone by not extending the 1603 cash grant through 2011 and on in to the future, where even more jobs would be created. And, as explained above, the extension of the 1603 cash grant would make more successful any extension of the 48C manufacturing tax credit in terms of job growth.

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*All tables and their respective footnotes have been retained in committee files, including all graphics.

[4] US PREF, "Prospective 2010-2012: Tax Equity Market Observations (v1.2)," July 2010. http://www.uspref.org/whitepapers/ .

[5] US PREF, "U.S. Renewable Energy Tax Equity Investment and the Treasury Cash Grant Program (v2.1)" 2010. http://www.uspref.org/white-papers/ .

FLAMBEAU RIVER BIOFUELS, INC.,
September 22, 2010.

Hon. JEFF BINGAMAN,
703 Hart Senate Office Building, Washington, DC.

DEAR SENATOR BINGAMAN, Flambeau River BioFuels Incorporated is a Development-stage Company that is committed to advancing the commercialization of cellulosic biofuel technologies and producing energy, transportation fuels and chemicals from renewable biomass resources.

Our project in Park Falls, Wisconsin will be an important first step in the development of wood-based biorefineries. The facility will transform 1000 dry tons per day of woody biomass into over 18 million gallons per year of renewable transportation fuels and green bio-based chemicals. In addition, we will capture waste heat from our process and export 21 million Btu/hr of green power to our adjacent Flambeau River Papers (FRP) mill, making FRP the first integrated pulp and paper mill in North America to be fossil fuel free. We believe the biorefinery at Park Falls will be a model for integrated biorefinery operations and will be especially attractive to pulp and paper companies that are looking to diversify their operations. Our biorefinery will lower greenhouse gas emissions, create 165 good, green jobs, preserve the 365 current jobs at the pulp and paper mill, and support rural development.

We believe that our project has significant merit as it meets the congressional intent for developing the alternative fuels industry. The Department of Energy Biomass Program selected our project in 2008 as one of the demonstration biorefineries that will be deployed across our nation. As a result of that selection we were awarded $30,000,000 in financial assistance. This year the DOE Biomass Program reaffirmed their support of our project by increasing their overall level of financial assistance.

For our project to succeed, we will need assistance from the DOE Loan Guarantee Program. The realities of today's economic climate have made banks extremely reluctant to lend to new ventures like ours. Unfortunately, it appears as though the DOE Loan Guarantee Office has established exceedingly restrictive funding criteria that will disqualify most, if not all, alternative transportation fuels projects, which is contrary to Congressional intent.

Specifically, we have spoken with other companies that have received DOE Biomass Program awards and that have applied for DOE Loan Guarantee Program assistance, and it is clear that the DOE LG Office has adopted criteria for biomass that is more restrictive than those applied to solar and wind projects. Moreover, the DOE created new rules after applications where submitted, thus putting applicants at a significant disadvantage. In this regard, one would certainly have thought that the DOE LG Office would have worked with the applicants to help them achieve success before simply rejecting them. Small firms, such as ours, were advised to find large partners like British Petroleum. This type of discrimination is a slap in the face to small business. It is the entrepreneurs who create jobs and are willing to take risks in fulfilling our nations needs to become energy independent.

I would ask that you please review the situation and direct the DOE Loan Guarantee Office to meet your intent to promote alternative domestic green fuels. The lack of biomass to transportation fuels projects in the DOE LG portfolio is evidence that the DOE LG staff needs additional congressional direction. If you or your staff has questions for me about this project please do not hesitate to contact me.

As a Nation we continue to fail to meet the Congressional goal for domestic Cellulosic Biofuel production. Without reinforced direction from Congress it is my fear the DOE Loan Guarantee Office will continue to derail Congress' vision of creating a green economy that will bring new jobs well into the future.

Sincerely,

WILLIAM (BUTCH) JOHNSON,
CEO.

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