THE OBAMA ADMINISTRATION'S GREEN ENERGY GAMBLE: WHAT HAVE ALL THE TAXPAYER SUBSIDIES ACHIEVED?

HEARING

BEFORE THE

SUBCOMMITTEE ON REGULATORY AFFAIRS, STIMULUS OVERSIGHT AND GOVERNMENT SPENDING

OF THE

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CONTENTS

THE OBAMA ADMINISTRATION'S GREEN ENERGY GAMBLE: WHAT HAVE ALL THE TAXPAYER SUBSIDIES ACHIEVED?

WEDNESDAY, MAY 16, 2012,

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON REGULATORY AFFAIRS, STIMULUS OVERSIGHT, AND GOVERNMENT SPENDING,
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM,
Washington, D.C.

The subcommittee met, pursuant to call, at 9:31 a.m., in Room 2154, Rayburn House Office Building, Hon. Jim Jordan [chairman of the subcommittee] presiding.

Present: Representatives Jordan, Buerkle, DesJarlais, Guinta, Kelly, Kucinich, Issa, Gowdy Cummings, and Norton.

Also Present: Representative Mulvaney.

Staff Present: Alexia Adrolina, Majority Assistant Clerk; Michael R. Bebeau, Majority Assistant Clerk; Will L. Boyington, Majority Staff Assistant; Molly Boyl, Majority Parliamentarian; Lawrence J. Brady, Majority Staff Director; Drew Colliatie, Majority Legislative Assistant; John Cuaderes, Majority Deputy Staff Director; Adam P. Fromm, Majority Director of Member Services and Committee Operations; Linda Good, Majority Chief Clerk; Tyler Grimm, Majority Professional Staff Member; Peter Haller, Majority Senior Counsel; Christopher Hixon, Majority Deputy Chief Counsel, Oversight; Mark D. Marin, Majority Director of Oversight; Kristina M. Moore, Majority Senior Counsel; Laura L. Rush, Majority Deputy Chief Clerk; Jeff Solsby, Majority Senior Communications Advisor; Rebecca Watkins, Majority Press Secretary; Michael Whatley, Majority Professional Staff Member; Jaron Bourke, Minority Director of Administration; Lisa Cody, Minority Investigator; Ashley Etienne, Minority Director of Communications; Chris Knauer, Minority Senior Investigator; Adam Koshkin, Minority Staff Assistant; Dave Rapallo, Minority Staff Director; and Donald Sherman, Minority Counsel.

Mr. JORDAN. Let me thank all our witnesses for being here. You know how this works; you have to listen to us give a bunch of speeches before we get to your important testimony. So bear with us and we will get to you as quickly as we can.

Before we do opening statements, I would ask unanimous consent that our colleague from South Carolina, Mr. Mulvaney, be allowed to participate in today's hearing. Without objection, so ordered.

We will start with opening statements. We anticipate the Chairman from the full Committee and the Ranking Member of the full Committee, I think, joining us, so we will probably have four opening statements.

President Obama's 2009 stimulus directed nearly $90 billion of taxpayer funds toward green initiatives. The President told the American people that "green jobs would be a major force not just for environmental conservation, but for economic recovery as well." The President said that we will harness the sun and the winds and the soil to fuel our cars and run our factories, and he promised that our Country would create millions of green jobs which would help us compete in the global economy.

However, three years into this gamble, available evidence demonstrates these efforts have wasted vast sums of taxpayer money and have failed to achieve the stated goals. Today's hearing is a continuation of the work done at the full Committee and this Subcommittee seeking to ensure that the American people know how their money is being spent.

Four of the companies testifying before this Subcommittee today, Abound, First Solar, Nevada Geothermal, and BrightSource, cumulatively received $5 billion in loan guarantees from the Department of Energy, one-third of the entire loan guarantee portfolio. I want to thank each of these companies for testifying today. I know many of you had to travel great distance, and we appreciate you being here.

Alternative energy certainly has a place in our economy, and we hope that all these companies succeed. But the best way to get cheap energy to American consumers is to let the market forces work, not to allow bureaucrats in Washington to select who wins and who loses.

I also want to thank our other witnesses for appearing today, especially Mr. Nelson, the CEO of Solar3D. Jim has shown that billions of taxpayer dollars are not necessary to advance green technology.

When taxpayers lost over half a billion dollars on Solyndra, the Obama Administration said that it was just one bad apple and the rest of the portfolio was strong. It is becoming increasingly clear that Solyndra was just the tip of the iceberg in a sea of taxpayer risk.

Too often this Administration takes liberties with the American people's money based on the flawed assumption that Government knows best. Today is about understanding what happens when the Federal Government tries to play venture capitalist.

With that, I would yield to the gentleman from Ohio, my good friend from Cleveland, Mr. Kucinich.

Mr. KUCINICH. Thank you very much. Good morning, Mr. Chairman, members of the Committee, and to our guests who are testifying in a moment. I am grateful for today's hearing because I think it will serve to dispel some misconceptions about the Department of Energy's Loan Guarantee Program and President Obama's energy agenda.

Recognizing that energy independence is critical to America's future, Congress created the Loan Guarantee Program in 2009 to support innovative energy projects that involve more risk than is

typical for project and corporate debt financing. While my friends in the Majority would have you believe that the well publicized bankruptcies of Beacon Power and Solyndra threatened to tank the Department of Energy's entire loan guarantee portfolio, in reality, the Department of Energy's 1705 Loan Guarantee Portfolio Program is doing better than Congress expected when it established the program.

When Congress created the 1705 Program, we appropriated about $2.47 billion in credit subsidy costs as an insurance fund to cover potential losses stemming from defaults by companies and projects receiving loan guarantees. That means that Congress prepared for losses to reach about 15 percent of total loan guarantees provided by the Program. In reality, actual losses are about 3 percent. That means that the Department of Energy's rigorous and thorough due diligence process for choosing among applicants resulted in safer choices than Congress had anticipated.

My friends on the other side of the aisle have singled out for scrutiny Federal support for renewable energy technologies. I note that they have not raised questions about the last 100 years of subsidies to promote the development of fossil fuel technologies, and I have not heard of any committee investigation into subsidies for the nuclear energy industry either, even though, in February 2010 a single nuclear project received $8.33 billion in subsidies.

Now, investing in energy independence is critical to America's national security, its economic growth, and future job creation. If we fail to support these emerging renewable energy technologies, our Country will fall behind countries like Germany and China. If anything, we do not do enough for renewable energy, especially when compared to support for oil and gas.

I have a chart that I would like put up, if we can do that. There we go.

[Slide.]

Mr. KUCINICH. This chart attached to my statement, Mr. Chairman, shows how much greater is the ongoing support for the oil and gas industry compared with renewable energy technology.

So what I am wondering is why my friends have devoted four hearings, including today's, to criticize renewable energy companies who have received Federal support, as Congress intended, in a well managed program and has returned better results than Congress even anticipated.

So I think we should be helping to preserve America's leadership and a technology that will only become more important, not less, in the future. Impugning the reputation of these companies before the television cameras will not be productive.

With that, I want to thank my friend for calling this hearing and I yield back the balance of my time. Thank you.

Mr. JORDAN. Anyone wish to make an opening statement on the Majority side?

[No response.]

Mr. JORDAN. Our Chairman is not yet with us, so we will proceed. Members who may have seven days to submit opening statements and extraneous material for the record.

We now want to welcome our panel of witnesses. We first want to introduce Mr. James Nelson, who is the President and CEO of

Solar3D, Incorporated. We also have with us Mr. Gregory Kats, who is the President of Capital-E; Mr .Craig Witsoe is the President and CEO of Abound Solar; and Mr. Brian Fairbank is President and CEO of Nevada Geothermal Power; and Mr. Michael Ahearn is the Chairman of the Board at First Solar; and, finally, Mr. Woolard is the President and CEO of BrightSource Energy Company.

The Committee rules require that we have witnesses sworn in, so if you would just stand and raise your right hands, we will get this done here.

Do you solemnly swear or affirm that the testimony you are about to give will be the truth, the whole truth, and nothing but the truth? If so, answer in the affirmative.

[Witnesses respond in the affirmative.]

Mr. JORDAN. Let the record show that all witnesses answered in the affirmative.

Again, thank you all for being here. You guys, I think, understand the rules. You have five minutes. We will be a little lenient, but as close to five as you can do it, because we do want to get to questions, and the goal is to try to get out of here by noon if we can today, because I know that I have something I have to be to at 12. So we are going to go right down the line.

Mr. KUCINICH. If you have to leave, I will——

[Laughter.]

Mr. JORDAN. I would trust the good gentleman from Ohio, even though I disagreed with some of his statements in his opening statement.

We are going to go right down the line. We are going to start with Mr. Nelson. You get your five minutes. Then we will just go right through and then we will get to questions. So, Mr. Nelson, you are recognized for your five minutes.

STATEMENTS OF WITNESSES

STATEMENT OF JIM NELSON

Mr. NELSON. Thank you. The Government's green energy policy includes two parts: support for basic research with the aim of developing new green energy technologies, and two is making loan guarantees to promote the adoption of green energy technologies. Supporting research is an important role of government, but the loan guarantee program is a wasteful mistake because it doesn't work.

Having spent most of my career developing strategy for companies large and small, I have learned one important thing, and that is that it is economics, not government policy, that drives behavior. And it is economics, not government policy, that will drive enthusiastic adoption of green energy.

My company, Solar3D is a technology development company in Santa Barbara, California. We are developing an advanced technology, a new three-dimensional solar cell that will reduce the cost of solar energy by about 50 percent. Our objective is similar to that of the ill-fated Solyndra: to develop a new solar technology that can change the economics of the industry. However, our manner of execution is very different.

We have been supported by private investment in our company since the establishment in August 2010. We are not dependent or depending on government funding. We certainly do not expect such support will be necessary to facilitate commercialization of our new technology.

Our go-to-market strategy will be to partner with a company that has the know-how to manufacture products similar to ours. While the 3D solar cell is a unique concept, our engineering approach has been to design a product with existing equipment, methods, and facilities in mind. We lease our facilities and we are able to pay the University of California for the use of higher level clean rooms and labs for our initial work in designing our new technology. These measures keep our capital costs low. We keep our staff lean and hiring key personnel for full-time work and then we use consultants to keep our operating costs low.

By contrast, Solyndra's unique technology attracted a $535 million loan guarantee, but there were many problems that happened as a result of their execution strategy. One is that they had to use all new machines. A second one is that they built a brand new 300,000 square foot facility, complete with whistling robots. Three is that, even when the award was granted, it was clear that their operation was failing. And, finally, it was reported that bonuses were paid to the executives, despite the poor performance.

The Department of Energy's loan guarantee to Solyndra was an embarrassing example of the current system. The investment was undoubtedly scrutinized and rejected by nearby Silicon Valley venture capitalists, organizations abundantly more qualified to identify good investments than government committees. There was no urgent strategic need for the U.S. to have Solyndra rush its product to market. The decision to fund Solyndra's attempt to commercialize does not stand up to reason.

However, politics ultimately trumped reason. The bureaucrats awarding the financial aid were beholden to their political supervisors who had promised Americans that they were going to fix the U.S. economy by creating millions of green jobs, something that could not possibly happen in any time frame worthy of consideration. The price of Solyndra's failure was borne by the American people.

At Solar3D's current level of development, our company has a much better chance than Solyndra ever did of creating a game-changing technology. We have reached this point on the principles of free enterprise of risk or return, without the use of government aid. In the end, we will become commercial for less than $10 million, with the hope of creating a technology that will change the landscape of solar energy. It will be an example of the amazing American economic system at work.

Government has a legitimate role in supporting basic research. ARPA-e, the program that awards small tranches of money for basic research and development in alternative energy, will receive $250 million in funding this year, which is only half of what we lost on the Solyndra project alone. This program can and should be expanded. Its objective is to fund innovative technologies that will improve the economics of alternative energy, which is ultimately the only path to widespread adoption of clean energy.

The loan guarantee program should be retired permanently. The path to commercialization requires brains, discipline, and grit. It is rarely aided, and often impeded, by government involvement. Our Government should trust the free market forces that have made American great.

Ultimately, our Country's investment in renewable power must help us become more globally competitive. Job creation and other ancillary goals are byproducts of renewable energy growth and are worthy objectives, but simply come as a result of successful businesses. The most important reason to invest is to get control of and reduce the cost of power generation in our Country.

The desire for more jobs and employment is a political and social desire, not a business desire. A simple review of the DOE website reveals that about $16.6 billion has been put out in guarantees in the 1705 Program and has created 2400 jobs. That is $6.3 million per permanent job. It is not an economic program.

Businesses are not made successful by more jobs. People get jobs by being competitive in the free enterprise system, by preparing themselves to be employed and to be better than the existing candidates. Renewable energy should be the same, by being great and productive in renewable energy. We need to produce the best products for the lowest price in the world, and that means that we need to get better operationally through the discipline and grit of the free enterprise system.

[Prepared statement of Mr. Nelson follows:]

James B. Nelson Testimony, 5/16/2012

Subcommittee on Regulatory Affairs, Stimulus Oversight, and Government Spending

The government's green energy policy includes two parts: (1) supporting basic research, with the aim of developing new green energy technologies; and (2) making loan guarantees that promote the adoption of green energy technologies. Supporting basic research is an important role of government, but the loan guarantee program is a wasteful mistake because it doesn't work.

Having spent most of my career developing strategy for companies large and small, I have learned one very important thing: economics drives behavior. It is economics, not government policy, which will drive enthusiastic adoption of green energy.

My company, Solar3D, Inc., is a technology development company in Santa Barbara, California. We are developing an advanced technology — a new three-dimensional solar cell ("3D Cell") that could reduce the cost of solar energy by as much as 50%. Our objective is similar to that of ill-fated Solyndra — to develop a new solar technology that can change the economics of the industry. However, our manner of execution is very different.

We have been supported by private investment in our company since its establishment in August of 2010. We are not depending or dependent on government funding. We certainly do not expect that such support will be necessary to facilitate the commercialization of our new technology.

Our go-to-market strategy will be to partner with a company that has the know-how to manufacture products similar to ours. While the 3D Cell is a unique concept, our engineering approach has been to design the product with existing equipment, methods and facilities in mind. We lease our facilities, and we are able to pay the University of California at Santa Barbara for the use of its higher-level clean rooms and labs for our initial work in developing our designs and prototypes. These measures keep our capital costs low.

We keep our staff lean, hiring key personnel to do the full-time work and paying experts as consultants to help us with specialized aspects of our development. This keeps our operating costs low, and allows us to use a variety of experts who bring broad experience at a fraction of the cost of hiring them full-time.

By contrast, Solyndra's unique technology attracted a $535 million loan guarantee from the government to take it commercial. Mistakes and excess in the process were legion:

1. Solyndra's manufacturing strategy required all new machines that had never existed before — making it vastly more expensive to tool up than if the equipment had been proven.

2. A brand new 300,000 square-foot state-of-the-art tech building, complete with whistling robots, was constructed in Silicon Valley, an area with some of the most expensive industrial real estate in the world.

3. During the process of awarding the guarantee, it became clear that things were not going that well at Solyndra — the product was not economically competitive and could not be priced above cost. But the loan was made anyway, on the hope of generating 1,100 jobs.

4. Bonuses were reported to have been paid to executives despite the dismal outcome of the project.

The Department of Energy's loan guarantee to Solyndra was an embarrassing example of the malfunction of the current system. The investment was undoubtedly scrutinized and rejected by the Silicon Valley-based venture capital firms — organizations abundantly more qualified to identify good investments than government committees. There was no urgent strategic need for the U.S. to have Solyndra rush its product to market. The decision to fund Solyndra's attempt to commercialize does not stand up to reason.

However, politics ultimately trumped reason. The bureaucrats awarding the financial aid were beholden to political masters, who had promised Americans that they were going to fix the U.S. economy by creating green jobs — something that could not possibly happen in any timeframe worthy of consideration. The price of the Solyndra failure was borne by the American people.

At Solar3D's current level of development, our company has a much better chance than Solyndra ever did of creating a game-changing technology. We have reached this point based on the free enterprise principles of risk and reward, without the use of government aid. In the end, we will become commercial for less than $10 million and change the landscape of solar energy. It will be an example of the amazing American economic system at work.

Government has a legitimate role in supporting basic research. ARPA-e, the program which awards small tranches of money for basic research and development in alternative energy, will receive $250 million in federal funding in 2012 (half the amount lost at Solyndra alone). This program can and should be expanded. Its objective is to fund innovative technologies that will improve the economics of alternative energy — which is ultimately the only path to widespread adoption of renewable power.

The loan guarantee program should be retired permanently. The path to commercialization requires brains, discipline and grit. It is rarely aided, and often impeded, by government involvement. Our government should trust the free market forces that have made America great.

Economics Not Policy Will Bring About the Desired Change

It is ultimately economics, not policy that will drive the widespread, enthusiastic adoption of renewable energy. The most powerful driver in our industry is the relentless reduction of cost and in the next decade the cost of solar projects must be cut even further. Innovation and manufacturing effectiveness that lead to low cost energy production should be the focus of industry strategy.

Government subsidies towards the installation of current solar technology are structurally flawed in that they slow the adoption of innovation that should ultimately make renewable energy more effective. By encouraging consumers to buy immature and inferior solar technology right now, they risk trapping people into inefficient, expensive solar systems that may not return the investment.

Government should abandon subsidies to technologies that do not provide economic means of energy generation. Public money should subsidize potential game-changing technologies that could bring us to grid parity. Any strategy having to do with government subsidies for installations is by definition un-competitive until grid parity is reached.

Promote and Support Innovative Technologies

History shows that new technologies like automobiles or computers are followed by decades of innovative improvement that reduce cost, increase ease of use, and hasten mainstream adoption. After so many years of work, the solar industry can finally see the light at the end of the tunnel approaching grid parity and real economic usefulness. If the industry focuses on pushing key technologies to their logical conclusion, the solar industry will grow by ten fold or more.

The United States Must Focus on Global Competitiveness

U.S. adoption of solar energy currently lags behind several nations, including considerably smaller countries like Spain and Germany. This should not bother us if it means that the other countries are investing in technology that is not economically viable. America is the dominant player in venture capital investments in cleantech, investing 10 times what China invested in 2010 ($4.9B vs. $0.48B). The willingness of the private sector to continue its investment clearly shows our leadership in innovation. Furthermore, private sector investment is focused on making money, which means that it is focused on outperforming competition. Government investment in renewable energy should follow suit and focus on subsidizing only those innovations that have a chance to make us more competitive relative to the global community.

Ultimately, our country's investment in renewable power must help us become more globally competitive. Job creation and other ancillary goals associated with

renewable energy growth are worthy objectives but they are byproducts of successful businesses. The most important reason to invest is to get control of and reduce the cost of power generation to our country.

Success in green energy will be achieved by being better at it than anyone else. That means creating a better product at a lower price. This can only be achieved by innovation, not by having government fund commercialization.

America has a long and rich tradition of innovation and is the greatest country in the world at doing it. We are what Steve Chu called "the Cradle of Innovation. Most of it still happens here." However, as a country, we are not the greatest manufacturer in the world. And in solar technology at least we are far behind China. China is currently responsible for 50% of the worldwide photovoltaic production; the US produces 7%. In this manufacturing sector, China has a dominant position. In order to catch up, it would take many billions of dollars of investment in excess of China's on going investment. And even then, the structure of its economy gives China a sustainable advantage in manufacturing (at least in the near to medium term), which has led many successful US industries to outsource its manufacturing to China.

There is no shame in partnering with China and other Asian countries in the manufacturing of renewable energy devices. The most valuable company in the world, Apple, manufactures in Asia, but its innovation happens in the US. As a result, though thousands of jobs are created abroad, thousands of jobs are also created in the US. And the profits from the business are primarily realized here. Technology manufacturing is often a low margin business. Innovation is a relatively high margin business. Both businesses create jobs. Unless American manufacturing becomes competitive to the point at which businesses are willing to manufacture here, partnering with Asia should be embraced as a positive way to keep our economy growing, and our products competitive and cost effective throughout the world.

The desire for more jobs and more employment is a political and social desire—not a business desire. Jobs are created by successful businesses—but job creation is a by-product of business success. Businesses are not made successful by more jobs. People get jobs by being in the competitive free enterprise system by preparing themselves to be employed—and being better than other candidates.

Renewable energy businesses must do the same. Our businesses will be successful when we produce the best product for the lowest price—each business should determine if this means that we must manufacture cheaper outside of the US. Providing governments loans to help commercialize businesses in the US bypasses the forces of American capitalism that could give them the competitive discipline to make those businesses successful. Furthermore, giving companies money to set up manufacturing in the US may doom them to failure by financing them into a strategically uncompetitive position.

Ultimately, the US will become the largest consumer of affordable solar energy. It is not universally now affordable, but it will be. Cost will drop dramatically, as the next generation products come forward, and the products supporting the green energy infrastructure continue to reduce their costs. When that happens tens or hundreds of thousands of incremental jobs will be created—but it is a long-term creation. It will not happen as a result of the desire to make our economy recover by riding green energy jobs. It cannot happen in any politically dictated time frame. It will happen in the time it takes to innovate products that will be commercially and economically viable. That happens in Basic Research.

Stephen Chu and The Crucial Role of Government Investment

I agree with and support Stephen Chu's SunShot Initiative. Dr. Chu has challenged the solar industry to reduce the cost of a solar installation to $1 per watt by 2020. Then he cut red tape and in other ways has tried to streamline the process of giving entrepreneurs access to technology from the patent office and elsewhere to begin the process of commercialization. The SunShot Initiative is an effective approach in focusing industry and public attention. It is positive government leadership. It zeros in on what needs to change–the economics of the industry–by challenging us to reduce solar energy cost by 75%. The widespread, enthusiastic adoption of renewable energy will become a reality only when it is economically viable. With the SunShot Initiative, Dr. Chu and his team are precisely on target with this objective.

Dr. Chu has said that it is innovation that will make America competitive and ultimately great in green energy. That is what we believe as well. It is innovation that is America's differentiating characteristic.

Over the years, America's federal government has expended funds in support of basic research. Much of the technology produced by national laboratories, under government grants at universities, and for the military are national treasures.

The Advanced Research Projects Agency-Energy(ARPA-E) serves basic research for energy, an area in which private funding is not abundantly available because investors are reluctant to accept the technology development risk.

Therefore, in this area government plays a crucial role in the ongoing effort to move the country toward renewable energy. Simply stated, government should be involved in funding the basic research and development for new technologies. However, it should not be involved in the commercialization of such technology.

Private Investing

My company, Solar3D, is involved in basic research. Thus far it has been funded by private investment from the day we started. We have not taken any federal investment. When we become a commercial product, we do not anticipate using any federal money to do it. We are funded by a group of investors that believes in renewable energy, believes in our management team, and is willing to take a risk on the technology that we are developing.

Though Solar3D has done it, privately funding basic research is difficult because of the technology risk and timeframe involved. There are private investors who have a clear understanding of the importance of green energy and have an excess of capital—and are willing to make the investment. Jeff Henley, the outstanding Chairman of the Board of Oracle for example, just donated $50MM in expanding engineering research facilities at the University of California at Santa Barbara with a focus on one of the most forward thinking and results oriented industry organizations, the Institute for Energy Efficiency. But there are few Jeff Henleys in the world who are willing to invest in that way. Government has a vested interest in the development of renewable energy technology, and should invest in the basic research that will develop new technology that can revolutionize the economics of the industry.

Once technology is shown to be economically viable, private investment will be available to take that technology commercial. But, the "gap" argument is that one has to begin manufacturing something before you can get to scale where your costs are competitive. Scale is only part of the cost reduction equation and analysts at investment firms simulate cost performance at scale production long before the products were manufactured. Ultimately, to get costs in line, production has to happen, but it does not have to happen for a good project to attract investment money.

The bottom line is that for good projects there is private money available. But just because a technology is interesting and has the hope of becoming commercial does not make it a good project. My friends in the venture capital and private equity industries have expressed the fact that it is difficult to find renewable energy projects that are commercially viable and can be backed with a reasonable hope for a timely return on capital investment.

Figuring that there is a gap between technology development and commercialization, the 1705 loan guarantee program jumps in to try to bridge the gap. This is a very dangerous time in the life of a developing product. Venture capitalists and private investors are scrutinizing these projects. They are among the smartest businessmen in the world and they are thoroughly trained to review and make judgments about the economical viability similar projects. If they reject a project, it is difficult to believe that the government could do a better job of picking a winner—given the relative training. Propping up technologies that are not

commercially viable is not a path to success. When it is done with the hope of saving jobs, it is the worst kind of naïveté.

Government should more fully trust the forces of American Free Enterprise that makes companies tough and disciplined. Those are the types of companies that earn private investment to commercialize their products.

A New Approach is Needed:

Simply stated, there are three stages to introducing new technology into the market:

1. **Innovation.** Universities, government labs and some companies willingly and energetically take the technology risk of exploring new ways of doing things, and work on proving a concept. In this specific situation, we are talking about creating energy.

2. **Go To Market.** When a specific technology has been developed and its concept proven, the focus moves to figuring out the best way to develop a prototype which can be manufactured and sold in the marketplace. This stage is typically funded by angel investors and venture capitalists.

3. **Expansion.** Once a specific technology has reached the market, it needs to be developed into a real, growing product that is both used and useful, thus crossing over into adoption by the public. Venture capitalists and private equity provide investment for growth in these stages.

One of the greatest strengths in America is Innovation. It is a long and rich tradition for the US to lead the world in innovation. Government currently plays a role in providing funds to many companies in the proof-of-concept stage, as well as to national labs and universities developing new technologies. Steps two and three should be left to private investors.

It is time to make a change, and to restructure the government's broken system that currently funds agenda-driven enterprises that have little or no chance of a successful early development stage. The intent of such agenda-driven grants is to create jobs. But when taxpayer money is invested, spent, and lost, the company fails, and the jobs are lost. Government dabbling in investments beyond technology development is competitive with private funding or it involves making investments that private investors wouldn't make—both are bad ideas. Furthermore, it is conceivable in a market where government wants to invest, private investors seek to augment returns by supplementing their investment with government funds. It would be interesting to know how many projects that are currently funded with loan guarantees would be funded privately if loan guarantees did not exist. After technology is proven, good investments should be able to get private funding and

negate the need for government support. Bad investments shouldn't be funded at all.

I suggest the following:

1. Government immediately get out of the loan guarantee program and stop investing in companies at stages beyond technology development.
   a. Making the decisions to guarantee loans is essentially making an investment decision that government bureaucracies are not equipped to make.
   b. Bureaucracy's agenda-driven analysts do not have necessary training, proper incentives or appropriate reporting structure to make investment grade decisions.

2. ARPA-E should become a public/private partnership, with the mandate to invest in game-changing energy technology research.
   a. It will be staffed with professionals accustomed to making these types of investments, and qualified to evaluate projects on their economic potential and practicality.
   b. Government should provide the funding to the entity, but the partnership should be consistent with the long-term strategic plan of the government.
   c. The partnership should be evaluated on the basis of the success of their investments and investment strategy.
   d. The professional investors should be told to make the focus of their investing broader than typical venture investing in order to encourage other innovative ideas. Moreover, they should hand off their portfolio entities to private equity as they mature to ensure commercial viability.
   e. Placed in the right hands this concept could be implemented in the first quarter of 2013.

Mr. JORDAN. Thank you, Mr. Nelson. Appreciate that.
Mr. Kats, you are recognized.

STATEMENT OF GREG KATS

Mr. KATS. Thank you very much for the opportunity to speak on these important issues today. The hearing addresses several questions. One, is the DOE Loan Guarantee Program successful financially? Specifically, does the program meet or fail to meet its financial objectives? Two, is the DOE loan program successful in nonfinancial objectives? Specifically, does it meet or fail to meet additional objectives, including strengthening job creation, security, and competitiveness?

The DOE loan program has three parts, two of which were established in the George W. Bush Administration and one of which was established in the Obama Administration. Section 1705 of the DOE loan program was established through the 2009 American Reinvestment and Recovery Act as part of a far larger program to accelerate U.S. investment and employment in response to the 2008–2009 deep economic downturn.

Federal loan guarantees like 1705 are established to enable financing of projects that would otherwise probably not receive financial funding and, like other bank and government commercial lending programs, assumes a default rate as normal and expected. In establishing the 1705 Loan Guarantee Program, for example, the Office of Management and Budget predicted, and Congress budgeted $2.47 billion to cover expected defaults or partial defaults.

Defaults in Solyndra and Beacon after some funds are recouped from both parties are likely to net out to about $300 to $400 million. This is roughly 2 percent of the amount guaranteed. If there are no more losses, then the program would have to be viewed as a resounding success.

While it is easy in hindsight to criticize the DOE loan program, the only fair basis for judging success or failure is whether the program achieved its financial objectives. Review of the loan portfolio outstanding suggests total defaults are ultimately likely to be in the range of $400 to $800 million, or about one-quarter of the amount projected and budgeted. Based on a reasonable assessment of outstanding portfolio financial profile and risks, the DOE loan program can therefore rationally only be viewed as a big success. There are other objectives, including security.

The Army and Navy both have net zero programs aimed at reducing energy use on military bases, with the Navy targeting 50 percent of its bases to have zero net energy consumption by 2020 from a combination of renewable energy and energy efficiency. Energy is, in the words of Admiral Mullen, about not just defense, but security; not just survival, but prosperity. Our national defense infrastructure and systems hold the potential, in Admiral Mullen's words, to help stem the tide of strategic, security issues related to climate change while improving operational effectiveness.

The wind and solar innovation and industries were largely developed here in the United States, but our major competitors, including China and Germany, have, through sustained Federal domestic subsidies and purchases, rapidly expanded the size and strength of

their domestic wind and PV corporations. Today, of the top 10 global wind and PV manufacturers, only one of each is located in the United States. We should be deeply concerned about the security implications of the U.S. losing its global competitive leadership in these critical industries.

Broad public support for expanded Federal investment in renewable energy reflects this understanding. China and Germany are out-investing us. Given the strategic and security importance of clean energy industries, weakening Federal support for the U.S. wind and PV and other clean industries undermines U.S. competitiveness and security. For security and financial reasons, the DOE should use the 85 percent of its 1705 funds that are still unused and still available in the Treasury to fulfill its purpose of funding and supporting additional U.S. clean energy technologies and companies.

Defaults in the 1705 program to date have been far below projected. We expect, over time, to be a total of only one-quarter of what is budgeted. The clear financial success, the employment and security benefits demonstrated by this program, demonstrates that the DOE should ramp up its loan guarantee efforts and provide loan guarantee support for roughly another $30 to $40 billion of U.S. clean energy projects and companies. The DOE 1705 Loan Guarantee Program provides an important lift to U.S. clean energy investment growth, both strengthening job creation and supporting the strength of U.S. clean energy industries. But our main trading competitors, including China and Germany, are out-investing us.

Given the strategic, security and employment importance of U.S. clean energy industries, weakening Federal support for the U.S. wind and solar industries undermines U.S. competitiveness and security. If the U.S. military is forced to import the technology it needs to achieve its mission, a shift into clean energy, it will weaken U.S. security.

For financial security, employment, and competitiveness reasons, the DOE should use the 85 percent of its fund unused and still available to backstop U.S. energy companies and projects. And given the clear success of its loan program to date, based on rational measures of financial performance and on other measures, including security, employment, and competitiveness, the largest risk is that DOE slows its loan guarantee program.

Failing to make substantial additional loan guarantees to expand U.S. strength in renewable and clean energy, strengthen U.S. job competitiveness, and security, would be an irrational and costly failure. The losers would be U.S. industry, U.S. military, U.S. taxpayer, and the U.S. workers. The only beneficiaries would be China and our other international competitors.

Thank you.

[Prepared statement of Mr. Kats follows:]

Statement of Gregory H. Kats
President of Capital E

Before the
House Committee on Oversight and Government Reform

DOE 1705 Loan Guarantee Program: Success or Failure?

FOR RELEASE ON DELIVERY
May 16, 2012

Brief bio of Gregory Kats:

- President Capital E (cap-e.com), a national clean energy advisory firm
- Serves on the boards of multiple U.S. energy and energy related firms, all of whom sell into international markets, and all of whom are hiring employees here in the US
- Served as the Director of Financing for Energy Efficiency and Renewable Energy at US Department of Energy
- Former Managing Director of Good Energies, a multibillion dollar global clean energy PE and VC investor.
- Partnered with JP Morgan and Citi to develop financial strategies to scale US funding for energy efficiency from $20 billion a year to $150 billion a year
- Serves on a National Academy of Science board developing US policy recommendations to strengthen US innovation and competitiveness
- Education: BA and Morehead Scholar, UNC; MBA from Stanford University and, concurrently, an MPA from Princeton University, Certified Energy Manager

Thank you for the opportunity to speak with you today on this important issue.

This hearing addresses several questions

1) Is the DOE Loan Guarantee Program successful financially? Specifically, does the program meet or fail to meet its financial objectives?
2) Is the DOE Loan Guarantee Program successful in its non-financial objectives? Specifically, does the program meet or fail to meet its additional objectives, including job creation, security, and US competitiveness?
3) Related to this and in light of the Solyndra and Beacon failures, has the DOE loan program generally rushed its loan process or undertaken with an insufficiently rigorous review process?

There is a long bipartisan history of US federal, state land city level investment in clean energy. The DOE Loan program demonstrates this. The DOE Loan program has 3 parts, 2 of which were established in the George W Bush Administration and 1 of which was established in the Obama Administration.

The first part of the DOE loan programs, Section 1703 authorizes DOE to provide loan guarantees to enable commercialization of clean energy technologies and projects. This program

was part of the energy Policy Act of 2005 and was signed into existence by President George W Bush. 1703 loan guarantees a total of $10.3 billion, with two nuclear power conditional commitments.

The second part of the DOE Loan program addresses advanced technology vehicles manufacturing (ATVM) and was established in the Energy Independence and Security Act and signed into law by President George W Bush. The DOE ATVM loan program has closed 5 loans totaling $8.4 billion.

The third part of the DOE loan program, Section 1705 of the DOE loan program was established through the 2009 American Reinvestment and Recovery Act as part of a far larger program to accelerate US investment and employment in response to the 2008-2009 deep economic downturn. Section 1705 extended the Energy Policy Act of 2005 and provides DOE funds and direction to support expanded investment of US companies and projects in clean energy, including solar, wind, transmission and storage. Like loan guarantee programs in general, these were projects that were viewed as unlikely to receive commercial funding because the companies or projects were viewed as early stage, somewhat risky and/or not fully commercial proven. Like other loan guarantee programs, 1705 was established with the expectation that most funded projects would succeed commercially but that some would not.

Did the DOE 1705 loan guarantee program succeed financially and in its other objectives? The only rational way to evaluate whether this program is successful is to evaluate its performance against its objectives - is the default rate better or worse than projected, and is it achieving its non-financial objectives eg jobs, security, economic competitiveness?

Financial Failure?

To determine whether the DOE 1705 loan program is successful from a financial/default perspective we need to compare the expected program default rate to current and likely total default rate. If the default rate can be expected to exceed the projected and budgeted default rate, then the 1705 program can be viewed as financially unsuccessful. However if the default rate is lower than the default rate projected and budgeted for, then the DOE 1705 loan program should be recognized as financially successful.

The 1705 loan guarantee program has provided loan guarantees to projects worth $16.1 billion. This represents about 1.7 percent of the almost one trillion dollars of existing federal loan guarantee commitments. Federal loan guarantees like 1705 are established to enable financing of projects that would probably not otherwise receive financial funding, and like other bank and government commercial lending programs, assumes a default rate as normal and expected. In establishing the 1705 loan guarantee program, for example, the Office of Management and Budget predicted and Congress budgeted $2.47 billion to cover expected project defaults or partial defaults. (See: http://www.whitehouse.gov/omb/budget/Supplemental)

The 1705 loan program has approved 28 loans worth $16.1 billion dollars, and has so far experienced two highly publicized defaults (both in the fall of 2011): Solyndra and Beacon. These loans were for $535 and $43 million respectively. The Federal government can be

expected to receive a portion of those funds back. Defaults from Solyndra and Beacon, after some funds are recouped from both parties, are likely to net out to $300 to $400 million. This is roughly 2% of the amount guaranteed. If there were no more losses, then the program would have to be fairly viewed as a resounding success. 85% of the money put aside for losses in this program remain at the Treasury. If this program can be fairly judged as a success these funds should be used as intended - to backstop additional loan guarantees.

For the DOE loan program 1705 to be viewed as a financial failure one has to argue that defaults will exceed the $2.47 billion Office of Management and Budget predicted and Congress budgeted to cover expected defaults. Additional defaults are possible. But is it likely that additional defaults will result in loan losses exceeding the projected/budgeted amount of $2.47 billion? Is the pessimism about future US renewable energy manufacturing and project performance warranted?

The likelihood of default totaling $2.47 billion viewed from a rational basis appears exceedingly unlikely. A minority of the loans and amount invested were in manufacturing, fuel production energy storage or transmission. The large majority - $14.1 billion of the $16.1 billion were for large scale generation projects – mainly solar – that were built on long term power purchase contracts based on technologies with strong performance track records. It has been half a year since the last default, so a wave of new defaults appears very unlikely. 10 of the 28 loans were made to manufacturing, fuel production energy storage or transmission. These are smaller loans and represent 13% of the exposure and can be viewed as higher risk. As a recent Bloomberg Government Analysis observes, if all these 8 higher risker loans fail, and no assets are recovered (highly unlikely) there would still be $466 million remaining to cover further losses. Losses by the larger, more crdit-worthy project loan recipients seem increasingly unlikely and if losses were to occur, most of loan amounts are likely to be recovered since the projects can be expected to retain substantial value.

Review of the loan portfolio suggests total defaults are likely ultimately to be in the range $400 - $800 million dollars, or about one quarter the amount projected and budgeted for. Based on a reasonable assessment of outstanding portfolio financial profile and risks, the DOE loan program can therefore rationally only be viewed as a big success. From the perspective of financial performance, the DOE should therefore expand its loan guarantees. Given its effectiveness in leveraging private funding and additional benefits, discussed below, the largest risk is that DOE slows its 1705 loan guarantee program.

Lack of Diversification?

The US House of Representatives report on DOE's Loan Guarantee Program contends that the loan portfolio was not diversified and that this will therefore lead to higher losses. But is it true that the loan portfolio is undiversified? A review of the loan guarantee recipients indicates that the portfolio is actually geographically broadly diversified and includes a large mix of both direct company loan guarantees and project development recipients. That indicates diversification. What about the high concentration of solar projects – does this indicate an imprudent lack of diversification, as the House report argues? A review of the solar projects funded indicates otherwise. The BloombergGovernment report review of the solar projects receiving loan guarantees finds that recipients of the solar loan guarantees are in fact quite diversified, including

"residential, commercial and utility-scale installations using three types of photovoltaic cells and two different types of concentrating power (CSP) technologies." That is a lot of diversification. See: http://about.bgov.com/2011/12/01/bgov-study-solyndra-failure-obscures-low-risk-energy-guarantees/

Indeed a dispassionate observer would recognize that the Solyndra failure came in large part because it was a solar technology that does not rely on silicon – in other words it is a US company that provides diversification from the silicon basis for most photovoltaics. The collapse in silicon prices and collapse in PV prices that no one predicted doomed Solyndra precisely because Solyndra represented a non-silicon technology, a diversified loan recipient that represents diversification for US solar manufacturing. Had silicon prices and PV prices not unexpectedly collapsed, Solyndra could well now be viewed as a very shrewd loan choice that strengthens the diversified US solar industry position globally. It is ironic that Solyndra, which is clearly a diversification company, should be pointed to as an example of lack of diversification.

Systematic Risk?

The US House of Representatives March 20, 2012 staff report entitled "The Department of Energy's Disastrous Management of Loan Guarantee Programs" spends a lot of time documenting and criticizing the fact that the recipients of the loan guarantees had relatively poor credit risk ratings. This argument is puzzling… like investigating a bank's home loan program and then expressing outrage at the finding that home owners had to borrow money to buy their homes.

The whole point of a loan guarantee program is to finance projects that cannot otherwise get commercial financing. If the recipients of the DOE loan programs were very low risk (investment grade) they would have access to commercial funding and a DOE loan guarantee would therefore displace private funding. That is, loans to very low risk companies and projects would be a waste and a sign of failure, not a sign of success.

There clearly were some mistakes made in the DOE loan guarantee process. For example in hindsight neither Solyndra nor Beacon should have received funding. Though DOE could not have been expected to predict the collapse of silicon and PV prices, it could have insisted that Solyndra have offtake agreements for its solar panels. But in hindsight it also seems very likely that some projects that DOE was considering providing loans to and did not should have received loan guarantees. The DOE loan guarantee process has required very extensive and expensive due diligence – paid for by the applying companies. The extensiveness of the loan review program made it slow, resulting in widespread frustration that the loan review process was not faster. For example; "Could you please explain why DOE has been unable to obligate these funds more rapidly?" - Rep. Mike Simpson R-ID [Hearing before the House Committee on the Budget, Questions Submitted by Congressman Mike Simpson, July 14, 2010]. And, "I am writing to you today to stress the urgency of expeditiously reviewing loan guarantee applications for renewable energy projects, particularly those utilizing solar technology," said Rep. Mary Bono Mack (R., Calif.) in a letter from September 2010 to Mr. Chu, White House budget director Jack Lew and Treasury Secretary Timothy Geithner.

DOE's loan review process typically has involved hiring independent technology, legal and marketing firms to do in-depth, expensive (paid for by the applicant) independent reviews, many of which lasted more than a year.

For example, Sage Electrochromic Glass spent more than two years and several million dollars pursuing a DOE loan guarantee to support a large manufacturing facility in Minnesota. DOE ultimately turned down the funding application. As a result, a large French multinational will assume majority ownership of the firm. While the first scale manufacturing plant will be built in Minnesota, the next scale plant is expected to be built in Europe – and ownership of this technology developed in the Unites States will pass into European ownership. This is exactly the kind of technology that the US military is interested in and is deploying on its military bases in the US and abroad to cut energy use and strengthen security.

In hindsight, the DOE loan guarantee program has made mistakes – it made several loans it should not have made and did not makes some loans it probably should have made. Many have argued that the process was too arduous, detailed and slow while others have argued it should have been even more rigorous.

While it is easy in hindsight to criticize the DOE loan program, the only fair basis for judging success or failure is whether the program achieved its financial and other objectives.

The purpose of loan guarantee programs is to fund companies and projects that have desirable benefits and that probably otherwise could not get commercial funding. The success of a portfolio of loans – like investments by a VC firm – is only fairly measured on the outcome of the portfolio of investments. As discussed above, the likely total default rate is in the range of one quarter of the level projected and budgeted for. This is clearly a successful program.

Review of loan portfolio outstanding suggests total defaults are ultimately likely to be in the range $400 - $800 million dollars, or about one quarter the amount projected and budgeted. Based on a reasonable assessment of outstanding portfolio financial profile and risks, the DOE loan program can therefore rationally only be viewed as a big success. From the perspective of financial performance, the DOE should therefore expand its loan guarantees. Given its effectiveness in leveraging private funding and achieving other objectives – eg clean power generation, strengthening US firms and US security and creating jobs (discussed below), the largest risk is that DOE slows or even halts its loan guarantee program. For a financial perspective the1705 program has been a clear success and DOE should be pressed to continue making these loan guarantees for perhaps another $30 to $40 billion in American projects. Doing so would not only fulfill the financial objective of the program but would have large positive impacts in non-financial ways discussed further bellow.

Non-Financial Objectives

This testimony will now turn the non-financial objectives of the DOE loan guarantee program.

Is the DOE loan guarantee program successful in its non-financial criteria (eg jobs, clean power generation, security)? Caithness Sheperds Flat received $1.3 billion in DEO 1705 loan guarantees to develop the world's largest to date wind farm here in the US. Clearly this project

generates US jobs, increases production of domestic clean energy, reduces US energy imports and strengthens US competitiveness.

Recovery Act investments helped finance:

- Agua Caliente - the world's largest photovoltaic solar plant
- Caithness Shepherds Flat in Oregon
- Diamond Green Diesel in New Orleans - a biodiesel project that will nearly triple the amount of domestically produced renewable diesel

These clean power generation projects will generate enough clean electricity to power over two and a half million homes, cutting oil imports, improving trade balance, expanding distributed domestic employment, and strengthening US corporate competitiveness in the very fast growing and internationally competitive clean energy markets.

Given that our principal trading competitors are providing heavy subsidies to their domestic clean energy industries, the DOE loan guarantee program is providing a significant and timely boost to US clean energy industry, helping slow loss of US strength in the critical and fast growing international clean energy markets. Clean energy has been targeted by our major international competitors (including China and Germany) as a critical and perhaps the critical future growth and export industry. For most US citizens, businesses and policy makers, whether the US wins or loses in this race matters because the outcome will have a large impact on future US employment and economic strength.

Positive Security Impact?

One of the objectives of the DOE loan guarantee program is to expand US clean energy manufacturing and generation capacity as a way to strengthen US security. Some have questioned whether this is valid, questioning the idea that clean energy (renewables and efficiency) are in fact beneficial to strengthening security. If this view is correct - that clean energy does not help US security - then the DOE clean energy loan guarantee programs should be considered a failure in meeting its security objective.

The view of the US military are relevant to an evaluation of whether or not the DOE loan guarantee objective of expanding domestic clean energy technology and power generation has a positive impact on security, including addressing the US military objective of limiting the costs and risks of climate change.

Secretary of the Navy Ray Mabus[1] put the question this way: "Why the interest in alternative energy? The answer is pretty straightforward: We buy too much fossil fuel from potentially or actually volatile places on earth. We buy our energy from people who may not be our friends. We would never let the countries that we buy energy from build our ships or our aircraft or our ground vehicles, but we give them a say on whether those ships sail, whether those aircraft fly, whether those ground vehicles operate because we buy their energy. There are great strategic reasons for moving away from fossil fuels. It's costly. Every time the cost of a barrel of oil goes

[1] National Clean Energy Summit 4.0 Las Vegas, NV August 30, 2011

up a dollar, it costs the United States Navy $31 million in extra fuel costs. But it's costly in more ways than just money. For every 50 convoys of gasoline we bring in, we lose a Marine. We lose a Marine, killed or wounded. That is too high a price to pay for fuel."

Due to a $21.3 billion annual energy bill and because the fragility of the "grid leaves DoD vulnerable to service disruptions and places continuity of critical missions at serious and growing risk,"[23] the US military has set ambitious targets to reduce energy use and develop renewable energy sources.

The Army and Navy both have net zero programs, aimed at reducing energy use on bases, with the Navy targeting 50 percent of its bases to have net zero energy consumption by 2020. The Army has identified six net zero pilot installations in each of the energy, water, and waste categories and two integrated installations striving towards net zero on all fronts by 2020.[4,5]

In its *Vision for Net Zero*, the Army states:

> "Today the Army faces significant threats to our energy and water supply requirements both home and abroad. Addressing energy security and sustainability is operationally necessary, financially prudent, and essential to mission accomplishment. The goal is to manage our installations not only on a net zero energy basis, but net zero water and waste as well. We are creating a culture that recognizes the value of sustainability measured not just in terms of financial benefits, but benefits to maintaining mission capability, quality of life, relationships with local communities, and the preservation."[6]

Energy is, in the words of Admiral Mullen, about "not just defense but security, not just survival but prosperity."[7] Our national defense infrastructure and systems hold the potential to "help to stem the tide of strategic security issues related to climate change"[8] while improving operational effectiveness.[9] As the largest energy consumer in the world, the United States Department of Defense (DoD) has realized the value and practicality of energy efficiency, officially codifying it as "a force multiplier"[10] in the 2010 Quadrennial Defense Review. Stated succinctly by Admiral Mike Mullen, Chairman of the Joint Chiefs of Staff, "Saving energy saves lives."[11]

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[2] Speech by Dorothy Robyn, Deputy Under Secretary of Defense for Installations and Environment Washington DC, ICF international office, 19 April 2012

[3] "Department of Defense Annual Energy Management Report Fiscal Year 2010" July 2011

[4] Westervelt, Amy, "Why the Military Hates Fossil Fuels" Forbes, February 2, 2012.

[5] http://www.forbes.com/sites/amywestervelt/2012/02/02/why-the-military-hates-fossil-fuels-and-you-should-too-part-one-inefficiency/

[6] http://army-energy.hqda.pentagon.mil/netzero/

[7] Energy Security Forum Speech as Delivered by Admiral Mike Mullen, chairman of the Joint Chiefs of Staff, Washington, D.C. Wednesday, October 13, 2010 http://www.jcs.mil/speech.aspx?id=1472

[8] Energy Security Forum Speech as Delivered by Admiral Mike Mullen, chairman of the Joint Chiefs of Staff, Washington, D.C. Wednesday, October 13, 2010 http://www.jcs.mil/speech.aspx?id=1472

[9] Energy Security Forum Speech as Delivered by Admiral Mike Mullen, chairman of the Joint Chiefs of Staff, Washington, D.C. Wednesday, October 13, 2010 http://www.jcs.mil/speech.aspx?id=1472

[10] United States Department of Defense " Quadrennial Defense Review Report" February 2010

[11] Energy Security Forum Speech as Delivered by Admiral Mike Mullen, chairman of the Joint Chiefs of Staff, Washington, D.C. Wednesday, October 13, 2010 http://www.jcs.mil/speech.aspx?id=1472

The US military view and commitment to expanding US strength and investment in renewable energy as a critical security objective is clear. If the military view on the relationship between clean energy and security is acknowledged as valid, then the DOE loan guarantee program objective of expanding US competiveness and production of renewable energy can also be reasonably viewed as successfully contributing to US security.

Many of America's governors also understand the security importance of clean energy generation. Yesterday Republican Governor of Iowa Terry Branstad wrote in the Wall Street Journal rebutting the anti-clean energy views of the Journal's editorial pages. Governor Branstad asserted that "The wind power industry is an American success story that is helping us build our manufacturing base, create jobs, lower energy costs and strengthen our energy security."

Both the wind and the solar photovoltaics innovation and industries were largely developed here in the United States. But our major competitors, including China and Germany, have through sustained federal domestic subsidies and purchases rapidly expanded the size and strength of their domestic wind and PV corporations. Today, of the top 10 global wind and PV manufacturers only one of each is located in the US. We should be shocked and deeply concerned about the security implications of the US losing its global competitive leadership position in these critical industries.

The reality is that there is a global hyper competitive race to see which counties will dominate clean energy. Abdication of US Federal support for US corporations and competitiveness in industries largely created here in the US would be a disaster for US competiveness and security and a big win for China. Politically, US politicians should be concerned about who gets blamed for losing the global clean energy race.

The DOE Loan guarantee programs has provided a modest but important lift to US clean energy investment and growth – both strengthening job creation and supporting the strength on US clean energy industries. But our main trading competitors, including China and Germany are out-investing us. Given the strategic and security importance of clean energy industries, weakening federal support for the US wind and PV and other clean energy industries undermines US competitiveness and security. If the US military is forced to import the technology it needs to achieve its mission of shifting to clean energy it will weaken US security. For security - and financial reasons - the DOE should use the 85% of its 1705 funds that is still unused and still available at the Treasury to fulfill the purpose of the funding, and backstop additional US clean energy companies and projects.

Positive Employment Impact?

An important non-financial benefit attributed to the DOE loan guarantee is that it creates jobs. As part of ARRA funding, the DOE 1705 loan guarantee program was specifically

intended to result in increased employment. Expansion of US manufacturing of clean energy and expansion of renewable energy projects supported by the DOE loan guarantee enables funding for new plant construction and development of large solar and other power generation projects. All of these are located in the United States.

There has been widespread questioning of the employment benefits of stimulus funding for clean energy like the 1705 program. Credible sources on this issue include the Council of Economic Advisors, the Congressional Budget Office, and the National Bureau of Economic Research. These organizations have evaluated the stimulus funding, including 1705 and come to the following conclusions:

A November 2010 report by the Council of Economic Advisors entitled "THE ECONOMIC IMPACT OF THE AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009" found that[12]:

- Following implementation of the ARRA, the trajectory of the economy changed significantly. Real GDP began to grow steadily starting in the third quarter of 2009 and private payroll employment increased on net by nearly 1 million from the start of 2010 to the end of the third quarter.

- The two established CEA methods of estimating the impact of the fiscal stimulus suggest that the ARRA has raised the level of GDP as of the third quarter of 2010, relative to what it otherwise would have been, by 2.7 percent. These estimates are very similar to those of a wide range of other analysts, including the non-partisan Congressional Budget Office.

- The CEA estimates that as of the third quarter of 2010, the ARRA has raised employment relative to what it otherwise would have been by between 2.7 and 3.7 million, consistent with the initial estimate that the ARRA would save or create 3.5 million jobs as of 2010:Q4.

In February 2011 the National Bureau of Economic Research issued a report entitled "Did the Stimulus Stimulate? Real Time Estimates of the Effects of the American Recovery and Reinvestment Act." The report summary noted that job impact varied considerably but that "Support programs for low income households and infrastructure spending are found to be highly expansionary. Estimates excluding education spending suggest fiscal policy multipliers of about 2.0 with per job cost of under $100,000." The report also found that "The stimulus had a positive, statistically significant effect on employment...aid to low-income people and infrastructure spending showed very positive impacts."[13]

The non-partisan US Congressional Budget Office issued a report in May 2011 entitled "Estimated Impact of the American Recovery and Reinvestment Act on Employment and Economic Output from January 2011 Through March 2011", (May 2011). In its report the

[12] http://www.whitehouse.gov/sites/default/files/cea_5th_arra_report.pdf
[13] http://www.nber.org/papers/w16759.pdf

Congressional Budget Office found that ARRA's policies had the following effects in the first quarter of calendar year 2011[14]:

- They raised real (inflation-adjusted) gross domestic product (GDP) by between 1.1 percent and 3.1 percent
- Lowered the unemployment rate by between 6 percentage points and 1.8 percentage points
- Increased the number of people employed by between 1.2 million and 3.3 million, and
- Increased the number of full-time-equivalent jobs by 1.6 million to 4.6 million compared with what would have occurred otherwise..."

These major non-partisan analyses all demonstrate that ARRA programs like the DOE 1705 loan guarantee program had large positive impact in slowing severe job loss, helping slow or reverse the economy's steep economic slide, increasing employment and in stimulating the economy.

The issue of timing of job creation for ARRA funding has created some confusion and some apparently deliberate misinformation. Employment occurs after investments are made, so assessment of employment impact before investments are made is neither relevant nor intellectually honest. For example an article on CNS is entitled "Obama Visits Corporation Where His Stimulus Created 'Green' Jobs at $2 Million Per Job"[15] The article later acknowledges this job creation cost estimates is based on only 150 interim jobs created as Johnson Controls builds its high performance battery plant for 3000 employees in Michigan. Based on actual plant employment of 3000, the cost per job created is $100,000 per direct job created, not $2 million per job, as widely reported. The cost effectiveness is actually better than this because the 3000 direct employees at Johnson's new plant will drive a lot of indirect employment (supplying the plant, servicing employees etc.) This kind of manipulation of data appears to be widespread and may be politically expedient but it is dishonest and insulting to US corporations like Johnson Controls who are investing in expanding the US economy. This kind of dishonest accounting also does a disservice to the need for a fair evaluation of the actual cost-effectiveness and impact of Federal loan support and similar funding.

Major banks have also generally become convinced that investments energy efficiency and green buildings are cost- effective and produce good US jobs. For example, Deutsche Bank Group in October 2011 released a report entitled "Repowering America: Creating Jobs." Deutsche Bank forecast energy supply and energy employment through 2030 based on projections of sustained US investment and growth in the areas of energy efficiency and clean energy. Deutsche Bank determined that such a strategy would result in 7.9 million cumulative net job-years of direct and indirect energy employment, of which 6.35 million jobs (80%) would come from energy efficiency or renewable energy sectors (e.g. geothermal, solar PV, solar thermal and wind).[16]

[14] http://www.cbo.gov/ftpdocs/121xx/doc12185/05-25-ARRA.pdf
[15] http://www.cnsnews.com/news/article/obama-visits-corporation-where-his-stimulus-created-green-jobs-2-million-job
[16] http://www.dbcca.com/dbcca/EN/_media/DB_Repowering_America_Creating_Jobs.pdf

Conclusion

In hindsight the DOE loan guarantee program made mistakes – it made several loans it should not have made and it probably did not make some loans it should have made. For some, the loan application process was too demanding and time consuming, while for others it was not demanding enough. But as any PE or VC investor knows, hindsight is always 20/20, whereas at the time of investment investors make their investments, knowing that some will fail, but hoping that most will succeed. The only valid measure of success is whether the financial objectives (eg target default rate) is met and whether other objectives – eg security and expanded US employment were strengthened are met too.

A review of loan portfolio indicates total defaults are likely to be in the range $400 - $800 million dollars, or about one quarter the amount projected and budgeted before. Based on a reasonable assessment of outstanding portfolio financial profile and risks, the DOE loan program can therefore rationally only be viewed as a big success. The DOE should therefore expand its loan guarantees. Given its effectiveness in leveraging private funding, the largest risk is that DOE slows its loan guarantee program.

Questions have been raised about whether 1705 objectives of increasing employment and strengthening security are valid.

Regarding employment impact, analyses from multiple non-partisan organizations, including the Council of Economic Advisors, the National Bureau of Economic Research, and the US Congressional Budget Office demonstrate large and positive employment impact from ARRA programs like 1705. If the reader believes that the Council of Economic Advisors, the National Bureau of Economic Research, and the US Congressional Budget Office and large banks are believable, then ARRA programs such as 1705 will be recognized as having substantial, positive employment benefits.

Regarding the relationship between US security and expanded US capabilities and production of clean energy, the US military, as discussed above is very clear that it believes in and is investing heavily in this thesis. If the reader believes that the US military is a credible source on security issues, then it is clear that the 1705 program strengthens US security.

The success of the 1705 program to date and the relatively large unused subsidy indicates that DOE should ramp up its loan guarantee efforts and provide loan guarantee support for roughly another $30 to $40 billion of clean energy projects. A Committee on Energy and Commerce Internal Memorandum (September 12, 2011) "Solyndra and The DOE Loan Guarantee Program," noted that "with the additional funding provided in the stimulus for the credit subsidy costs of these guarantees, the total estimated loan guarantee authority is approximately $70 billion." The DOE Loan guarantee program therefore has considerably more room in its 1705 DOE loan guarantee program to support additional US renewable and clean energy companies and projects.

The DOE 1705 loan guarantee program provides a modest but important lift to US clean energy investment and growth – both strengthening job creation and supporting the strength of US clean energy industries. But our main trading competitors, including China and Germany are out-

investing us. Given the strategic, security and employment importance of US clean energy industries, weakening federal support for the US wind and PV and other clean energy industries undermines US competitiveness and security. If the US military is forced to import the technology it needs to achieve its mission of shifting to clean energy it will weaken US security. For financial, security, employment and competitiveness reasons - the DOE should use the 85% of its funds unused and still available at the Treasury to backstop additional US clean energy companies and projects.

Given the clear success of its loan guarantee program to date based on rational measures of financial performance and on other measures including security, employment and US competitiveness, the largest risk is that DOE slows its loan guarantee program. Failing to make substantial additional loan guarantees to expand US strength in renewable and clean energy, strengthen US jobs, competiveness and security would be an irrational failure.

Mr. JORDAN. Thank you, Mr. Kats.
Mr. Witsoe.

STATEMENT OF CRAIG WITSOE

Mr. WITSOE. Mr. Chairman, members of the Subcommittee, my name is Craig Witsoe. Since November of last year I have been the CEO of Abound Solar, an emerging U.S. technology company that manufactures solar panels in Colorado. We have an R&D facility in Colorado, as well as a factory, and we also have a planned site in Indiana that would be our second U.S. factory.

Abound is very much an American story. Our company stemmed from advanced photovoltaic research started in the late 1980s at Colorado State University. Early funding came from the National Science Foundation, as well as the National Renewable Energy Lab.

In 2007, Abound was formed as a startup company to commercialize this very innovative research. Abound produces a thin-film Cadmium Telluride, or CadTel, solar panel, using proprietary advanced manufacturing processes known as closed space sublimation. This technology, invented by Abound, allows fabrication of all critical photovoltaic semiconductor layers into one continuous piece of equipment.

At scale, CadTel can be produced at lower cost per watt than the crystalline-silicon modules produced by many Chinese companies today. Abound is one of only three companies in the world to have significant CadTel experience. First Solar also uses CadTel and, actually, seven months ago General Electric announced that it would also use CadTel as its technology of choice for a new solar module factory in Colorado. And, of course, all three of these companies are American firms.

Crystalline-silicon are much older technology used by Chinese companies is what they are using to dominate our markets. Actually, crystalline-silicon was invented in America by Bell Labs in 1954. Now, fortunately, many believe that America can still win in the long run with new technologies like CadTel. In fact, within recent weeks, Abound, along with First Solar and GE, has been solicited to collaborate with the U.S. PV manufacturing consortium, SEMATECH and NREL, to help accelerate U.S. advancement of this critical technology for the future. This is not unlike SEMATECH's initiative started in 1987, which helped recapture the U.S. lead in semiconductor manufacturing.

Abound has attracted more than $300 million in private investment. In 2009, Abound also applied for additional funding to expand and upgrade our capacity through the 1705 DOE loan program. The DOE review lasted nearly two years, involved several technical and financial third-party consultants, and the loan was finalized in December 2010.

To date, Abound has drawn down about $70 million out of the potential $400 million loan. Funds were used to complete and start up two production lines in Colorado. With these funds, our company made significant progress, nearly doubling the efficiency of our panels from 45 watts per panel up to now 85 watts per panel today. Abound has not drawn down any additional funds under the

program since August of 2011 and does not plan to draw down any more funds.

Abound's technology and business made very solid progress until about the second half of last year, when module prices fell 50 percent as a result of unprecedented discounting by Chinese solar panel companies. Abound believes that, at scale, our CadTel modules can compete with any other global company. But with a reported $34 billion in subsidies behind Chinese module makers, it is very hard when the competition is a country and not just a company.

Extreme price actions by Chinese companies believed to be selling these solar panels below their cost has hurt many American solar manufacturing companies, including Abound. Instead of matching Chinese price levels, which would have caused us to sell our panels at a loss, Abound, in February of this year, made a very difficult decision, and that was to shut down our current generation module production in order to accelerate development of a next gen 85 watt module.

Now, while this very difficult action resulted in the temporary elimination of 180 full-time and 100 temporary jobs, we do believe that this very competitive next generation module can create even more jobs for America in the future.

Abound's technology progress has been made possible by $300 million of private investment and $70 million drawn down from the DOE loan. Today China dominates the global solar module market using low-cost labor, enormous government backing, and U.S.-invented crystalline-silicon technology. But while this American invention has turned into Chinese industry, we believe that the U.S. can still win in the future by developing and scaling newer technologies like CadTel. At scale, our solar panels can be built by American workers with good paying jobs, at lower cost per watt than competing crystalline Chinese panels made with low-cost labor in China.

Today technology startup companies come with significant risks. We know that. The recent aggressive price actions from Chinese companies do threaten to prevent innovative companies like Abound from achieving needed scale to win. Even with long-term superior technology, this dynamic has made the solar market very difficult for Abound and other module suppliers.

The technology advances we have made can be critical elements to the U.S. regaining a competitive position in the global market. As we work to launch our next generation of solar module with the use of private financing, we are determined to continue to advance this U.S. technology to help turn American inventions into American industry.

Thank you.

[Prepared statement of Mr. Witsoe follows:]

Statement of Craig Witsoe, CEO
Abound Solar, Inc.
Regarding the U. S. Department of Energy 1705 Loan Program
Before the Subcommittee on Regulatory Affairs,
Stimulus Oversight and Government Spending
House of Representatives Committee on Oversight and Government Reform
May 16, 2012

Mr. Chairman and Members of the Subcommittee

My name is Craig Witsoe. Since November 2011, I have been the CEO of Abound Solar, an emerging U.S. technology company that manufactures solar panels in Longmont, Colorado for customers in America and throughout the world. We have built research and development along with advanced manufacturing facilities in Colorado. Indiana is a planned expansion location for our second USA manufacturing facility. Abound only manufactures thin film solar modules. Abound is not a developer of solar generation projects.

Abound's solar modules are based on advanced photovoltaic research that began in the 1980s at Colorado State University (CSU) under the direction of Dr. W.S. Sampath. Support for the research came from two Department of Energy (DOE) programs, the *Inventions and Innovation Program* and the National Renewable Energy Laboratory's (NREL) *Thin Film Partnership Program*. In 2007, Abound was formed as a start-up company to commercialize and deploy the technology and products resulting from the innovative research.

The type of solar module which Abound produces is a subset of 'thin film' modules known as Cadmium Telluride, CdTe, or 'Cad-Tel.' This technology uses a single-junction monolithic thin-film structure with cadmium telluride as the absorption layer and cadmium sulfide as the window layer. CdTe has absorption properties that are highly matched to the solar spectrum, which is key in determining the efficiency of the product—the percent of sunlight that is absorbed for conversion to electricity. Abound uses a proprietary advanced manufacturing process and equipment, known as closed space sublimation. This technology, unique to Abound, allows fabrication of all of the critical photovoltaic (PV) semiconductor layers in one continuous piece of equipment. This equipment uses a hardware design developed by Abound, called a heated pocket deposition source, to generate thermal sublimation which deposits the PV thin films onto

the glass substrate. The company believes our innovative technology improves PV film quality, increases product yield, and lowers the manufacturing costs of PV solar modules.

From 2007 until 2010, Abound developed this innovative technology from a laboratory proof of concept stage into a larger scale application designed for broader global deployment. This involved taking what worked on a 10 millimeter square cell in controlled laboratory environment and making it work consistently in a full size two foot by four foot solar module exposed to severe weather conditions. As Abound pursued these challenges it continued to improve the manufacturing and process technology in order to efficiently produce lower cost modules for commercial applications. Abound's proximity to the solar expertise and testing facilities at NREL in Colorado has been essential to its continued technological progress and we believe helped NREL advance its own knowledge of CdTe technology. Abound constructed two manufacturing lines in its Longmont, Colorado facility to begin the advanced manufacturing of CdTe thin film PV modules.

There is significant technical and business evidence that CdTe can offer a superior solution for low-cost, utility scale PV solar power applications versus traditional crystalline-silicon modules which are produced by many Chinese suppliers today. Abound is one of only three companies in the world with significant CdTe manufacturing experience. First Solar, one of the largest global solar module manufacturers, is the second. General Electric, which could have chosen any technology for its own start-up solar module plant, publicly announced in October 2011 that CdTe is its technology of choice and is currently building up operations for future large scale manufacturing in Colorado.

'First generation' crystalline-silicon solar technology was invented in America, but today Chinese companies dominate the market. With good evidence that CdTe can be a long term winner in the next generation of solar module technology, it is notable that all three companies in the world with significant CdTe thin film PV module investments are American companies. While China has moved aggressively to dominate the production of first generation solar module technology, industry thought leaders, including experts at NREL, believe there is a significant opportunity for America to win in the long run with continued development of next generation

thin film technologies such as the CdTe produced by Abound. In fact, within recent weeks, Abound, along with First Solar and GE, has been solicited to collaborate with the U.S. Photovoltaic Manufacturing Consortium (PVMC) and NREL to help accelerate the United States' advancement of CdTe solar module technology to achieve even higher efficiencies and lower costs. This is not unlike the SEMATECH initiatives beginning in 1987 which helped recapture the U.S. lead in semiconductor manufacturing. Abound looks forward to working with PVMC leadership and its members.

DOE Loan Guarantee

In 2009, after making strong progress in developing the design and advanced manufacturing process for its first-generation CdTe product, Abound began commercial sales to U.S. and foreign customers. Although Abound was selling the first generation product to customers, the company still needed to upgrade its current production line and construct additional lines in order to keep pace with its continually improving solar module technology. Abound's business strategy, innovative technology edge, and proprietary advanced manufacturing process have attracted more than $300 million in private investment. Notwithstanding the significant private investment, Abound is a start-up company whose manufacturing technology requires significant capital investment. Existing sales could not fund expansion, nor was additional private investment available in sufficient quantities. Accordingly, with the release of a solicitation for proposals to the DOE 1703 loan guarantee program, Abound applied for DOE assistance in February 2009 in order to continue to raise the capital required to construct additional manufacturing capacity. Later in 2009, when the DOE released its 1705 program solicitation, Abound requested that its 1703 application be transferred and considered under the 1705 program.

The DOE reviewed Abound's request to participate in the loan guarantee program with a diligence process that lasted nearly two years. In addition to the technical and financial consultants retained by Abound to assist in completing the proposal, the DOE process required Abound to also pay for the expenses of certain external DOE consultants and lawyers who were assigned to review the Abound proposal. Provisional loan guarantee approval was granted in

July 2010 and, after further submissions and updates of information by Abound, the loan was closed in December 2010.

To date, Abound has drawn about $70 million, less than 18 percent of the total potential $400 million DOE loan, in the period from December 2010 through August 2011. Abound has not drawn any additional funds under the DOE loan program since August 2011. The DOE funds have been targeted at three types of costs:

(1) upgrading and completing the first production line in our Colorado facility,

(2) constructing the second production line in the Colorado facility, and

(3) production start-up costs.

The initial DOE funds have made possible the significant and continuing improvement of Abound's CdTe solar module. Abound scientists and engineers have been able to nearly double demonstrated efficiency of our commercial solar modules from 45 watts in 2009 to 85 watts in 2012. These performance levels have been verified by NREL. While Abound is still a small company, we believe that this continued significant progress towards a more cost-effective, efficient, and reliable solar panel demonstrates that Abound can be a winner in next-generation, commercial-scale solar modules.

Abound's business plan also contemplated constructing a third production line in the Longmont, Colorado facility as well as eight production lines in our future planned Indiana manufacturing facility. Because of severe market pricing conditions as well as the opportunity stemming from our recent demonstration of new higher efficiency module, Abound has delayed moving forward with construction of the third line in the Longmont Colorado facility, and any lines in the Tipton Indiana facility. As a result, Abound has not drawn any additional funds under the DOE loan program since August 2011.

Solar Panel Market Pricing

Abound's production process, engineering capabilities, and manufacturing technology continue to develop along with our improved CdTe thin film modules. Until approximately the third quarter of 2011, our worldwide sales efforts made strong progress as well. Unfortunately, in the

second half of 2011, average selling prices plummeted in the solar module market as a result of unprecedented discounting by Chinese solar panel companies. Abound believes that our CdTe modules can compete in the long term with any other module manufacturer on cost and efficiency provided that all parties are playing on an even playing field.

It is widely known that China has significant capacity to manufacture solar modules. However, until recently, few industry experts predicted that China would leverage this capacity so aggressively by deeply discounting and subsidizing the cost of their products for such a long continuous period of time.

Extreme price actions by Chinese companies believed to be selling solar panels below cost (or 'dumping') has had a harmful effect on many American solar manufacturing companies, including Abound. Instead of matching Chinese price levels and selling panels at a loss, Abound, in February 2012, made the difficult decision to shut down our current generation module production, to accelerate development of our next generation 85 watt thin film module. This 85 watt module is expected to achieve a lower cost per watt and can command a higher price per watt due to competitive gains in efficiency.

While this difficult action resulted in the elimination of 180 full time and 100 temporary jobs, we believe that accelerating development of our next generation CdTe module can provide the opportunity for Abound to create even more jobs in the future. While we continue to develop our next generation 85 watt module, Abound is seeking private financing and has no current plans to draw down further funds from the DOE 1705 loan guarantee program.

Conclusion

Abound is one of three companies, each a U.S. firm, which has significant knowledge and experience in CdTe thin film solar module manufacturing. $300 million of private investment and $70 million from the DOE loan guarantee program have made this possible.

In traditional crystalline-silicon solar modules, we have witnessed U.S. inventions become the basis for a thriving Chinese industry. But, while China does currently dominate the global solar

module market (aided greatly by significant investments by the Chinese government) using our U.S.-invented crystalline-silicon technology, there is solid technical and business evidence that the U.S. can win in the long run with superior next generation technologies such as Abound's CdTe thin film manufacturing processes.

At scale, we believe that Abound's thin film solar modules can be built by American workers with good paying jobs, at lower cost per watt than competing crystalline-silicon solar modules made with low-cost labor in China. Technology start-up companies come with significant risks, and the recent aggressive price actions from Chinese companies have made the solar market very difficult for all module suppliers. But while China fights aggressively with low cost labor and enormous government backing to control the future of this industry, we believe that the U.S. can and should win by using our superior innovation and technology capabilities.

Abound continues to responsibly and transparently work to accelerate availability of our next-generation CdTe thin film technology and to create the best possible outcome given current challenging market conditions. Those best possible outcomes and return to production with our higher efficiency thin film solar module rely on recurring, in-depth communications with the DOE and our current and prospective investors. The Abound team remains committed to our role in helping U.S. energy independence, growing American manufacturing jobs, and cost-effectively meeting the needs of our customers.

This technology of advanced second generation solar modules which Abound is able to produce today has been developed and manufacturing made feasible by private investors and DOE. Significant technology advances have been made through Abound's participation in DOE programs. As we work to launch our next generation thin film solar module with use of private financing, we are determined to advance this critical U.S. technology so that we and others can turn American inventions into American industry.

Mr. JORDAN. Thank you, Mr. Witsoe.
Mr. Fairbank.

STATEMENT OF BRIAN D FAIRBANK

Mr. FAIRBANK. Good morning, Mr. Chairman and members of the Subcommittee. It is my pleasure to appear today as a representative of Nevada Geothermal Power and the Blue Mountain Facility, and to speak with you about the many good things occurring at Blue Mountain both in terms of what is occurring at the power plant and also in the Winnemucca, Nevada region and beyond. These positive things are a result of the hard work of Nevada Geothermal Power and the Blue Mountain employees, the support of civic leaders and ordinary Nevadans, the dedication of trusted lenders, and, of course, the assistance of the Department of Energy Section 1705 Loan Guarantee Program.

By way of introduction, I am the President and CEO of Nevada Geothermal Power, Inc., which is the ultimate corporate owner of the Blue Mountain Faulkner 1 geothermal power facility. I am a geological engineer by training, with over 30 years of geothermal engineering exploration and assessment experience. I am the past President of the Canadian Geothermal Energy Association and currently serve on the board of the Geothermal Resources Council based in California.

My geothermal experience has taken me around the world and has included, by way of example, participation in the discovery of Canada's Meager Creek geothermal area in the late 1970s; geothermal resource exploration and evaluations throughout North America and Central and South America; participation in the development of a national power plan for Kenya and consultation on their geothermal plants; and extensive geothermal experience throughout the Basin and Range geologic province of Nevada.

Before delving into the specifics of the Blue Mountain facility, I think it worthwhile to briefly describe the nature of geothermal power and why we are so optimistic about its future as a clean, reliable source of energy in the United States.

Geothermal power is a unique source of renewable natural energy that is a product of heat generated by and stored in the earth. The earth's core is continually producing enormous amounts of heat, primarily by means of decay of radioactive materials, and secondarily by energy left over from the earth's formation.

Heat generated in the earth's core is conducted upward in the crust. Under certain geological conditions, such as the emplacement of shallow magma chambers around young volcanoes or thinning of the crust in rift belts, such as occurs in Nevada, rock and water and the earth's shallow crust is sometimes heated to a very high temperature. Surface manifestations of the underlying geothermal energy range from shallow hot groundwater, hot springs, or fumaroles.

We are all familiar with some of the famous examples of geothermal energy in action, such as volcanoes, Mount St. Helens comes to mind; the Old Faithful geyser in Yellowstone National Park; and other hot springs areas.

Advances in technology now allow us to harness the heat stored in the rock and water, and convert it to electrical power that can

be used to power our cities and industries without any of the pollution or negative side effects caused by other sources of energy. This is not a simple task, but one that we are committed to.

Geothermal power plants are base load, operating nonstop 365 days a year at around 95 percent availability. Other sources of natural energy, such as wind power, solar power, and hydroelectric power, all operate at lower capacities. And because geothermal plants require no fuel to operate, they are unaffected by fluctuations in prices, produce minimal harmful emissions, and have a very small surface footprint. Geothermal energy is, thus, a natural, clean, renewable, and efficient source of power, the potential of which we have only just begun to tap.

NGP's team consists of outstanding dedicated individuals who are true experts in their respective fields. Our technical leaders have over a century of combined experience in energy and in the geothermal energy communities, and are universally respected for their expertise and commitment.

Relating to this morning's project focus and the DOE loan guarantee, NGP Blue Mountain ILLC is the registered owner of four Federal geothermal leases covering eight sections of land and additional private geothermal leases covering nine sections of land, for a total of 17 square miles. Our leases include both the geothermal production rights and surface rights necessary for the power plant and well field activities. The leases are situated with no competing geothermal leases in the area and no known environmental or other impediments to current or future drilling and plant operations.

The Blue Mountain geothermal resource represents the first new discovery of a geothermal site in the Western United States in 20 years. Today Blue Mountain is one of the largest binary cycle geothermal plants in Nevada. The Blue Mountain project was helped by the DOE Loan Guarantee Program, which backs a loan by John Hancock. The facility's operating capacity is sufficient to service the Hancock loan through its remaining term. No taxpayer dollars have gone toward servicing the Hancock loan.

But our strategic plans for Blue Mountain are more ambitious than merely producing power to meet our loan commitments. We continue to work actively with independent engineers to understand and utilize the geothermal resource at Blue Mountain. We remain bullish on the future geothermal resource potential and are working on a plan to construct new northern injection wells and one new production well to achieve a targeted 52 megawatts on a gross basis, or 41 megawatts net to the grid.

These growth plans are possible only because of the solid foundation that has been put in place by the hard work of Nevada Geothermal Power employees and the financial support of our lenders and, of course, the loan guarantee put in place by DOE.

Thank you for the opportunity to speak with you today about NGP's Blue Mountain prospect. I am enormously proud of our accomplishments at the Blue Mountain geothermal site and look forward to many years of clean energy production at this facility.

I would be happy to answer any questions the members of the Subcommittee might have.

[Prepared statement of Mr. Fairbank follows:]

STATEMENT OF BRIAN D. FAIRBANK

President & CEO, Nevada Geothermal Power, Inc.

Before the Subcommittee on Regulatory Affairs, Stimulus Oversight and Government Spending of the House Committee on Oversight and Government Reform,

United States House of Representatives

Hearing On:

The Department of Energy Section 1705 Loan Guaranty Program

PRESENTED ON MAY 16, 2012

STATEMENT OF BRIAN D. FAIRBANK

Nevada Geothermal Power Inc.'s Blue Mountain Geothermal Power Facility

May 16, 2002

Good morning Mr. Chairman and Members of the Subcommittee. It is my pleasure to appear today as a representative of Nevada Geothermal Power, Inc. and the Blue Mountain Facility and to speak with you about the many good things occurring at the Blue Mountain Facility, both in terms of what is occurring at the power plant and also in the Winnemucca, Nevada region and beyond. These positive things are a result of the hard work of Nevada Geothermal Power and Blue Mountain employees, the support of civic leaders and ordinary Nevadans, the dedication of trusted lenders, and, of course, the assistance of the Department of Energy's Section 1705 loan guarantee program.

By way of introduction, I am the President and CEO of Nevada Geothermal Power, Inc. (or "NGP"), which is the ultimate corporate owner of the Blue Mountain "Faulkner 1" geothermal power facility ("Blue Mountain" or the "Facility"). I am a geological engineer by training and have over 30 years of geothermal engineering, exploration, and assessment experience. I am a Past President of the Canadian Geothermal Energy Association and currently serve on the Geothermal Resources Council Board of Directors. My geothermal experience has taken me around the world and has included, by way of example, participation in the discovery of Canada's Meager Creek Geothermal Area in the late seventies, geothermal resource exploration and evaluation throughout North, Central, and South America, participation in the development of a national power plan and consultation on geothermal plants in Kenya, and extensive geothermal experience throughout the "Basin and Range" geologic province Nevada.

About Geothermal Power

Before delving into the specifics of the Blue Mountain facility, I think it worthwhile to describe briefly the nature of geothermal power, and why we are so optimistic about its future as a clean, reliable source of energy in the United States.

Geothermal power is a unique source of renewable natural energy that is the product of heat generated by and stored in the earth. The earth's core is continually producing enormous amounts of heat primarily by means of decay of radioactive materials and secondarily by energy left over from the earth's formation. Heat generated in the earth's core is conducted upward in the earth's crust. Under certain geological conditions such as the emplacement of shallow magma chambers around young volcanoes or thinning of the crust in rift belts (such as occurs in Nevada), rock and water in the earth's shallow crust is sometimes heated to very high temperatures. Surface manifestations of underlying geothermal energy range from shallow hot ground water, hot springs or fumeroles. We are all familiar with some of the famous examples of geothermal energy in action such as volcanoes, the Old Faithful geyser in Yellowstone National Park, and hot springs.

Advances in technology now allow us to harness the heat stored in the rock and water and convert it to electrical power that can be used to power our cities and industries without any of the pollution or other negative side effects caused by other sources of energy. This is not a simple task but it is one we are committed to.

The first obstacle is locating a suitable geothermal system that will support electrical production. Geothermal systems must consist generally of a heat source, a reservoir, and a fluid, which is the carrier that transfers the heat. The reservoir is not usually an empty space in the earth's crust that fills with water but rather a volume of hot permeable rock through which the

fluid circulates and is heated. The geothermal fluid is made up mostly of rain and ground water. The fluid exists in either a liquid or vapor phase depending on the temperature and pressure in the reservoir. Once a suitable geothermal system is located, delineation and test wells must be drilled anywhere between 2000 to 8000 feet below the earth's surface to reach reservoirs of heated water in permeable rock formations.

Research is being undertaken to determine the feasibility of Engineered Geothermal Systems ("EGS") whereby deep wells are drilled into bodies of hot, compact rock and factures created artificially. Water is introduced from the surface to permeate the artificial fractures and a reservoir is created from which the heated water can be extracted. Tremendous amounts of energy may be available for future generations through the deployment of EGS technology.

Whether from a natural reservoir or one created through artificial fracturing, the heated fluid is then brought to the surface where it is used to heat a secondary fluid that has a lower boiling point. As this secondary fluid is heated, it flashes to vapor which is used to drive the turbines that generate electricity. The cooled or spent geothermal fluid is subsequently re-injected through a separate "injection well" back to the underground reservoir to recharge the reservoir. The secondary working fluid is condensed back to liquid form and used again in the energy production to be reheated and vaporized in a continuous closed-looped process.

Geothermal power plants are baseload, operating non-stop 365 days a year at around 95% availability. Other sources of natural energy such as wind power, solar power, or hydroelectric power operate at much lower capacities. And because geothermal plants require no fuel to operate, they are unaffected by fluctuations in fuel prices, produce minimal harmful emissions, and have a very small surface footprint. Geothermal energy is thus a natural, clean, renewable, and efficient source of power, the potential of which we have only just begun to tap.

About Nevada Geothermal Power

Nevada Geothermal Power is an experienced renewable energy developer that focuses on producing clean, efficient and sustainable geothermal electric power from high temperature geothermal resources in the United States. NGP's team consists of outstanding, dedicated individuals who are true experts in their fields. Our technical leaders have over a century of combined experience in the energy and geothermal energy communities and are universally respected for their expertise and commitment.

Blue Mountain was the first geothermal plant which NGP developed, constructed, and put into service. The Facility is situated on a 17 square mile property in Humboldt County, Nevada, 20 miles outside the town of Winnemucca at the western base of Blue Mountain in the southwest part of Desert Valley. The project company, NGP Blue Mountain I LLC is the registered owner of four federal geothermal leases covering eight sections of land and additional private geothermal leases covering nine sections of land. Our leases include both the geothermal production rights and the surface rights necessary for the power plant and well field facilities. The leases are situated with no competing geothermal leases in the area and no known environmental or other impediments to current and future drilling operations.

The Blue Mountain geothermal resource is the first new geothermal discovery in the Western United States in the past twenty years. Today Blue Mountain is one of the largest binary cycle geothermal power plants in Nevada. The Blue Mountain project was helped by the DOE loan guarantee program, which backs a loan by John Hancock. The Facility's operating capacity is sufficient to service the John Hancock loan through its remaining term. No taxpayer dollars have gone towards servicing the John Hancock loan.

But our strategic plans for Blue Mountain are more ambitious than merely producing power to meet our loan covenants. We continue to work actively with independent engineers to understand and utilize the geothermal resource at Blue Mountain. We remain bullish on the future geothermal resource potential at Blue Mountain and are working on a plan to build two new northern injection wells and one new production well to achieve a targeted 52 MW (gross) output, 41 MW (net). These growth plans are possible only because the solid foundation that has been put in place by the hard work of NGP employees, the financial support of our lenders, and the loan guarantee put in place by DOE.

Conclusion

Thank you again for the opportunity to speak with you today about NGP's Blue Mountain project. I am enormously proud of our accomplishments at the Blue Mountain geothermal site and look forward to many years of clean energy production at the Facility. I would be happy to answer any questions the Members of the Subcommittee might have.

Mr. JORDAN. Great. Thank you, Mr. Fairbank.
Mr. Ahearn.

STATEMENT OF MICHAEL J. AHEARN

Mr. AHEARN. Chairman Jordan and members of the Committee, my name is Mike Ahearn. I am the Chairman of the Board of First Solar. Thank you for the opportunity to appear before the Committee today to offer my perspective on the Department of Energy's Loan Guarantee Program.

First Solar is the lowest cost solar module manufacturer in the industry, one of the largest solar module manufacturers in the world, and the global leader in developing and constructing utility-scale photovoltaic power plants. We have produced 6 gigawatts of solar modules, representing an estimated $15 billion or more solar power installations. We are headquartered in Tempe, Arizona, and our global R&D and U.S. manufacturing centers are located in Perrysburg, Ohio.

In addition to our 1,800 associates in the U.S., our manufacturing and project development activities support more than 7,000 additional U.S. supply chain and construction jobs. Last year alone we spent more than $1 billion with U.S. suppliers in 35 States for everything from glass to steel components. We trade on the NASDAQ and we are currently the only renewable energy company listed in the S&P 500.

First Solar's success reflects over two decades of entrepreneurial struggle, innovation, and effective public-private partnership. Our core thin-film semiconductor process technology was developed in the early 1990s in partnership with the National Renewable Energy Laboratory. In 1999 we formed First Solar and committed venture capital funding to commercialize the technology. A project we thought would require two years and $40 million ended up requiring six years and over $100 million of venture capital, as we encountered and eventually solved a number of problems typical of startup technology companies.

After solving the core commercial problems, we grew exponentially. Between 2005 and 2009, aided by generous market subsidies in Europe and technical assistance from NREL, Sandia National Laboratory, and Brookhaven National Laboratory, we scaled our annual production volume fiftyfold, from 20 to over 1100 megawatts; expanded our workforce tenfold, from 200 to over 2,000 associates; reduced our manufacturing costs by nearly 70 percent; and established ourselves as the global industry leader.

In 2008 we decided to expand beyond manufacturing and selling solar modules to become the first company to engineer and construct large PV power plants for the utility market. Photovoltaics to that point had been largely relegated to smaller distributed generation systems and were generally considered too costly to compete with wind and geothermal power. To meet the cost and performance requirements of utilities, we vertically integrated our business into the design, engineering, and construction of solar power plants, and, in parallel, we implemented a number of R&D programs and initiatives to reduce costs, improve plant reliability, and effectively integrate large solar plants onto the grid.

With now over 2 gigawatts of power plants completed or under construction, we have demonstrated our ability to meet the exacting standards of the utility industry. Our advanced technology, innovative system designs, and economies of scale have enabled steep cost reductions and accelerated construction cycles. Our plant monitoring and control capabilities have validated the reliability and grid compatibility of our power plants.

By consistently delivering on our promises, we have earned the business of some of the most respected companies in the electric utility industry, including APS, Exelon, GE, NextEra, NRG, PG&E, Sempra, Southern California Edison, Southern Company, and MidAmerican. These accomplishments have enabled us to launch a major initiative to expand to new markets across the globe without the need for expensive solar subsidies.

Our success story came close to ending in early failure. The financial sector meltdown and economic downturn in 2009 jeopardized the entire market for renewable energy, including First Solar's efforts to enter the utility market. The timely and effective intervention by Congress through the American Recovery and Reinvestment Act, by the Treasury Department through the Section 1603 Program, and by the DOE through the Loan Guarantee Program helped to ensure near term liquidity in the project finance market and fostered the develop of more robust private project finance markets. These initiatives acted as both an interim lifeline and a bridge to the future, and for that we are sincerely grateful.

In recent months, the European solar subsidies that historically supported the industry have declined sharply, impacting First Solar and the rest of the industry. However, largely because of our successful expansion into the utility market, we remain financially strong and well positioned to execute through the current market environment.

I am aware that questions have arisen regarding the DOE's Loan Guarantee Program, including questions about First Solar's applications. First Solar worked diligently and transparently with the DOE to ensure that sound results were achieved for each of these projects.

I would like to thank the Committee again for the opportunity today, and I welcome the chance to answer your questions.

[Prepared statement of Mr. Ahearn follows:]

WRITTEN TESTIMONY OF MICHAEL AHEARN, CHAIRMAN OF FIRST SOLAR, BEFORE THE HOUSE SUB-COMMITTEE ON REGULATORY AFFAIRS, STIMULUS OVERSIGHT AND GOVERNMENT SPENDING

U.S. HOUSE

MAY 16, 2012

Chairman Jordan and members of the committee, my name is Mike Ahearn, and I am the Chairman of the Board of First Solar. Thank you for the opportunity to appear before the Committee today to offer my perspective on the U.S. Department of Energy's Loan Guarantee Program.

First Solar is the lowest-cost solar module manufacturer in the industry, among the largest solar module manufacturers in the world, and the global leader in developing and constructing utility-scale photovoltaic power plants. To date, we have produced 6 gigawatts (6,000 megawatts) of solar modules, which is enough to power about three million homes and represents an estimated $15 billion or more of solar power installations. We are headquartered in Tempe, Arizona and our global R&D and U.S. manufacturing centers are located in Perrysburg, Ohio. In addition to our 1,800 associates in the U.S., our manufacturing and project development activities support more than 7,000 additional U.S. supply chain and construction jobs. Last year, we spent more than $1 billion with U.S. suppliers in 35 states for everything from glass to machine tools to fabricated components. We trade on the NASDAQ and are the only renewable energy company currently included in the S&P 500 index.

First Solar's success reflects over two decades of entrepreneurial struggle, innovation and effective public-private partnership. Our core process technology – an advanced thin film semiconductor process for making low-cost solar modules – was developed in the early 1990s by a group of scientists and engineers working in partnership with the National Renewable Energy Laboratory. In 1999, we formed First Solar and committed venture capital funding to commercialize the manufacturing process. A project that we thought would require two years

and $40 million ended up requiring six years and over $100 million as we encountered and eventually solved a number of problems typical of start-up technology companies.

Once we solved the core commercialization problems, we were able to grow exponentially. Between 2005 and 2009, aided by generous market subsidies in Europe and technical assistance from NREL, Sandia National Laboratory and Brookhaven National Laboratory, we scaled our annual manufacturing production volume 50-fold, from 20 megawatts to over 1,100 megawatts, expanded our workforce 10-fold, from 200 to over 2,000 associates, reduced our manufacturing costs by nearly 70% from 2004 levels and established ourselves as a global industry leader.

In 2008, we took on another major challenge by deciding to expand beyond manufacturing and selling solar modules to become the first company to design, engineer and construct large photovoltaic power plants for the utility market. The California Renewable Portfolio Standard – requiring regulated utilities to generate 20% of their total electricity generation from renewable sources – represented a potentially large market. However, photovoltaics to that point had been largely relegated to smaller distributed generation systems and were considered by utilities and regulators to be too costly to compete with wind and geothermal power. To meet the cost and performance requirements of utilities and grid operators, we vertically integrated our business into the development, design, engineering, construction and operation of solar power plants. In parallel, we implemented a number of R&D programs and initiatives to reduce costs, improve plant reliability and effectively integrate large solar plants onto the grid.

With now over 2 GW (2,000 MW) of First Solar power plants constructed or under construction, we have demonstrated our ability to design, engineer and construct large-scale solar power plants to the exacting standards of the utility industry. Our advanced technology, innovative system designs and economies of scale have enabled us to dramatically reduce costs and accelerate construction cycles. Our plant monitoring and control capabilities have validated that the reliability and grid compatibility of our power plants measure up to the high standards of the utility industry. By consistently delivering on our promises and standing behind our commitments, we have earned the trust and business of some of the most respected companies in the electric utility and energy industry, including APS, Exelon, GE, NextEra, NRG Energy,

PG&E, Sempra Energy, Southern California Edison, The Southern Company and most recently Mid-American Energy. These accomplishments are now allowing us to launch a major new initiative to expand to new markets across the globe without the need for expensive solar subsidies.

But our success story came close to ending in early failure. The financial sector meltdown and economic downturn in 2009 jeopardized the entire marketplace for renewable energy, including First Solar's efforts to enter the domestic utility market. The timely and effective intervention by Congress through the American Recovery and Reinvestment Act, by the Treasury Department through the Section 1603 program, and by the DOE through the loan guaranty program helped to assure near-term liquidity in the project finance market and foster the development of more robust private capital markets to finance large, utility-scale projects. These initiatives acted as both an interim lifeline and a bridge to the future, and for that we are sincerely grateful.

In recent months, the European solar subsidies that historically supported the industry have declined sharply, impacting First Solar and the rest of the industry. However, largely because of our successful expansion into the utility market, First Solar remains financially strong and well-positioned to execute through the current market environment, and to maintain American leadership in this key industry of the future.

I am aware that questions have arisen regarding the DOE's loan guaranty program, including questions regarding First Solar's applications raised in the Committee's report dated March 20, 2012. First Solar worked diligently and transparently with the Loan Program Office and its legal, financial, and technical advisors to assure that sound results were achieved for each of the projects. I would like to thank the Committee for the opportunity to discuss our experience with the loan program, and I welcome the opportunity to answer your questions.

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Mr. JORDAN. Thank you, Mr. Ahearn.
Mr. WOOLARD. Last one. Go right ahead.

STATEMENT OF JOHN M. WOOLARD

Mr. WOOLARD. Good morning, Mr. Chairman, Mr. Ranking Member, and members of the Subcommittee. My name is John Woolard. I am President and CEO of BrightSource Energy. I have two decades of experience in the energy and environmental sectors as an executive, an entrepreneur, and an investor.

BrightSource designs, develops, and deploys large-scale concentrating solar thermal technology to produce high-value steam for electric power, petroleum, and industrial-process markets worldwide.

Our technology is very different from solar photovoltaic, or PV energy, the kind you typically find on rooftops. Our projects, thousands of mirrors, called heliostats, continuously track the sun through the day and we focus light onto a solar receiver which sits on top of a tower. We generate power similar to traditional power plants like coal or natural gas by creating high temperature steam to turn a turbine to generate electricity. Our technology has been tested and proven in the field to the satisfaction of several independent engineering firms at two smaller scaled facilities.

Our partners and investors include some of the world's best known companies. Our investors include private equity firms, strategic investors such as Chevron, BP, Alstom, and Google and NRG as project investors. We now employ more than 400 people in our Oakland and worldwide offices, and we have one of the largest portfolios in the United States of signed utility-scale power purchase agreements.

First, I am pleased to report on the Ivanpah project, with construction management by Bechtel, that is on schedule and within budget, and we expect to deliver power to the grid by early next year. Ivanpah will generate and sell power to Pacific Gas & Electric and Southern California Edison under 3 of 13 power purchase agreements that we have signed with those two large utilities. In total, the Ivanpah project will cost about $2.2 billion to build, and at 392 megawatts will produce enough power for 140,000 homes each year.

We procure from a supply chain that stretches across 17 States. The majority of the materials used to build the project are procured domestically and we estimate that approximately 70 percent of the project's value will be captured in the United States.

The project is creating 1400 construction jobs at peak. The project will generate $250 million in earnings for these construction workers and, over its 30 year life, will produce $650 million in earnings for workers on the site, including the 90 permanent jobs required to operate the plant.

In addition to the supply chain, investment, and labor wages created, the project will also generate $350 million in State and local tax revenues over its lifetime.

Large energy infrastructure projects typically use project finance to provide the funds that they need for construction. Consistent with this model, the Ivanpah project company is jointly owned by NRG, Google, and BrightSource. These equity investors have collec-

tively committed $598 million to the project company. Under the DOE guaranteed loan, the project company is the borrower and has contracts with the two largest investor and utilities in California to sell all of the project's power at a fixed price for 20 or 25 years. These future cash payments back the loan repayment.

BrightSource first applied to pre-qualify for a DOE loan guarantee in December of 2006, proposing to use a project finance structure. In April 2011, four and a half years after we first applied, our loan guarantee transaction closed. During that period, BrightSource funded well over $2 million of independent review by world-class engineering, finance, and legal firms selected by and operating on behalf of the DOE.

The loan guarantee program served an important role in the market, allowing our technology and project to achieve meaningful scale, to drive down cost, validate our technology, and enable a new industry to succeed, in short, creating the necessary conditions to allow commercial financing. Going forward, we expect to finance all of our future projects commercially.

At BrightSource, we are proud of our company and we are proud of the Ivanpah project. I appreciate the opportunity to address the Subcommittee and welcome any questions you may have. Thank you.

[Prepared statement of Mr. Woolard follows:]

WRITTEN TESTIMONY OF
JOHN M. WOOLARD,
PRESIDENT AND CEO, BRIGHTSOURCE ENERGY

Before the House Committee on Oversight and Government Reform
Subcommittee on Regulatory Affairs,
Stimulus Oversight and Government Spending
May 16, 2012

Introduction

Good morning, Mr. Chairman, Mr. Ranking Member and Members of the Subcommittee. My name is John Woolard, and I am President and CEO of BrightSource Energy, Inc. In this role, I bring two decades of experience in the energy and environmental sectors as an executive, entrepreneur and investor. Prior to joining BrightSource Energy, I co-founded Silicon Energy and served as its President, Chief Executive Officer and Chairman of the Board from 1997 to 2003. I joined the executive team at Itron, Inc. in 2003 following its acquisition of Silicon Energy. In 2006, I joined the newly-formed BrightSource Energy. BrightSource Energy, which is based in Oakland, CA, designs, develops and deploys large-scale concentrating solar thermal technology to produce high-value steam for electric power, petroleum and industrial-process markets worldwide. Our technology is uniquely qualified to provide our customers with reliable, cost-effective and clean energy. I consider large-scale solar thermal power to be a keystone of our nation's future energy supply.

Our technology is different from photovoltaic (PV) energy – the kind you typically find on rooftops. We generate power similar to traditional power plants – by creating high temperature steam to turn a turbine. However, instead of using fossil fuels or nuclear power to create that steam, BrightSource uses the sun's energy. We believe that our technology is producing the world's highest temperature and pressure steam from solar energy. Our technology has been tested and proven in the field at two facilities, in our Research & Development facility and at a project that we built for Chevron. These facilities have been closely examined, tested and validated by several independent engineering firms, including Parsons and RW Beck.

We have partnered with several of the world's leading energy companies, which has been a key to our success. These partnerships result from several factors, including our proven engineering experience; the ability of our technology to provide the quality of power the grid needs and its operators are familiar with, rather than leaning on the grid for support; and our technology's ability to work well with our existing energy system, including its fossil fuel components. The facility that we built for Chevron is one good example: Chevron is using our solar thermal technology to produce the steam it needs for enhanced oil recovery in California's Central Valley. Chevron's Coalinga field began operations in the 1890s, and is one of America's oldest oil fields. Because the heavy crude produced at the field does not flow readily, steam is injected into heavy-oil reservoirs to loosen the crude, making it possible to pump the crude to the surface. We also have close working relationships with such companies as NRG Energy, one of the country's leading producers of power, and Bechtel, one of the world's leading designers and builders of power plants of all types. These relationships help us to continue to advance our technology and drive costs down.

Chevron is also an investor in our company, along with other world-class companies ranging from Morgan Stanley, Goldman Sachs, and top venture capital and private equity firms, to strategic investors such as BP and Alstom.

We employ more than 400 people in our Oakland and worldwide offices. Since our founding in 2006, we have executed 13 long-term power purchase agreements (PPAs) with two of the largest electric utilities in the United States, Pacific Gas and Electric Company (PG&E) and Southern California Edison (SCE), to deliver approximately 2.4 GW of installed capacity by 2017. We believe that these PPAs are the largest solar contracts in the world, and represent one of the largest utility-scale solar pipelines in the United States.

The loan guarantee program was an important part of moving our innovative technology beyond pilot and demonstration scale to utility scale. It's this scale that allows us to drive down future costs. As we look forward to constructing the additional projects in our pipeline, and having established operational experience, we will look to private debt markets for financing.

Before talking further about our experience with the loan guarantee program, I'd like to provide an update on Ivanpah.

Ivanpah Project Overview

I'd like to briefly explain how our technology works. At the heart of each power plant is a turbine, which is driven by steam to make electricity, just like the turbines used in coal, natural gas or nuclear power plants. With our technology, the heat source is the sun, instead of fossil fuel or nuclear fission. At our solar thermal plants, thousands of mirrors, called "heliostats," continuously track the sun throughout the day, and focus light on to a solar receiver. At the top of the tower is a boiler, much like at a coal or natural gas power plant, where water is heated to make the steam that drives the turbine. The power generated from the turbine has the same qualities as power from conventional power plants, and is much easier to integrate into the grid.

In 2007 we commenced the permitting and financing of our Ivanpah Solar Electric Generating System, located in California's Mojave Desert. The purpose of the Ivanpah project is to generate power to sell to PG&E and SCE under three of the power purchase agreements that we signed with those two utilities. In total, the Ivanpah project will cost about $2.2 billion to build and, at 392 megawatts, will produce enough power for 140,000 homes. The Ivanpah project is already providing substantial economic benefits not just to California and the region, but to the nation, as our plants depend on the traditional supplies needed for conventional power plants as well as commercial mirrors and equipment needed to provide its solar "fuel". In fact, we procure from a supply chain that stretches across 17 states. The majority of the materials are procured domestically and we estimate that approximately 70 percent of the project's value will be captured in the United States.

After receiving our permits from the State of California and the Department of Interior, we initiated construction of Ivanpah in October 2010. Bechtel serves as the engineering, procurement and construction (EPC) contractor.

Ivanpah Project Benefits

The Ivanpah project is one of the largest infrastructure projects in the nation and the largest solar thermal plant under construction in the world. When completed it will increase the amount of solar thermal energy produced in the US today by 70 percent. The project is being built over a three year period and is creating 1,400 construction jobs alone at peak. The project will generate $250 million in earnings for these construction workers and over its 30 year life will produce $650 million in earnings for workers on the site, including the 90 permanent jobs required to operate the plant. In addition to the supply chain investment and labor wages created, the project will also generate $300 million in state and local tax revenues over its life.

On occasion we've heard these jobs described as "temporary" jobs. Nothing could be further from the truth. Anyone familiar with the trades knows that members of the construction industry proudly "work themselves out of jobs" with every successful project. What's truly notable are three things: (1) these are family-wage, highly-skilled trade, manufacturing and engineering jobs being created in an area with one of the nation's highest

unemployment rates; (2) the project includes training and deploying skilled pipefitters, electricians, engineers, welders, technicians, heavy equipment operators, mechanics, technicians, insulators and millwrights; and (3) as BrightSource and our competitors work to complete our pipeline of projects, these workers are assured of employment opportunities – and the skills they are gaining from this project will be in demand – well into the future.

We are also doing our part to help America's brave veterans. Through Bechtel's "Helmets to Hard Hats" program, returning soldiers from Iraq and Afghanistan are enrolled in an apprenticeship program on the project, and are put to work, using their new skills. We are very proud to be a part of this program, and hope to increase the numbers veterans working on our next projects.

This project doesn't simply create jobs at the site; it is generating jobs throughout its 17-state manufacturing and supply chain. This $2.2 billion project is truly an investment in America's future, creating and maintaining jobs locally and across the nation. These jobs are providing the equipment and materials we need for construction at Ivanpah now—and will continue to need for the projects now undergoing permitting, as well as for our the next generation of projects, which are already under contract.

For example, one of our suppliers is an 85 year old gear drive company, called ConeDrive, located in Traverse City Michigan. To serve the Ivanpah project, they have hired roughly 20 additional workers to their existing 163 member team.

Last year, in Surprise, Arizona, a company called Gestamp broke ground on a new facility to manufacture steel for the Ivanpah project and several other solar projects. The first phase of this facility covers 75,000 square feet and will employ 50 people. Just last week Gestamp announced another expansion with plans to add 80 new jobs. The company is starting the second phase of its construction this week, which would add 36,000 square feet to the facility. A third phase of 140,000 square feet will be added starting later this year. According to the company, Gestamp has invested $10 million and plans to invest up to $40 million and quadruple the size of the facility over the next few years. This is just one example of "in-sourcing," with a European company locating a production facility in the United States, close to demand centers like the desert southwest.

As the solar energy market continues to grow, job-creation ripple effects such as this will be seen throughout the manufacturing sector.

Ivanpah Project Update

Today, the Ivanpah project is nearly one-third complete and is currently on schedule. Each day, we are meeting critical milestones and are moving ever closer to project completion. In fact, we will start to deliver power to the grid by early 2013. Construction continues to advance at a strong pace, with Bechtel, one of the most experienced and successful engineering, procurement and construction contractors, helping to assure its continued progress on schedule and on budget.

The power tower for the first Ivanpah unit has already reached its full height of 459 feet (or "topped out," as it's referred to in construction). Boilermakers are now welding the interconnecting boiler piping in preparation for hydro tests and the first steam "blow" later this summer. The air-cooled condenser, which efficiently converts steam back into water for return to the boiler, is also being assembled at the base of the tower. The 150+ workers employed in our on-site heliostat manufacturing facility have reached our production target of 500 heliostats per day, and are on their way towards producing the 173,500 heliostats needed for the project. In the solar fields, we're installing the heliostats at a record rate, and have now installed over 23,000 heliostats in Unit #1 alone. Electricians are wiring the heliostats to a central control system that will direct the sun's rays with extreme precision. Units #2 and #3 are also well underway, and all three units will be complete and operational in 2013.

We are working closely with federal and state agencies to provide the appropriate care of the desert plants and animal species found on the Ivanpah project site. As part of our mitigation requirements, we estimate that we will invest nearly $56 million in caring for desert tortoises. This includes $22 million in protection, care and translocation of the tortoises, as well as $34 million in land acquisition costs for the three-to-one mitigation required by the California Energy Commission (which incorporates the one-to-one mitigation required by the U.S. BLM).

Last month, desert tortoise biologists began the planned translocation of tortoises that had been on the project site. Over fifty desert tortoises were moved from temporary pens into areas just outside boundaries of the project site. These tortoises will remain within their "home range," in habitat with familiar soil composition, food sources, weather and terrain. Project biologists will monitor these tortoises and other tortoise within the area for up to five years to ensure a seamless transition.

We expect to return more desert tortoises to the wild than were captured on site, as we have had over 50 new hatchling tortoises born in captivity at Ivanpah in the temporary pens last fall. These hatchlings, which have a very low survival rate in the wild (1%-2%), have been thriving under the care of project biologists at our "Head-Start" program facility. These hatchlings, and other young tortoises found under a certain size, will be cared for at our facility for about five years, or until they are large enough to resist ravens, coyotes, kit foxes and other predators. The valuable information about desert tortoise gained at the Ivanpah project will help desert tortoise biologists learn more about the species and determine additional ways to help the population recover.

We are proud of the fact that we're incorporating features and strategies into Ivanpah that both reduce our environmental impacts and, at the same time, reduce project costs. For example, we insert the heliostat pylons directly into the ground, and do not need to level the solar field or pour concrete foundations in it; this allows us to leave natural contours and vegetation in place in all but a fraction of the site, limiting grading and major earthwork primarily to the powerblock areas. These efforts are just one example of our responsible stewardship of the public land that we use.

The Project Finance Model, Common to Large Energy Generator Projects of All Kinds, Reduces Risk

Large energy infrastructure projects of all kinds, including fossil fuel and renewable energy plants, generally utilize project finance to provide the funds they need for construction. Project finance is a well-established financing structure that provides the debt and equity necessary to execute capital intensive ventures. The goal is to balance risks and rewards between project participants and to allocate risks consistent with capability, risk appetite, and credit capacity of the stakeholders. In order for a project financing structure to be successful, there must be a well conceived business plan that is both economically viable and technically feasible.

BrightSource employed the project financing model for the Ivanpah project. Consistent with that model, BrightSource was the project sponsor of Ivanpah, but is not the loan recipient. Let me repeat that – the borrower under the DOE-guaranteed loan is the special purpose project company itself, which is owned by NRG, Google, and BrightSource. The project company holds the long-term, fixed price power purchase agreement. For a 20 or 25 year period, so long as the project continues to produce energy, it has purchasers for all of the energy it produces at a price that has already been agreed. The project company also owns the infrastructure that will be producing that energy. The underlying loan is fully secured by all of the project company's physical assets and contracts, and the borrower pays interest that will earn a return for the lender. In the case of Ivanpah, the project companies own the three power sales contracts, each with a major credit-worthy utility and for a minimum of 20 years, and also own the assets that will produce clean power under those contracts. This is analogous to building a new hotel and having its mortgage backed not only by the property, but by the income that will result from guaranteed, 100% occupancy for 20+ years.

Under the project financing model, equity owners provide the portion of the project costs that is not served by the loan—again, much like the down payment for property that goes along with a mortgage. An escrow account is established to hold all of the equity funds not used in construction to date, as well as detailed engineering and operational information required to successfully implement and operate the technology, so that the project can continue successfully even if one or more of the equity partners becomes financially insolvent. For Ivanpah, equity investors have committed $598 million to the project, consisting of $300 million from NRG, $168 million from a Google Inc. affiliate, and $130 million from BrightSource Energy. BrightSource maintains an equity share of the project, and as the technology provider, the company is also committed to supporting the project and technology. We will remain an integral partner in ensuring project success and performance.

In April 2011, the Federal Financing Bank extended the Ivanpah project companies a $1.6 billion loan, which was guaranteed by the DOE. Each month, NRG as managing member of the project companies submits a draw request to the DOE, which itemizes the payments to be made for that month. The draw requests are reviewed and approved by an independent engineering firm that was selected by DOE. The funds drawn under the loan are paid directly by the Federal Financing Bank to the intended recipients, which include Bechtel and other suppliers and subcontractors to the project, rather than going first to the project companies. This helps ensure that suppliers are paid in a timely manner, and protects the value of the assets that secure the loan.

Ivanpah and the DOE Loan Guarantee Program

BrightSource first applied for a loan guarantee in 2006 and achieved financial close of the loan in April 2011. Following is a high level timeline of the company's loan guarantee process:

- December 2006: BrightSource applies for pre-qualification to the DOE 1703 Loan Guarantee Program, which was established by the 2005 Energy Policy Act under President Bush, for the Ivanpah project.

- October 2007: After 9 months of review, DOE names the BrightSource Ivanpah project as one of the sixteen projects invited to submit a formal application for a 1703 Loan Guarantee.

- November 2008: BrightSource submits the formal application for Ivanpah project.

- January 2010: After an additional fifteen months of technical, commercial, and legal review and negotiation, DOE issues a conditional loan guarantee commitment of $1.37B for the Ivanpah project.

- October 2010: Groundbreaking at Ivanpah; NRG commits to $300M equity stake in the project, conditioned, in part, on the successful close of the DOE loan guarantee. BrightSource continues to spend money in anticipation of successful close of financing.

- April 2011: Fourteen months after the term sheet was signed, following extensive additional technical, commercial, and legal review and negotiation, close of $1.6B DOE loan and Ivanpah financing. NRG and Google acquire an aggregate 86% ownership interest in the Ivanpah project companies, committing up to $468 million in equity.

Throughout the review period, BrightSource funded well over two million dollars of review work by world-class, independent consultants selected by and operating on behalf of the DOE, who closely examined the technical, commercial, and contractual aspects of the proposed projects.

In total, the DOE review process lasted more than four years. In our experience, the DOE's review process was extremely thorough and marked by thoughtful analysis.

Project development is a complex and capital intensive activity. Developers must locate sites suitable for construction of a solar thermal energy project, secure site control and obtain necessary governmental approvals and permits. Under normal circumstances, the developer can expect to incur site development expenses that total in the tens of millions of dollars, consisting primarily of land options, land leases, transmission access and integration costs, third-party engineering studies, environmental surveys, legal and consulting fees, and other direct costs associated with identification and ongoing development of suitable sites for our solar thermal power facilities. At Ivanpah, as the financial close did not occur until six months after construction began, we incurred substantial construction expenses as well, increasing the developer costs to hundreds of millions of dollars. Although it is unusual for developers to invest so much into a project before financial close, we felt it necessary to do so to keep the project on schedule, and were fortunate enough to have sufficient funds to do so.

Concentrating Solar Power: value and cost competitiveness

The 2005 Energy Policy Act created the DOE loan guarantee program as a way to help commercialize innovative energy technologies. The Ivanpah project serves as a successful example of the important and effective role that the government can and must play in deploying emerging energy technologies.

The BrightSource Power Tower technology being implemented at Ivanpah is a next-generation solar thermal system. BrightSource is advancing this important technology in order to drive costs down, with the goal of making utility-scale solar power a cost competitive resource. The concentrating solar power industry has a history of significant cost reductions when deploying new technologies. For example, the Solar Electric Generating Systems trough plants in California, which were built in the late 80s and early 90s and continue to produce power today, reduced costs by 50 percent over the construction of nine projects. We project similar cost reductions for our Power Tower technology, driven by four key areas:

- Economies of scale
- Improved efficiencies by reaching higher pressure and temperature steam levels
- Increasing capacity factor through storage
- Supply chain optimization

Due to their similarity to conventional power plants, concentrating solar plants deliver highly reliable power that is easy for the grid to integrate. These power plants can operate as hybrids by adding fossil fuel, like natural gas, as a heat source, or can add thermal storage—which is cost-effective under today's energy prices—to provide power and grid support services whenever they are needed. Concentrating solar power can reduce the total cost of electricity to customers by avoiding grid integration costs, enhancing grid reliability and providing flexibility to grid operators to help balance other intermittent resources. The addition of thermal energy adds even greater flexibility and value, while helping to lower average costs.

Concentrating solar also offers fuel diversity for our energy supply, providing a hedge against fossil fuel price volatility and security against shortages. Once the initial costs are invested in our power plants, the fuel is free for the lifetime of the project.

Conclusion

The Ivanpah project demonstrates that innovative technology, when supported with thoughtful policy, can help position the U.S. as a leader in a globally-vital industry, create thousands of jobs and strengthen our nation's energy security. Without the loan guarantee, this project may not have happened, and none of the positive developments I have described earlier would be occurring onsite and across the nation. Going forward, we expect to finance our future projects commercially. As such, the loan guarantee program served an important role in the market, allowing our project to achieve meaningful scale, drive down costs, validate our technology,

and enable a new industry to succeed—in short, creating the necessary conditions to allow commercial financing.

At BrightSource, we are proud of our company and we're proud of the Ivanpah project. I appreciate the opportunity to address the Subcommittee and welcome any questions you may have. Thank you.

Mr. JORDAN. I thank the gentleman.

I thank all of you for your testimony today.

Mr. Woolard, do you agree with Mr. Kats and Mr. Kucinich that the 1705 program is working had has worked well? Yes or no?

Mr. WOOLARD. I believe that the project works very well for project financings where you have a large utility——

Mr. JORDAN. And do you think it worked well in your particular case? I think on page 5 of your testimony, "the DOE's review process was extremely thorough and marked by thoughtful analysis." So you thought it worked well in your situation, their agreement to give you, how much money did you get, by the way, from the Department of Energy in the loan guarantee?

Mr. WOOLARD. I fully agree with that statement. We got $1.6 billion, and it was a very thorough analysis.

Mr. JORDAN. Thorough and thoughtful analysis is your statement here. And do you believe you received the loan guarantee, there was any political influence at all involved in that decision, or was it based completely on the merits of the project, the Ivanpah project, and your particular company, BrightSource?

Mr. WOOLARD. I believe it was completely on the merits of the project. We started the application in 2006 and went through a four-year cycle.

Mr. JORDAN. Okay, okay. Well, this is where I am confused, because you guys gave us 30,000 documents on Friday and contained in those documents, I am going to put the first email up, if I could, was an email. Because today you are telling us it was thorough and thoughtful analysis and there was no political influence, and yet we have this email correspondence between you and Matt Rogers. Matt Rogers, Senior Advisor to the Secretary of Energy for the Recovery Act, so this is the guy who decides things.

You say in this email, I think it is interesting the very first thing you say is please don't distribute this, we wouldn't want the taxpayers to know what is going on with our money. But down in this email, the last sentence you say Department of Energy's credibility is thin and I am currently trying to put off communications with people on the Hill.

So which is it? Today you say they are thorough and thoughtful and it is a good program and great analysis, but in this email, when you are trying to get the money, you say their credibility is thin. Which is it?

Mr. WOOLARD. I never said they were fast. So as we went on——

Mr. JORDAN. No, no, no, this is not about timing, this is about credibility. You used the word credibility in this email.

Mr. WOOLARD. No, it is very much about timing, if you allow me to explain. We had actually invested quite a bit of money at BrightSource in moving the project forward, and we had a conditional commitment and the transaction had been contemplated to close in September of 2010——

Mr. JORDAN. January 4th, 2010.

Mr. WOOLARD. Yes, September 2009.

Mr. JORDAN. Well, let's move to the second thing, because you just said it was completely based on the merits of the project. Can you see the big print up there where it says also, that last para-

graph, next to last paragraph that starts with also? Can you read that first sentence for me?

Mr. WOOLARD. Also, Darby at PG&E, that sentence?

Mr. JORDAN. Yes.

Mr. WOOLARD. Also, Darby at PG&E talked directly to Obama about the program's challenges and the bad situation it puts him in.

Mr. JORDAN. Now, who is the Darby in that, is that the head of Pacific Gas & Electric?

Mr. WOOLARD. Yes. Peter Darby was the CEO of PG&E——

Mr. JORDAN. And they had a vested interest in getting this thing approved because you were providing them with the required commitment for green power, right?

Mr. WOOLARD. Yes. PG&E was very dependent on——

Mr. JORDAN. And is the Obama in this sentence, in your email sent to the guy who is making the decision, is the Obama the Obama I think it is, the President of the United States?

Mr. WOOLARD. Yes. I had been told——

Mr. JORDAN. So wait a minute, now. So just a minute ago you told me there was no political influence in deciding this, and yet in an email you sent to the guy who is making the decision, you reference the President of the United States, who just had, according to this email, had a direct conversation with the guy who cares pretty deeply about this thing getting approved. So, again, which is it?

Mr. WOOLARD. For our project——

Mr. JORDAN. Was it based on the merit and were they thorough and thoughtful, or were they no credibility and based on politics?

Mr. WOOLARD. Our project, I can assure you, was based on the merits as I went through the process.

Mr. JORDAN. So then why did you think it was necessary to tell the guy who makes the decision that a guy who you know pretty well, who must have communicated to you directly, talked directly with the President of the United States?

Mr. WOOLARD. Mr. Chairman, with all due respect, what I believe——

Mr. JORDAN. I am just trying to clear up the confusion.

Mr. WOOLARD. I would like to help. What I believe that Peter Darby was saying, I don't know, was that he had many projects under this loan guarantee program, I believe a significant portion of many of his projects was dependent on this, and it had——

Mr. JORDAN. But the key is you thought it was important enough to cite in an email to the guy who is in charge of making the decision, and one month after this email you got the conditional approval.

Let me go to the next email, if I could. This was amazing to me. I mean, this is just amazing. This is another email from you to Jonathan Silver, Executive Director of the Loan Guarantee Program, and the email you start off please see below a draft of the email our chairman, John Bryson, who is now the Commerce Secretary, chairman of your board, is preparing to send to the White House Chief of Staff Bill Daley.

So you are asking the guy who is in charge of making the decision, now you are past the conditional, this is the final guarantee.

You are asking the guy to proofread an email that your chairman is going to send to the White House chief of staff. And you say there was no political involvement? I mean, this is amazing.

The person who makes the decisions, this is not some kid asking their mom to proofread their homework; this is the taxpayer dollars by the guy who is going to decide and you are saying, hey, can you proofread this, even though you are going to make the decision, because we want our chairman, who is going to be the next Commerce Secretary, we want him to send a letter to the White House chief of staff? And then you just said two minutes ago that there was no political involvement in the decision to give your company $1.6 billion of taxpayer money.

Mr. WOOLARD. I believe that everything we did in our project was fully on its merits. It is a very solid project.

Mr. JORDAN. I think it would be interesting to see what Mr. Nelson thinks. Do you think it is customary for a company to be able to say to someone who is going to decide whether they get a loan guarantee or not, hey, proofread this letter that our chairman is going to send to the White House Chief of Staff, that we are going to send to Bill Daley? That is unbelievable.

Mr. WOOLARD. I believe that the letter that was contemplated to be sent was all around the program itself and making sure that the program——

Mr. JORDAN. Well, you read this letter; we need guidance and support from the White House. You know, that is amazing. Dear Bill, we need a commitment from the White House to quarterback the loan closure between OMB and DOE by March 18th. Mr. White House Chief of Staff, can you approve this by a certain date, we need this? Unbelievable.

Let me just put up one last thing, because I know I am out of time and I want to get to the Ranking Member.

Let me put up, because we have the Chairman of the full Committee here. I want to put up what the Secretary said to us just two months ago in questions that I asked him. Mr. Secretary, how about John Bryson, former chairman of the board at BrightSource, now the Secretary of Commerce, did that in any way influence your decision to give a loan guarantee to BrightSource? The Secretary said no. Did the White House ever talk to you about any of these respective companies involving these individuals? Did someone from the White House, chief of staff, someone from the White House call you? And the Secretary said no.

Mr. Chairman, I think we have to have the Secretary back in here because certainly his response to those direct questions certainly doesn't square with emails we got in a batch of 30,000 documents on Friday from BrightSource, and I think it is important——

Mr. ISSA. Would the gentleman yield?

Mr. JORDAN. I would be happy to yield to the full Committee Chairman.

Mr. ISSA. I will commit to you today that we will invite the Secretary back to clarify the record, along with letters to the Administration asking to waive the normal presidential exclusion of conversations, since it is clear that there was direct conversation leading to a form of favoritism for BrightSource. We will ask the Presi-

dent to give us the records of those conversations with PG&E and others.

Mr. JORDAN. I thank the Chairman.

Mr. Chairman, I would just ask this, too. To my knowledge, this is the first time we have had any direct link to the White House in the 1705 program, is that correct?

Mr. ISSA. To my knowledge, this discovery is the first.

Mr. JORDAN. I have gone over time and I will be generous with the time to the Ranking Member, the gentleman from Ohio——

Mr. ISSA. Mr. Chairman, if I could ask unanimous consent just to place my opening statement in the record and to include clarification as to the Ranking Member's slide he used in his opening statement. I would like to, if you will, the gentleman from Ohio is my long-time friend, but I think we can shed light on the fact that those ratios, if stated effectively, including the fact that the oil industry only receives a 6 percent credit under 199, where any other manufacturer, such as those in your district, Mr. Kucinich, receives a 9 percent. If you discount where they get 3 percent less, rather than the same amount as every other manufacturer in America, I believe we can provide additional charts that will fairly reflect other views.

Mr. KUCINICH. Reserving the right to object, I would be happy to have you submit that and we will then, of course, engage in a colloquy through the record where we will respond to what you are submitting. Withdraw any objections and just be delighted to——

Mr. ISSA. I look forward to it. Thank you.

Mr. KUCINICH. Okay.

Mr. JORDAN. If I could just have one last question for Mr. Woolard before yielding to the gentleman.

So, Mr. Woolard, I just want to be clear for the record. You stick by the statement you said just a few minutes ago, that there was no political influence exercised in the decision by the Department of Energy to grant you $1.6 billion in a loan guarantee?

Mr. WOOLARD. Yes, sir. To the best of my knowledge, this project was judged on its merits through its process.

Mr. JORDAN. Okay, great.

Yield now to the gentleman from Ohio.

Mr. KUCINICH. I don't often share the concerns and objections of my colleagues on these kinds of matters. Matter of fact, my opening statement made it very clear I have a different point of view. But I have to say this issue of potential political influence on these loans ought to be looked at. That is why I am going to submit to the record a letter to Secretary Chu from Governor Arnold Schwarzenegger that supports BrightSource Energy's project application.

Mr. ISSA. If the gentleman would yield.

Mr. KUCINICH. I——

Mr. ISSA. I would join with you in encouraging that. As you know, my former governor was the author of those mandates that created the very opportunity for these businesses to have a 20-year guarantee with coerced forcing of public utilities, whether it penciled out or not, to have renewables.

Mr. KUCINICH. Well, reclaiming my time. I just want to say that, let me ask the Chair——

Mr. JORDAN. Without objection.

Mr. KUCINICH. Would the Chair then invite our friend, Governor Schwarzenegger to this Committee to explain why he supported the same BrightSource Energy project that the Obama Administration supported? So we either have here a case of bipartisan influence or bipartisan agreement, and the result could be good. We may actually have here one of those extraordinary moments where we have leaders on both sides of the aisle that agree and support a project that should have been supported.

Mr. ISSA. If the gentleman would yield. I will personally call my dear friend, Governor Schwarzenegger, former governor, and invite him. I suspect that if he can get away from his busy schedule of new movies, that he will honor us with his presence. But I will personally call him.

Mr. KUCINICH. That would be great. Thanks, Mr. Chairman.

I would like to now go to my questions. And I think that, based on the clock, I probably have five minutes here.

Mr. ISSA. I would ask unanimous consent the clock be reset to at least six minutes.

Mr. KUCINICH. Thank you very much, Mr. Chairman. See how Democrats and Republicans get along, not only on this panel, but also with our energy policy.

[Laughter.]

Mr. KUCINICH. Now, the Majority published a report in which they concluded "The Committee identified many cases where the DOE disregarded their own taxpayer protections, ignored lending standards and eligibility requirements, and, as a result, amassed an excessively risky loan portfolio."

Bloomberg Government came to a different conclusion. Bloomberg recently studied DOE's 1705 Loan Guarantee Program. The title of that report is Beyond Solyndra: An Analysis of DOE's Loan Guarantee Program. I ask unanimous consent that it be placed in the record.

Mr. JORDAN. Without objection.

[The information follows:][This report can be found on-line at: http://about.bgov.com/2011/12/01/bgov-study-solyndra-failure-obscures-low-risk-energy-guarntees/]

Mr. KUCINICH. Bloomberg concluded that the 1705 DOE loan portfolio is "composed of predominantly lower risk projects."

Question to Mr. Kats. Is the Majority's report correct or is Bloomberg Government? And did DOE amass an excessively risky portfolio or is the portfolio composed of predominantly low risk projects?

By the way, I want to ask that the slide showing the distribution of projects within the entire portfolio, could we put it up on the monitors?

Finally, Mr. Kats, I need brief answers. I have a whole bunch of questions I have to go through in the next five minutes. So could you give me an answer?

Mr. KATS. I think Bloomberg is pretty clearly right. The default rate, by the time you assume all defaults come in at one-quarter of what is budgeted. That is the bottom line.

Mr. KUCINICH. Okay, the slide shows the vast majority of projects funded through 1705 were power generation projects. What

is the difference between the risks associated with power generation projects, as compared to manufacturing projects, Mr. Kats?

Mr. KATS. Power generation projects are typically based on long-term contracts with a utility or some other entity; whereas, a manufacturer, it is higher risk because it goes into the company. In some cases the companies have long-term contracts; sometimes they don't. So, again, the power generation contracts are very low risk because you have long-term agreements to buy the power generated from the funded assets.

Mr. KUCINICH. So as I understand it, one reason why the portfolio can be considered low risk is because most of the projects that receive 1705 loan guarantees are for power generation, and DOE required these companies to have long-term agreements in place with nearby utilities to purchase the power once built. This means the projects have a guaranteed income stream, which greatly limits any risk of default, is that true?

Mr. KATS. Exactly.

Mr. KUCINICH. Okay.

Now, Mr. Woolard, do you already have agreements in place to sell power to major utilities once the projects are completed? Brief answer.

Mr. WOOLARD. Yes, sir. All power is sold for 20 years.

Mr. KUCINICH. And you did that because DOE required that you have those agreements before you received any Federal loan guarantee, is that correct?

Mr. WOOLARD. I believe that the loan guarantee depended on those long-term power purchases.

Mr. KUCINICH. Some may ask why the Federal Government should do anything that could cause loss of taxpayer dollars, as any loan guarantee program can.

Now, Mr. Kats, why did Congress design the 1705 Loan Guarantee Program to choose projects that would have some degree of risk associated with them?

Mr. KATS. Because these are projects that are probably otherwise unable to get funding.

Mr. KUCINICH. Would it have been possible for DOE to accomplish the goal of the law, to spur technological advances to renewable energy technology, without incurring any risk of losses?

Mr. KATS. No, because if it had gone for risk-free projects, those would have been projects that would have gotten private sector funding.

Mr. KUCINICH. Okay, so you have Congress appropriating $2.47 billion as a kind of insurance fund to cover project losses. That is about 15 percent of the total amount of loan guarantees. Now, detractors of this program like to point to the bankruptcy of Solyndra to discredit the entire program, but the actual amount of losses is much lower.

I am going to ask staff to put up the slide showing projected losses compared to much smaller actual losses.

[Slide.]

Mr. KUCINICH. Now, Mr. Kats, if Congress set aside money to cover project losses, and then one or several companies ended up causing losses, would you say the entire program is a failure or that it is working as designed?

Mr. KATS. No. As a venture capitalist and as a PE investor, it is very clear that when you make a portfolio of investments, you hope that many will succeed; you expect a few to fail. What is impressive about this DOE loan program is how few have failed. The actual defaults are about 2 percent; that is, by the time you anticipate all of the defaults coming through, only one-quarter of the defaults that were budgeted and projected will occur. So by any reasonable measure this has been a very successful program that should be extended and expanded.

Mr. KUCINICH. So do you expect a default rate of the 1705 loan guarantee portfolio to exceed the 15 percent threshold that Congress itself anticipated?

Mr. KATS. No, it will be much less than that, perhaps one-quarter.

Mr. KUCINICH. So you expect it to be about a quarter?

Mr. KATS. Correct.

Mr. KUCINICH. Okay. And a quarter of?

Mr. KATS. A quarter of the 15 percent. In other words——

Mr. KUCINICH. Okay, so the program, as I said in my testimony, you said in yours, the program is performing better than expected in financial terms. But how is the program performing in terms of policy? Are the 1705 program financings spurting technological advances or not?

Mr. KATS. Absolutely. These are breakthrough technologies. We have heard from the CEOs here. For the U.S. military, this is one of their most important strategic objectives.

Mr. KUCINICH. Mr. Ahearn, what do you say?

Mr. AHEARN. The projects that we are building currently would not have been financed and would not be under construction if it were not for the loan guarantee——

Mr. KUCINICH. Is the program performing in terms of policy, yes or no?

Mr. AHEARN. As relates to the types of projects that Mr. Woolard and I and Mr. Fairbank are discussing, yes, it is performing.

Mr. KUCINICH. Well, the whole point of this hearing it seems to me is that my colleagues, my friends on the other side of the aisle seem to believe the Federal Government should not invest in green energy technologies. One expects my friends to be pro-business, but on this Committee we seem to have some confusion about that.

Mr. Kats, Ahearn, Willard, in the one second that remains, what is the risk of doing nothing? What would it mean for your industry and the economy in the long run if my colleagues got their wish and there was never a 1705 loan guarantee?

Mr. AHEARN. Make the Chinese very happy and the U.S. military very unhappy.

Mr. KUCINICH. Mr. Ahearn?

Mr. AHEARN. Well, maybe I differ slightly on some of these points——

Mr. KUCINICH. I am out of time.

Mr. AHEARN.—the bridge has allowed us to advance the private markets.

Mr. KUCINICH. Mr. Woolard?

Mr. WOOLARD. I believe that we would lose U.S. competitiveness worldwide because building things up in our backyard is important.

Mr. KUCINICH. Okay, thank you.

Mr. Chairman, thank you. Appreciate it.

Mr. JORDAN. I thank the gentleman.

I am confused again. Now, which is it? Is this loan guarantee program so great and these companies are so wonderful this is apple pie, and yet Mr. Kats says they couldn't get funding in the private sector? It can't be like this is so wonderful, but we need the taxpayers and we need political influence to make sure the taxpayer money gets put at risk. Mr. Nelson didn't have any of that and he was able to—again, I am confused. It is so wonderful. And is the standard only a couple of companies, only 2 percent, 4, whatever the number is, are going to fail? Is that really the standard we want?

Mr. KUCINICH. Would the gentleman yield?

Mr. JORDAN. I would be happy to yield.

Mr. KUCINICH. I think that you have a witness who has presented he didn't need help, and we have other witnesses who say that without this we wouldn't be able to be competitive. So maybe both things are true.

Mr. JORDAN. Yield now to the gentleman from Tennessee, Mr. DesJarlais.

Mr. DESJARLAIS. Thank you, Mr. Chairman. And thank the witnesses today.

I think maybe only in Congress can we come out and testify that the results are better than we thought they would be or, in other words, we are not failing as bad as we expected. We look at this questioning today and I look at it from the standpoint of the taxpayers, as we all should.

Mr. Ahearn, when you started your testimony, it sounds like First Solar is a pretty good solid company?

Mr. AHEARN. Yes, sir, it is.

Mr. DESJARLAIS. It is doing well?

Mr. AHEARN. Yes.

Mr. DESJARLAIS. Okay. And without the Government help or the taxpayers' help you don't think the company would be doing this well?

Mr. AHEARN. I think we would be doing very well. Without the help we would not have been able to enter the U.S. utility market with these projects.

Mr. DESJARLAIS. Okay. Now, you said that the company is traded on NASDAQ?

Mr. AHEARN. Yes.

Mr. DESJARLAIS. How did it rank last year in terms of other companies on the S&P?

Mr. AHEARN. I am not sure I understand what the ranking criteria would be, but if you are referring to the stock price, the stock price declined last year, in line with the industry.

Mr. DESJARLAIS. Okay. In 2008 it traded at over 300 shares, is that right?

Mr. AHEARN. Yes.

Mr. DESJARLAIS. Okay. And currently trades about $17?

Mr. AHEARN. Yes.

Mr. DESJARLAIS. If I told you it was the worst performing S&P stock in 2011, would that surprise you?

Mr. AHEARN. It would be out of line with the strong fundamentals of our company, but I don't know the statistics on the stock price.

Mr. DESJARLAIS. And you are Chairman of the Board and former CEO?

Mr. AHEARN. Yes.

Mr. DESJARLAIS. Okay. Do the executives at First Solar have a lot of confidence in the company's performance?

Mr. AHEARN. Yes, they do. We all do. We feel like we have been built a fundamentally extremely strong company that has got a great platform to expand our markets and our business.

Mr. DESJARLAIS. Do you know in 2008, or starting in 2008, about how much money that First Solar executives pulled out of the company, in other words, selling their own stock?

Mr. AHEARN. No, I don't.

Mr. DESJARLAIS. Two point one billion dollars. And I think you yourself pulled out roughly $400 million? Is that right?

Mr. AHEARN. I don't know the dates, but I did sell stock over an extended period of time, that is correct.

Mr. DESJARLAIS. Okay. Well, this program that we are trying to decide whether it is good or bad, 22 of the 26 prospects on these loan guarantees were rated basically as junk. So when you say the company is doing well, your executives clearly didn't have the confidence; they were pulling their own money out. Yet, you think it is okay for the taxpayers to invest in this?

Mr. AHEARN. Well, with all due respect, I disagree with the statement that the executives didn't have confidence. We have a deeply committed team. There is a lot of money still invested on the part of that team and we are focused and growing, and we are fundamentally strong. So I disagree——

Mr. DESJARLAIS. Okay, so if it is $300 a share to $17 for the executives, I guess you just got out as good timing?

Mr. AHEARN. Look, I sold my shares over a multi-year period under transactions that were fully and properly disclosed——

Mr. DESJARLAIS. Okay. Well, that is your business. Let's move on.

Did First Solar pressure the Department of Energy to approve its three loan guarantee projects by promising that the loan guarantees would enable First Solar to build a new manufacturing plant in Arizona that would create new jobs?

Mr. AHEARN. No, we did not.

Mr. DESJARLAIS. Could we put up slide three?

[Slide.]

Mr. DESJARLAIS. Does that look familiar?

Mr. AHEARN. I have seen this email, yes.

Mr. DESJARLAIS. Okay. Would that insinuate that maybe they were pressuring them to move forward on this project to——

Mr. AHEARN. No, it would not, not at all. These projects were all evaluated independently on their own merits. The manufacturing facility, which we hope to build at some point in Mesa, was in no way connected with the applications or the projects.

Mr. DESJARLAIS. What is the status of the plant in Arizona?

Mr. AHEARN. It is on hold.

Mr. DESJARLAIS. Okay. So you are saying that that wasn't used to entice the DOE to package these loan guarantees, to push them to approve it? You didn't promise that it would create new jobs?

Mr. AHEARN. We did not promise. The loans were not packaged. It was not part of the process. The loans were evaluated specifically on each project's fundamentals.

Mr. DESJARLAIS. So the plan is not producing solar panels for the Department of Energy loan guarantee projects, they are not producing those that First Solar promised? You are saying they didn't promise that?

Mr. AHEARN. Did not promise that, no.

Mr. DESJARLAIS. Okay.

That is all I have for now. I yield back.

Mr. JORDAN. [Remarks made off microphone.]

Mr. KELLY. I thank the Chairman.

Dr. DesJarlais, I think your questioning is right in line.

You know, one of the things that I think comes into play when we have these hearings is that there is a question about respect for the people that come in and testify, and I want you to understand that we do have the utmost respect for you. But I also want you to understand that the most basic responsibility I have serving in Congress is respect of the hardworking American taxpayers that fund all these projects that you are talking about.

And I get confused sometimes as to where is it that we are really looking to protect and who is it that we are looking out for. And I have to tell you, coming from the private sector, I never had the luxury of having the Government underwrite loans for me; I have always had to provide my own capital, had to provide my own character, had to provide everything from the private sector comes from yourself.

And that is what concerns me, Mr. Ahearn, I have to tell you. Your SEC filings, and maybe we can put up a slide. Can we put up a slide that shows—I think it is slide 17, maybe.

[Slide.]

Mr. KELLY. Because Dr. DesJarlais asked you about the performance of your company. You are saying you have such great confidence in your company and how well your company is doing, and I look at it and it goes from $303 a share, I believe. You know what it traded at yesterday? It was $15 a share. So I don't know. I am not questioning your investments; I am just questioning when you say you think it is doing quite well and you have great confidence in the company. Why would you sell so much of your own stock in it? Why would you cash in on it?

Mr. AHEARN. Well, let me give you the reasons why I think it is so fundamentally strong.

Mr. KELLY. No, no, don't give me that. Really, I look at the chart, I don't think you are fundamentally strong at all. I think your shareholders are the ones that tell you in the marketplace you are doing a terrible job. But whenever you sell your own shares of stock, and the people that are on your executive board sell your shares of stock, August 7th, 8th, and 9th you sold almost 700,000 shares of stock in a three-day period.

Now, you are voting with your feet. You are getting the heck out of a situation, saying I have to get out of this. But what I would

really like to do, I would like these hardworking American taxpayers to put money into my company. I am the CEO, I know what is going on, I have been there from its birth. I am watching this thing grow and I have so much confidence in that company that I am going to cash out. I am going to take my money and run and I am going to ask these hardworking American taxpayers just keep funneling money in, because someday, somewhere out there this dream is going to come true.

The hopes and dreams of a company that someday, this is the hockey stick, it is flat and someday it is just going to go off the charts. Now, we don't know when that day is coming, but some day it is going to be there. Now, I have to tell you I am not going to be there to watch it, I am going to cash out now. I am taking my money and I am running. But I want you folks out there that go to work everyday, get up everyday, go to work, pay your taxes, clothe your kids, put food on the table, I want you to continue to fund this project because, you know what, some day this is going to be great.

I can't believe we sit here and we listen to this, and the question that comes up is who in the world is funding these projects. It is not the DOE. This is not the DOE's money. This is hardworking American taxpayers' money. And I am so sick and tired of hearing about disrespect. We don't have respect for green energy, we don't have respect for these folks that put everything on the line. When you are getting out of something as quick as you can and asking taxpayers to go in deeper and deeper and deeper, what message does that send?

Mr. AHEARN. I started this company in 1999 and spent over 10 years of blood, sweat, and tears——

Mr. KELLY. And we started our company in 1953.

Mr. AHEARN.—and investment——

Mr. KELLY. Yes, I understand. But I didn't have taxpayers bail me out. I have to tell you, this is disappointing. You tell me it is okay for you to sell $450 million in—$450 million you pulled out, is that right?

Mr. AHEARN. If I may——

Mr. KUCINICH. Would my friend yield?

Mr. KELLY. This is just a yes or no question.

No, not right now, Mr. Kucinich.

Mr. AHEARN. I don't have the numbers, so I don't know.

Mr. KELLY. SEC filing. I do have the numbers. I do have the numbers. And to sit here and listen to this week after week, month after month, and then go back out and listen. When I go back home, when I see people paying as much for a gallon as gas as they pay for a gallon of milk, when I see people working two jobs to put food on the table and clothes on their kids' back, when I see people that worry about whether they are going to have a job next year, and then we are telling them, don't worry about it, we are looking out for you.

No, the respect, the respect comes to the American taxpayer. That is who the respect comes from. I have no respect for a situation where the chief executives take their money and run, and ask the American taxpayers to continue to fund a project—$300 a share to $15 a share and you guys are doing well? I don't know where

in the heck you define well, what dictionary you look it up in, but this is absolutely abysmal and this is why the American people have a great deal of wonderment now and the lack of trust in the people they send to represent them. The DOE made a horrible, horrible decision, and continues to do that.

Mr. Kucinich, I apologize for not yielding back to you, but it hard to yield back when I have to go back home and walk in Western Pennsylvania and watch people who can't make their house payments, can't make their car payments, can't put food on the table, can't educate their kids, and we find out that we are pouring money down an open hole and the chief executive officers bailed out and asked the taxpayers to put more money in.

Mr. KUCINICH. I ask unanimous consent for the gentleman to have another three minutes, and I would ask the gentleman just to yield briefly to me.

Mr. KELLY. My time is up, so——

Mr. KUCINICH. Unanimous consent so you can have three more minutes.

I share your passion for what happens with taxpayers' dollars that are involved in investments, but I think what would be helpful is if we could have the witness respond for a couple minutes and explain your position on this and address the concerns that Congressman Kelly has raised.

Mr. AHEARN. Thank you. Thank you very much.

Mr. JORDAN. The gentleman may respond.

Mr. AHEARN. The first point I would make is that the DOE loans that we are talking about in this case were not made to First Solar. This was not First Solar's private capital, corporate capital funding. These loans were made to three projects that First Solar is supplying product to that are owned by sophisticated utility investors with utility off-takes. So these are projects not funding First Solar. This is not the same kind of situation that Solyndra or Abound or these manufacturing loans.

First Solar's corporate funding is provided by equity funding, which initially came through our venture capital company starting back in 1999. We took the risk that you are talking about should be taken by venture capital and not taxpayers, we took that risk. We were successful and able to bring the company public.

As a public company, there is typically a replacement of venture capital money for institutional money. It is a very normal thing for venture capitalists, once they take a company public, to sell stock over time, get the proceeds so that they can go recycle that back into early stage companies. That is what happened here. The sales by me and other people on the team have absolutely no reflection on our conviction and belief in the company and its fundamentals.

And if I could just, on the fundamentals of the company, look, we have guided to $3.5 billion of revenue this year, net income on a gap basis of around $315 million, operating cash flow of around $1 billion this year. We have pointed out that we have multi-year visibility into demand that will continue to drive strong profits and cash flow, and we are now expanding into emerging markets without the need for subsidies, taking what we have demonstrated with the benefit of the DOE Loan Guarantee Program and deploying that through exports into other markets.

What happens to the stock price day-to-day is subject to all kinds of things beyond our control, not the least of which are short interest investors. So I can't control that; I can't speak to it. I can control the fundamentals and I am telling you they are very sound.

Mr. JORDAN. The gentleman from Pennsylvania wish to respond?

Mr. KELLY. No. And I understand everything you are saying, but I am talking about your personal money. When you are pulling money out, you are selling 700,000 shares, and I get it, I get it, believe me. I get it. Venture capitalists will always take a risk that is underwritten. The lower the risk, the more money they put in; the higher the risk, the more interest they want. These are loans that there really is no payback. This is a loan from a DOE that really is kind of, it is a gift, it is free money. It really is, it is free money. You don't have to qualify the same way I have to do.

Listen, believe me, I have been every day of my life. I have had to actually go out and borrow money, put up my own collateral, have my own skin in the game. So I don't want to get with this stuff. I just came from Disney World, by the way. There is a fantasy land down there too. It is not like this one; you actually have to pay your own way there, you don't get it for nothing.

But I have to tell you when you tell me that, as a CEO, if Steve Jobs had done that, if Bill Gates had done that, what do you think these people would think of that? Jobs is getting out of it, must be a good investment; I would like to get back in. Gates is getting out of it. These guys aren't pulling out. So I just wonder what was the reason for you selling 700,000 shares in a three-day period. Why? And the other thing is, why don't you buy it back now at $15 a share? It has to be a real bargain.

Mr. AHEARN. I think I——

Mr. KELLY. Just think what you could buy with the $450 million that you got.

Mr. JORDAN. If the Ranking Member of the full Committee is ready, I will go to him. If he wants to wait, I can go to Mr. Mulvaney and come back to Mr. Cummings.

Mr. CUMMINGS. I am ready. Thank you very much.

Mr. JORDAN. Go right ahead.

Mr. CUMMINGS. First of all, this question is for our loan guarantee recipients on the panel. Each of your companies received loan guarantees for projects you are currently advancing. I believe it is legitimate and appropriate for members of Congress and the taxpayers to ask what you are doing with the money, and I am sure you would agree with me. Can each of you articulate, or a few of you, for this Committee why you believe that a loan guarantee provided by the Government to your projects is a good bet? In other words, what are the taxpayers getting in return for their investment? Because I don't want people to look at this on CSPAN and think they are not getting something out of it, that is, the taxpayers. Would one of you or two of you try to answer that as best you can? Yes, sir.

Mr. AHEARN. I would be happy to, yes. In the case of First Solar, there are three loans that have been made to projects, large power plant projects in California that are owned by sophisticated energy companies. These loans have been investment-grade rated, so the taxpayers, first of all, will receive a return of all of that money, $3

billion; they will make a profit in addition to that that totals roughly $1 billion. The funding is allowing for roughly 1200 construction jobs over the life of the projects; it is further enabling the industry, the renewable energy industry in the U.S. to continue to grow and become profitable and export-oriented, which will in turn create more jobs So this will prove to be a very prudent and timely——

Mr. CUMMINGS. So it really does have a multiple higher effect, does it not?

Mr. AHEARN. Yes, it does.

Mr. CUMMINGS. Mr. Fairbank, could you answer that same question?

Mr. FAIRBANK. Yes, sir. We received $98.5 million loan from John Hancock, backed by the DOE loan guarantee and the 1705 criteria. There was a job criteria. We did create a significant amount of new jobs. And another part of the criteria was to allow companies to obtain senior debt financing. We had borrowed money to construct the plant in a mezzanine level and we used a good part of the money to put in place senior debt financing and replaced some of the mezzanine debt.

Mr. CUMMINGS. Let me just ask this. If DOE followed a mandate from Congress when it created the Loan Guarantee Program, then each of the products under your stewardship has some risk associated with it.

Mr. Woolard, can you explain why it is so difficult to find financing in the private sector when bringing innovative technology to scale?

Mr. WOOLARD. Sure. We received our early backing as a company from venture capital, who financed the company. We then brought corporate investors in, including Chevron, British Petroleum, and others. And as we looked at scaling up, the first thing we did was de-risk everything with a demonstration facility and grew that from a 6 megawatt facility that we did in Israel to a 30 megawatt facility for Chevron. And then to go to the large-scale power plants that had been proven. There was not technology risk, but to do it at the size and scale that was needed, the loan guarantee enabled that transition.

I would like to answer your first question as well——

Mr. CUMMINGS. Please do.

Mr. WOOLARD.—on what the project is doing well for the taxpayer. We have a $1.6 billion loan guarantee that enabled a $2 billion project. There are 1700 jobs onsite today. But, more importantly, behind this there are 10 more projects that we have contractual commitments or power purchase agreements to build. That will be $10 billion that will be commercially financed. So this enables the transition from a loan guarantee program to commercial financing, and I think that is very important.

Mr. CUMMINGS. Would you have been able to do all of what you just said without the guarantee?

Mr. WOOLARD. No. We would have likely done a smaller. We wouldn't have been able to do it at the scale that allowed us to commercialize.

Mr. CUMMINGS. You know, the reason why I am asking these questions is because I think it is very easy to demonize programs, and then a lot of times we don't hear of the other side of it, and

that is the benefits that the taxpayer gets, the benefits that, it is a situation where the government is working with private industry. We always talk about creating jobs, and all three of you have talked about jobs being created. But you also are talking about innovation, am I right?

Mr. WOOLARD. Yes, sir, there is quite a bit of innovation enabled.

Mr. CUMMINGS. In what sense? How so? Could you just talk about that for my last 10 seconds?

Mr. WOOLARD. Well, we built solar thermal projects in the 1980s that used an older technology called parabolic trough. We were then able to move to a higher efficiency, higher performance technology because of this program; it enabled that technology shift.

Mr. CUMMINGS. Thank you very much.

One other thing, Mr. Chairman. I ask that my opening statement be submitted into the record, please.

Mr. JORDAN. Without objection.

Mr. CUMMINGS. Thank you.

Mr. JORDAN. Thank you.

Mr. JORDAN. We now turn to Mr. Mulvaney, who has been patiently waiting. The gentleman from South Carolina is recognized.

Mr. MULVANEY. Thank you, Mr. Chairman. Thank you for the opportunity to be here today. And thank you also to the Ranking Member, Mr. Kucinich, for allowing me to participate.

Gentlemen, I will be honest with you. On several levels this hearing has been very difficult for me to sit and watch. As somebody who comes from the private sector, it is not easy for me to sit here and watch you have to defend things that ordinarily wouldn't be any of our business.

Mr. Ahearn, what you do with your investment capital and the company you have built for the last 13 years, and what you might want to do to take care of your family and reward yourself for the work that you have put in should be none of our business. And I desperately want it to be none of our business.

But recognize the fact that you are not here today because of what you do. You are not here today because of stock that you sold or any of you here because of what industry you participate in. You are here because you have asked us to be here. You have brought this on yourselves. And I hate to tell you that, but it goes beyond the loan program. I mean, we would be silly, we would be foolish to think that representatives of your industry, even if not yourselves as individuals, have spent time walking up and down the halls of these buildings in Washington for the last decade asking us to make people buy what you sell.

We have requirements, Mr. Chairman, that we have to purchase a certain amount now of our energy from renewable resources. It is a Federal mandate.

You have asked us to do that. I wish that you hadn't. I wouldn't have supported it, but you asked us to come in and say, look, to the American people, you have to buy what these people are selling. I am completely sympathetic to Mr. Kelly, who would like very much for the Federal Government to go and tell people they have to buy X number of cars and have to buy it from him. But he didn't get to do that. When I was building houses I didn't get that. When

I was rolling burritos at a restaurant, there was nothing that said people had to come to my restaurant and buy my product.

Beyond that, the loan program is simply on top of that. Not only is the 1703 program, the government guarantee program, and remember, I think this is lost on a lot of people who are participating or watching this, 1705 program is different in that ordinarily, under the old program, you all would have to pay the credit subsidy cost.

But under the stimulus program, under the 1705, you didn't even have to pay that; the taxpayers had to pay that. So a little skin in the game that you all would have under the 1703 program isn't even there under the 1705 program; it is effectively a free program to you folks. And that is why we are here.

We are not here because we don't like you as private businessmen. We are not here because we don't want you to be successful. To the contrary. I want you gentlemen to be successful. I want you to grow your companies. I want the stock to go back up to $300, Mr. Ahearn, because I know it not only benefits you, but it benefits every one of your employees who probably has a retirement program that buys that stock. But you have to be here today when you ask us to get involved in your business, and you have to be here today when you ask us to make people buy what you sell. And I encourage you to consider that the next time you come walking up and down the hallways and say, I think it would be great if we took that renewable component from 10 or 15 to 20 or 25 or 35 percent. Wouldn't it be great if we had to have more electric vehicles? That would be great because we make some of that stuff too.

I am tired of people coming to the government as part of their business plan and saying, look, if we can figure out a way to make the government buy our stuff, that will really help us. And, conversely, if we can make the government make what our competitors sell illegal, that would be even better. We see that every single day and, quite frankly, gentlemen, as somebody who came from the private sector, I am sick of it. I wish you would compete on your own merits and that we would compete on our merits in my business.

Mr. Ahearn, I hear what you are saying, you are saying low-cost producer, you are down to $0.73 of kilowatt hours, a tremendous success for your company. Please stop asking us to help you do that. As bad as I feel for what you have had to go through here today, Mr. Ahearn, explaining your stock purchases, you have brought every single bit of it on yourself.

We know it; we have to do it. Mr. Kucinich does. Everybody up here knows we just filled out our financial disclosures. What we have to tell everybody in the Country every single investment that we make that is worth more than $1,000. We have to do that every single year. We choose to do that to ourselves when we run for these offices. And what you gentlemen have endured today, and will endure, because it is not going to get easier, it is going to get worse. What you have brought upon yourselves today you have brought upon yourselves by coming here and asking us to help you.

Mr. Chairman, I know that was not going to be my line of reasoning, but it took my five minutes, and I appreciate the opportunity.

Mr. JORDAN. I thank the gentleman. And, to the gentleman's point, we have with us Mr. Nelson, who did exactly what the gentleman described. He didn't come ask for help and his company is succeeding and we applaud that.

We will turn now to the gentleman from the full Committee, the gentleman from California, Mr. Issa.

Mr. ISSA. Thank you, Mr. Chairman.

Mr. Woolard, on September 2nd, 2010, your name appears as the CEO of BrightSource, along with Peter Darby as the Chairman of PG&E, holding at BrightSource Energy in Oakland, California, a fund-raiser for friends for Harry Reid. Do you remember that?

Mr. WOOLARD. Yes, sir, I do.

Mr. ISSA. So the Senate Majority leader was pretty important to you, important enough for you to hold it in your corporate offices?

Mr. WOOLARD. With PG&E we have been asked to do this. We also have some projects in Nevada as well.

Mr. ISSA. Yes, I know. Let me ask a question. First of all, did you speak to, when was the last time you spoke to the Secretary of Commerce, Bryson?

Mr. WOOLARD. It would have been before he was appointed Secretary of Commerce. I have not spoken to him since.

Mr. ISSA. So it was during the time, though, that he was the chairman?

Mr. WOOLARD. He was chairman of our company——

Mr. ISSA. Right.

Mr. WOOLARD.—until he was nominated to Commerce, which would have been the middle of last year.

Mr. ISSA. Okay, now, my understanding is it takes a while to get vetted, it takes a while to get nominated; it doesn't happen overnight. So my question is when he was the chairman, you were the president, and he wrote his email to Mr. Daley, that was two months before he got the job. Weren't they already in discussions? Wasn't he essentially lobbying for your organization as the heir apparent, the person they were looking at to be Secretary of Commerce and, at the same time, lobbying for you?

Mr. WOOLARD. No, sir, I don't believe he actually sent that email. We basically decided that was not appropriate to send and ultimately that email was never sent.

Mr. ISSA. So were there other emails that were sent during that period of time to the White House or others at the White House?

Mr. WOOLARD. No, sir, there was nothing, to my knowledge, that was sent.

Mr. ISSA. So this is just a draft that still was hanging around?

Mr. WOOLARD. Exactly. We decided that it was not appropriate and did not send it.

In addition, we were very careful with every organization that John worked with; he was very, very careful from that perspective.

Mr. ISSA. Well, it is interesting. The Secretary is the founder of the Natural Resource Defense Council, right? And that group, while he was heading a public utility, that group actually produces and participates in lawsuits that drive up the cost of energy, don't they?

Mr. WOOLARD. They are an intervener in a lot of siting issues with renewables.

Mr. ISSA. So it is sort of amazing. They drive up the cost of energy, particularly conventional energy, through a series of lawsuits and incumbent utilities get paid a markup on whatever their costs are, even if those costs are driven up by an organization that is founded or participates with people who are insiders. So I do find it interesting that he now is supposed to be in charge of making America competitive, but in fact has driven up the cost.

Mr. Woolard and, for that matter, each of you on the panel, your company would not exist today if not for the loans and the mandates, is that correct? At least as we know it.

Mr. WOOLARD. No, sir, I think it would be fair to say that we would not be doing as much business in the United States. We would be working in other countries, other jurisdictions more heavily without the loans or the mandates.

Mr. ISSA. Mr. Ahearn, would you say the same thing, that your Malaysia factory would still be selling in Europe and you would still be in business and you would still be an S&P 500 listed company if not for domestic mandates and guarantees?

Mr. AHEARN. We would still be a successful company, but we would not be in the financial condition, sound financial condition we are in, and we would not have successfully entered the U.S. utility market. We would be a smaller company without this.

Mr. ISSA. Isn't it true that if not for a waiver as to the carcinogens that are in your PVs, that in fact you wouldn't even in the European Union at all? The Union did a waiver for your technology to be fielded.

Mr. AHEARN. No, that is not true. The product isn't carcinogenic. There is a elemental material, cadmium, that is a stable compound.

Mr. ISSA. But it needed a waiver in the European Union for you to field it, didn't you?

Mr. AHEARN. It didn't, no.

Mr. ISSA. It didn't? And you didn't rely on a single study that you paid for in order to convince people of that?

Mr. AHEARN. No, we didn't.

Mr. ISSA. You didn't pay for it or it wasn't heavily relied on?

Mr. AHEARN. I don't remember paying for one, nor that a single study would have been relied on. But I think what that is referring to is the European Commission undertaking analysis about how to regulate photovoltaics and all the various sub-technologies, and this question did come into play about what do you do with Cadmium-Teluride because there is cadmium in it, so forth. Brookhaven National Laboratory and then several comparable groups in Europe had done studies. We also funded studies and I think there was——

Mr. ISSA. Studies or a study?

Mr. AHEARN. Multiple.

Mr. ISSA. Multiple studies. If you could give our Committee copies of those studies, because we were unable to find the quantity that you are referring to.

Mr. AHEARN. Yes. I would be happy to.

Mr. ISSA. Okay, Mr. Chairman. Thank you. I hope there will be a second round.

Mr. JORDAN. Yes, there will. Thank you, Mr. Chairman.

The gentleman from New Hampshire, if he is ready to go, we can go to him. The gentleman is recognized for five minutes.

Mr. GUINTA. Thank you very much, Mr. Chairman.

Thank you all for being here today. I want to talk to Mr. Fairbank about your loan guarantee. My understanding is your loan guarantee was about $98.5 million, is that accurate?

Mr. FAIRBANK. That is correct.

Mr. GUINTA. Okay. Can you tell me what it means when a generation facility is placed in service and online?

Mr. FAIRBANK. That means the power plant is up and running and operating at at least 20 percent of its capacity.

Mr. GUINTA. Okay. Can you tell me when the Blue Mountain project was placed in service?

Mr. FAIRBANK. It was placed in service in October 2009.

Mr. GUINTA. And when did Nevada Geothermal receive its loan guarantee?

Mr. FAIRBANK. We received our loan guarantee on September 3rd, 2010.

Mr. GUINTA. So a full year after you were online and operational?

Mr. FAIRBANK. That is correct. And I guess the process from when we submitted our application until we got the guarantee, that was a 10-or 11-month process.

Mr. GUINTA. Okay. What was the reason that you wanted the loan guarantee when you first started the process?

Mr. FAIRBANK. We were wanting to have permanent financing. We actually had worked with John Hancock to work on a loan from John Hancock, and they made the application to DOE.

Mr. GUINTA. So you had an existing either line of credit or loan from John Hancock?

Mr. FAIRBANK. No, sir.

Mr. GUINTA. What money did you use to get this online?

Mr. FAIRBANK. We actually had a facility on commercial terms with a senior investment bank in New York to construct the project. They withdrew that commitment through the summer of 2008 and we needed to scramble to obtain a mezzanine debt loan from TCW, which was a $180 million facility. At the time we thought of that as a bridge loan and we wold be borrowing, we thought, $70 million, and then we thought we would go back to the banks for the remainder of the money that we needed to build the plant.

As it happened, several months after that, as you know, the banking crisis was—none of these banks were operating, so we ended up borrowing $180 million from TCW to build the plant. That is how we built the plant.

And then that wasn't in any way any permanent financing, it was, originally we thought of it as a bridge loan. It was a very expensive interest rate and we used it for construction. So we used a John Hancock loan that was used by the DOE loan guarantee to pay back a portion of that loan.

We also hadn't finished our work. We had built the plant, as I think you were pointing out, and that is only a portion of the project. We had not finished our work on the well field. So a portion of the funds were also to be used to finish the well field.

Mr. GUINTA. Okay, so you did you have financing, albeit not permanent and at a high interest rate.

Mr. FAIRBANK. That is correct.

Mr. GUINTA. You then could not get, through normal channels, a bank loan.

Mr. FAIRBANK. We may or may not have been able to get through normal channels a bank loan——

Mr. GUINTA. But you mentioned that was around the time of the banking crisis, so I am inferring from that that your position would be that you couldn't get access to——

Mr. FAIRBANK. Oh, when we were wanting to build the plant?

Mr. GUINTA. Yes.

Mr. FAIRBANK. We actually were forced into that loan because we had started with our EPC contract and they were given a limited notice to proceed, and if we hadn't acquired the rest of the money that we needed to finish the plant, we wouldn't have been able to hold schedule relative to the PPA and we wouldn't have been able to hold the cost, so that the EPC contractor had guaranteed a delivery time and a cost.

Mr. GUINTA. Okay, but you did have that financing in place and you did actually get the plant up and running because the plant was operational back in October of 2009. So I guess my point is why would you then get a loan in September 2010, a year later? To me it sounds not like a loan, it sounds like a bailout of your business plan.

Mr. FAIRBANK. It wasn't a bailout of the business plan, it was putting in place senior debt financing, which is one of the primary goals of the 1705 program.

Mr. GUINTA. Could you get that financing anywhere else?

Mr. FAIRBANK. We utilized the program that was there. The banks were——

Mr. GUINTA. Could you get the financing from the private sector?

Mr. FAIRBANK. It is possible we might have been able to; it is a bit speculative whether we would have or not. I am sure that we would have found a way.

Mr. GUINTA. Did you try?

Mr. FAIRBANK. We——

Mr. GUINTA. Or did you just choose to go solely into the 1705 program?

Mr. FAIRBANK. Well, we went to the market——

Mr. GUINTA. Yes.

Mr. FAIRBANK.—and we had, my recollection was, four commercial bankers, investment houses make proposals. John Hancock made the best proposal, so we basically went with John Hancock to see if we couldn't put together a commercial loan, and John Hancock made the application to DOE because that program was available and it was a great assistance for them to be able to do that. I don't know if Hancock would have done it without the loan guarantee; they said they might. But obviously the DOE loan guarantee helped them make their decisions.

Mr. GUINTA. Well——

Mr. FAIRBANK. And we weren't involved with that; we weren't the applicant for the DOE loan guarantee, that was John Hancock. We were involved peripherally.

Mr. GUINTA. But you were the recipient of the money.

Mr. FAIRBANK. We were the recipient of the John Hancock money, that is right.

Mr. GUINTA. And you knew that they were going for 1705?

Mr. FAIRBANK. Yes, sir.

Mr. GUINTA. Okay. So you have the plant in place, you file the application. You say that you had an opportunity in the private sector, but for whatever reason you opted not to utilize those loans, probably because this one was a better rate. You then repaid existing dollars. So the point of this is that the stimulus, whether you agree or disagree with it, the point of it was to create jobs. What jobs did this create? This was repaying an existing loan for an existing plant that was already in operation.

Mr. FAIRBANK. It was operating at 22 megawatts at the time that we received loan, so we had placed it in service, but it wasn't operating at its full capacity, so we had to finish the well field. And I think it has been very transparent in our Part 1 application for the loan exactly where the money was to be spent. A portion was to pay down the TCW facility and a portion was to finish the well field. The jobs that——

Mr. GUINTA. I just don't see how the business practice for the Department of Energy——

Mr. FAIRBANK. The number of jobs——

Mr. GUINTA. Excuse me. Reclaiming my time, sir. I don't see it as a good practice for the Department of Energy to use taxpayer subsidized loans to provide to an entity that already has an existing facility.

Mr. FAIRBANK. Well——

Mr. GUINTA. That is my personal point of view, but I don't think taxpayers in this Country want DOE providing taxpayer loans to a company to pay back a loan on an existing facility.

But my time has expired. The Chairman has been very gracious. I appreciate it and I yield back.

Mr. JORDAN. I thank the gentleman.

Mr. FAIRBANK. I didn't hear a question there, so I will just not address that.

Mr. JORDAN. Okay, great.

Gentleman from California is recognized.

Mr. ISSA. Thank you, Mr. Chairman.

And just following up on the gentleman's statement, I share his situation, which is if DOE had said, look, we will give you X amount of additional money, but you can't pay back your own associated parent company, you would have still taken the money. Bottom line is money flowed to a loan repayment to yourself, effectively, as part of it, something that is, as I understand it, is prohibited by DOE, but I am not going to ask you if it is prohibited for DOE to do it, because they obviously did it, as they did so many things that were wrong in the case of these loan guarantees.

Mr. Woolard, I just want to make sure the record is clear. When I asked about your strong support for Senator Reid and obviously we went over these letters earlier that show that there was direct political influence with the chief of staff and the President, I wasn't implying there is anything wrong in these contributions. I mean, ultimately most of the energy companies, including all the public

utilities in California, have historically supported me; it is not the money. I just wanted to make it clear that Senator Reid was very important to you, as he obviously was to Mr. Fairbank.

I want to go back, though, to Mr. Ahearn. I want to make sure I get your statement correct, that is why I asked to go first this round. You said that you had multiple studies, but isn't it true that by your own PowerPoint, which we have, when it says risk, we are almost completely relying on the Vasilis and his team. That is what that is, is multiple studies done by one person, isn't that true?

Basically, your support for your risk, which is our research ultimately proves, if it proves unpersuasive, essentially this carcinogen incorporated and you say not a risk, you had to convince the commission and his multiple studies were a big part of how you convinced them; and a risk was you wouldn't be selling in Europe if his studies, which you did pay for, hadn't helped bolster your case.

Now, isn't that a more accurate statement, rather than your saying that there were multiple studies and you didn't remember if you pay for it? You did pay this organization; you relied heavily on it in your own PowerPoint statement, isn't that true?

Mr. AHEARN. I respectfully—I need to break that down.

Mr. ISSA. Okay, did you——

Mr. AHEARN. I don't think that is true, no.

Mr. ISSA. Did Vasilis receive money from your company for any or all of these studies?

Mr. AHEARN. Not to my knowledge.

Mr. ISSA. Okay. Were you almost completely reliant on his studies?

Mr. AHEARN. I would say no.

Mr. ISSA. Okay, you say no. So the fact that your own PowerPoint shows that as a risk?

Mr. AHEARN. I don't know the context of this slide or where it was made. I am happy to——

Mr. ISSA. Well, it was made by you folks and delivered under our discovery.

Mr. AHEARN. I just don't know the period of time or what that was prepared——

Mr. ISSA. Oh, I apologize. We got it from a whistleblower, you didn't give it to us. But are you saying that you don't believe it is yours?

Mr. AHEARN. No, no, not at all. I am just saying I can't—that particular quote, without the context, I am not sure what it means.

Mr. ISSA. Okay.

Mr. AHEARN. But I would be happy to give you more——

Mr. ISSA. We would be happy to get more of these in discovery, since we had to get this from a whistleblower, who basically says, look, you were reliant completely on this individual. The whistleblower informs us that you did pay, so we look forward to getting that right. And what we are seeing is you needed this to work to get into the European Union, and you needed the money to be where you are today.

I am going to ask one question because I have been waiting to ask this for a long time, ever since they berated General Motors, Ford, and Chrysler when they came in. What kind of jet did you fly in on today?

Mr. AHEARN. I flew in yesterday.
Mr. ISSA. Yesterday.
Mr. AHEARN. On a Challenger.
Mr. ISSA. A Challenger 604, 605?
Mr. AHEARN. Three hundred.
Mr. ISSA. A 300. Oh, one of the new superminis. Pretty efficient. That was a nonstop flight from, I assume, Tempe?
Mr. AHEARN. Yes.
Mr. ISSA. Okay. I just think that if you are so concerned about—and I know it is more efficient than the big birds, but is that really environmentally sensitive?
Mr. AHEARN. And let me point out that that has nothing—First Solar did not pay for that; First Solar had nothing to do with that.
Mr. ISSA. Okay. Well——
Mr. AHEARN. That is something I did on my own.
Mr. ISSA. We are not going to ask him if he used the money he took out of the company. Staff already has better questions that I do; I wouldn't ask that.
Let me just ask one more question. Your production facilities, do they use your solar panels for the energy that they produce in order to manufacture?
Mr. AHEARN. Not for the energy——
Mr. ISSA. Okay. Is it true you looked at California and made a decision not to come into California because of two major factors, the regulatory environment and the cost of energy?
Mr. AHEARN. I don't know that that is the case. I think we looked at a number of places and——
Mr. ISSA. You ruled out California, the very place that has the mandates that help many of your companies succeed because we mandate that we buy your much higher, much subsidized cost; it drives up the rate payer cost dramatically and makes manufacturing in California undesirable. So you decided not to manufacture in a high-cost area. Basically, I see you are in Ohio, which is a low-cost energy area. You are in Tempe, Arizona, a low-cost energy area; they even use coal for some of their electricity. So is it fair to say that energy costs determine somewhat, in addition to labor costs, where you manufacture?
Mr. AHEARN. I would say it would be one of a number of factors.
Mr. ISSA. What puts you in Malaysia?
Mr. AHEARN. We wanted to have a base of manufacturing in Asia, as well as Europe and North America, as we were building up the company, and at the time, when we assessed the risk returns of the various Asian locations, having never done business in Asia, we thought Malaysia was a moderate risk, reasonable place to be located.
Mr. ISSA. I am going to close, but just noting that if these figures are still correct, Germany, 560 jobs; Ohio, 280; Malaysia, 1680. It sounds like you are not an American company particularly, you simply have a small presence in Ohio and another one in Arizona, that, in fact, we put an awful lot of money into putting you into manufacturing in other countries outside America and that, in fact, the loan program dramatically made it possible for you to have overseas jobs, not to have American jobs. Is that reasonably correct, that the majority of the jobs that you provide are not in Amer-

ica and that the loan program facilitated that as much as anything?

Mr. AHEARN. Well, I would disagree respectfully with the overall characterization.

Mr. ISSA. Not the characterization, just the numbers.

Mr. AHEARN. In sheer numbers, most of our full-time are outside of the U.S.

Mr. ISSA. Okay, so jobs created with loan guarantees, stimulus and others, basically not American.

Mr. AHEARN. All those jobs are American, all the jobs directly created with the loan guarantee.

Mr. ISSA. Okay, so those jobs wouldn't be there except for these loans, but those other jobs would be is your assertion?

Mr. AHEARN. The manufacturing offshore would be, but the R&D, the engineering, the hub of our business is here that is supported by those. But sheer numbers I agree with you.

Mr. ISSA. Thank you, Mr. Chairman. I yield back.

Mr. JORDAN. I thank the Chairman.

The gentleman from Ohio is recognized, Mr. Kucinich.

Mr. KUCINICH. I want to thank my friend from California for his defense of American manufacturing. Also, it seems that the Majority is raising a new point of view with respect to the use of corporate jets, which I find interesting.

Mr. ISSA. Dennis, you have warned me down over the years.

Mr. KUCINICH. I know. We are finally happening.

I also want to ask unanimous consent—I am glad that my friend from California, less recently from Cleveland, pointed out that Senator Reid didn't do anything wrong here. Matter of fact, I have unanimous consent the record of contributions from PG&E to some of the most outstanding members of Congress, some of the absolutely best equipped to analyze business members of Congress who are included in this list, and I just would ask that that be submitted.

Mr. JORDAN. Without objection.

Mr. KUCINICH. And I would also ask any member of the Committee wants to join me on H. J. Res. 100, which would end all corporate contributions, basically turn Federal elections into public financing. H. J. Res. 100. Any of you want to join in?

Mr. ISSA. Would the gentleman yield?

Mr. KUCINICH. Of course.

Mr. ISSA. I assume when you say corporate you mean PAC money. You don't mean corporate. Because corporate money has been banned before you and I were born.

Mr. KUCINICH. Right. All private money. That is what I mean.

Mr. ISSA. Thank you.

Mr. KUCINICH. Thank you.

Okay, now, the question. Mr. Woolard, your January 4th email to the DOE official you reference the fact that "a large group at NYC focused on this transaction and DOE ability to execute." This email continues: "Things are not good and there is a sizeable group of private equity investment banks writing a letter to Chu about the status of the program and inability to get loans through."

I need quick answers. Mr. Woolard, did this investment group have their own money invested in the project?

Mr. WOOLARD. They did not represent our project; it is a group called U.S. PREF——

Mr. KUCINICH. Did they have their own money invested?

Mr. WOOLARD. In multiple projects, quite a few.

Mr. KUCINICH. Why were they frustrated?

Mr. WOOLARD. It was private sector money that was coming in as the highest at-risk layer of money, the equity tranch. But the process at DOE was slow and things had died.

Mr. KUCINICH. So the DOE review process was drawn out, is that what you are saying?

Mr. WOOLARD. It was very—it took a lot longer than anybody—than had ever been expected or been represented.

Mr. KUCINICH. So why did these private equity investors, in fact, send a letter to the Secretary and, if so, what did it say?

Mr. WOOLARD. I believe what the result of what this group was they came down and talked directly to everybody from members, anybody who would listen to them, it was a large group, and they said that the program was not executing. They had private capital ready to deploy in the riskiest tranch, but they needed——

Mr. KUCINICH. So would the private investors, utility company purchasers and your all, have reason to be critical of DOE's being too thorough in their review of your applications?

Mr. WOOLARD. That was basically, the theme was that it had taken a very long time. We took four years for a two-year process.

Mr. KUCINICH. Well, okay, the email also says this: "Darby at PG&E talked directly to Obama about the program's challenges and the bad situation it puts him in. DOE credibility is thin and I am currently trying to put off comms with Hill until we talk."

Now, Mr. Woolard, I assume that Darby refers to Peter Darby, former CEO of PG&E, correct?

Mr. WOOLARD. Yes, sir.

Mr. KUCINICH. And didn't California recently pass a law requiring utilities to begin purchasing renewable energy in 2014 and that as much as 33 percent of any utility's energy needed to be renewable by 2020?

Mr. WOOLARD. Yes, sir. The relevant law at the time was 20 percent, and then it has been increased.

Mr. KUCINICH. Isn't it also the case that securing a purchaser of the energy to be produced at your project was imperative to DOE's evaluation of BrightSource's loan guarantee application?

Mr. WOOLARD. Both BrightSource and other loan guarantee recipients were critical. PG&E could not meet the RPS standards.

Mr. KUCINICH. So what would happen if the DOE continued to drag it out, drag out the due diligence?

Mr. WOOLARD. PG&E was at significant risk with the regulators because they wouldn't have been able to deliver——

Mr. KUCINICH. Well, would they have faced sanctions from the State if they didn't meet the renewable energy standards?

Mr. WOOLARD. I believe so.

Mr. KUCINICH. So ultimately BrightSource was awarded a conditional commitment in February 2010 and a loan guarantee more than a year later, in April 2011, correct?

Mr. WOOLARD. Correct.

Mr. KUCINICH. So after all the DOE due diligence, do you believe that your DOE loan was awarded on its merits or because of a conversation PG&E's CEO had with the President?

Mr. WOOLARD. No, I believe it was all done on its merits. It was a very thorough process and it started back in 2006, actually.

Mr. KUCINICH. Okay, Mr. Ahearn, the Majority's recent report refers to First Solar's loan guarantee as a scheme characterized by failure to prove innovativeness. In March 2011, however, Arizona Governor Brewer praised First Solar's projects, stating the company's "presence in Arizona has been a great engine in driving our renewable energy sector forward." Senator McCain praised First Solar's decision to build in Arizona and a top bundler for the Senator's presidential campaign served on First Solar's board of directors since 2010.

Do you believe First Solar's political connection had any bearing on the application process?

Mr. AHEARN. Absolutely not.

Mr. KUCINICH. Do you believe that your DOE loan guarantee application was awarded on its merits?

Mr. AHEARN. Yes, each of them underwent a very rigorous detailed process.

Mr. KUCINICH. Now, members of Congress, including members of this Committee, have sent nearly 500 letters to Secretary Chu in support of green technology projects in their districts, both Democrats and Republicans, supported Abound Solar's loan guarantee application. Members of Congress also supported Nevada Geothermal's loan guarantee projects.

Mr. Witsoe, Mr. Ahearn, do you believe these members of Congress were requesting special treatment of your companies? Mr. Ahearn?

Mr. AHEARN. No, I think they were doing what their constituents expect.

Mr. KUCINICH. Mr. Witsoe?

Mr. WITSOE. No, not to my knowledge.

Mr. KUCINICH. So, Mr. Chairman, I don't really think that—so you think they were awarded on the merits, Mr. Witsoe?

Mr. WITSOE. I know we used the loan to build our new technology.

Mr. KUCINICH. Awarded on the merits?

Mr. WITSOE. We doubled efficiency.

Mr. KUCINICH. On the merits?

Mr. WITSOE. Yes.

Mr. KUCINICH. On the merits?

Mr. AHEARN. Yes.

Mr. KUCINICH. Okay.

So, Mr. Chairman, this broad scandal we are talking about, I don't know, I don't see it. I think we actually have a system here that is trying to work and we should stop beating each other up on it. But we should invite, yeah, I think it would be good to have the private equity people in here too. Thanks very much.

Mr. JORDAN. I thank the gentleman.

If we could put back up that email that the Ranking Member just cited, the January 4th, 2010, email from Mr. Woolard to Mr. Rogers.

[Slide.]

Mr. JORDAN. Mr. Witsoe, do you have any communications with the Department of Energy where you reference conversations with the President of the United States?

Mr. WITSOE. No, not that I know of.

Mr. JORDAN. Mr. Fairbank, do you have any communications with the Department of Energy concerning your loan guarantee program where you reference the President of the United States?

Mr. FAIRBANK. None whatsoever.

Mr. JORDAN. Mr. Ahearn, do you have any?

Mr. AHEARN. Not to my knowledge.

Mr. JORDAN. Mr. Nelson, do you have any?

Mr. NELSON. No, sir.

Mr. JORDAN. Imagine that, you don't have any.

Read this paragraph: Also, Darby at PG&E talked directly to Obama, not the President, not the President of the United States; Obama, about the program's challenges and the bad situation it puts him in, the President himself, I assume that is referring to, DOE, Department of Energy's credibility is thin and I am currently trying to put off communications with the Hill until we talk.

Now, if that is not political influence, I don't know what is. Think about this. This was about a $15 billion program, right? You all are competing for some of that money. Mr. Nelson is not.

It is amazing to me. Mr. Nelson, how did you do it? We have just had, now, two hours of the shenanigans that went on. How in the heck did you make it? How are you doing it?

Mr. NELSON. We have a group of committed private citizens who love renewable energy, see the future, and have committed the funds to our management team and our technology.

Mr. JORDAN. But you guys are actually, so Mr. Nelson is dealing with private investment, he is making it; you guys, though, decided to compete for this available dollars. Do you think it is an unfair advantage for BrightSource to be able to talk directly to the White House?

Put up the other email. Put up the other email, the one—yes, this one. Put up the one right here, where——

[Slide.]

Mr. JORDAN. Now, Mr. Woolard has said under oath today that they did not send this. Is that correct, Mr. Woolard?

Mr. WOOLARD. That is correct.

Mr. JORDAN. But just the fact, well, let me ask you, Mr. Witsoe. Did you ask the people at the Department of Energy if they would proofread a letter that your chairman of the board was thinking about sending to the White House chief of staff? Did you guys do that?

Mr. WITSOE. No, we did not.

Mr. JORDAN. Mr. Fairbank, did you have a letter that you sent to the Department of Energy, the people who were going to decide whether you get the loan or not, did you have a letter that you asked them to proofread before your chairman sent it to the White House chief of staff?

Mr. FAIRBANK. We didn't do anything like that.

Mr. JORDAN. Okay.

Mr. Ahearn, did you guys ask the Department of Energy to proofread any correspondence you were thinking about sending to the White House chief of staff, pretty important guy?

Mr. AHEARN. Not to my knowledge, no.

Mr. JORDAN. So do you think that potentially put you at a competitive disadvantage when you are trying to secure a loan guarantee program and help your company and help your projects?

Mr. WOOLARD. You know, my view, going through the process we did, it wouldn't have mattered, honestly. I mean, this was a rigorous, very objective——

Mr. JORDAN. But at least it raises the concern if a potential competitor for a scarce amount of dollars is citing conversations with the President of the United States in correspondence with the people making the decision, that at least raises some whistles and some alarm bells, right?

Mr. WOOLARD. I can understand the appearance.

Mr. JORDAN. Mr. Fairbank, do you think that raises some concern?

Mr. FAIRBANK. We received bipartisan support with——

Mr. JORDAN. No, no, that is not my question. Do you think correspondence from a potential competitor for a finite amount of money, where they cite conversations with the President of the United States, where they send a letter and ask them to proofread it and them to edits to it, do you think that maybe raises some concern?

Mr. FAIRBANK. I don't want to get involved with that.

Mr. JORDAN. Mr. Witsoe? Might potentially, maybe? Do you think maybe a taxpayer would say that might put Mr. Witsoe's company at a little bit of a disadvantage to Mr. Woolard's company? Do you think so?

Mr. WITSOE. I can only comment that Abound had a fair process, and I think that is for you folks to——

Mr. JORDAN. Mr. Nelson, do you think it puts you at a little bit of a competitive disadvantage?

Mr. NELSON. No, I don't. I think ultimately I don't blame any——

Mr. JORDAN. That is an even better answer. That is an even better—we are back to Mr. Mulvaney's point. We shouldn't have had this goofy program going on in the first place. If you don't think it puts you—you can make—I didn't expect that answer, I will be honest with you, Mr. Kucinich. I didn't expect that. But that is even better.

Mr. NELSON. I don't blame any of these gentlemen, who I have a lot of respect for, for working within the rules to get every competitive advantage they can, including getting government money. The problem is not in their approach; the problem is in the rules.

Mr. JORDAN. Exactly right. Exactly right.

Mr. Woolard, here is what I want to know. So you didn't send the correspondence to the White House. What happened in the course of applying and going through this process? What took place that led you and your company to believe it was okay to ask the people who are deciding, hey, can you edit this because we want to send this from our chairman, who is going to be the next Commerce Secretary, to the White House chief of staff?

Mr. WOOLARD. Mr. Chairman, I don't, frankly, as I go back through the last several years, I don't remember what exactly transpired and would have made something okay or not. Ultimately, we decided it was not smart to send and it was not appropriate to send, and did not. We wanted to make sure everything was clearly done on its merits, which I believe it was, and that was ultimately the goal, and we wanted to make sure it was a very clear and unambiguous process.

Mr. JORDAN. And I want to be quick here because I am over time. But I just want to be clear. When an email to the senior advisor to the Secretary of Energy uses this kind of language, Also, Darby at PG&E—not Mr. Darby, not the CEO—Darby at PG&E talked directly to Obama. When you use that kind of language, this is not, Mr. Rogers, I know you work for Secretary Chu and this is an important thing. The CEO of PG&E has had the ability to talk directly to the President of the—this is casual, hey, we talked to Obama. This sounds like this was pretty common; you had some kind of relationship with folks at the White House where you can use this kind of language in correspondence to the people who were making the decision about $1.6 billion of taxpayer money.

Mr. WOOLARD. Actually, I think it is important to read the language there, and I think it is important to note that Mr. Darby was talking about the program. And at that point in time the DOE program was not getting loans out, it was not functioning. The program itself, nothing to do with BrightSource's loan guarantee, but the program was not getting loans done and it was putting not just us, but many of his projects at risk.

Mr. JORDAN. Let me ask you this. To the other email, the draft that you asked them to proofread, whose decision was it not to send that correspondence to Mr. Daley?

Mr. WOOLARD. At the end, it was John Bryson and I said that is not appropriate and did not do it.

Mr. JORDAN. And do you think, I am just curious for our panel, do you see any concern, confusion, misstatements possibly when you look at how the Secretary of Education, Mr. Chu, responded to my questions two months ago, where I asked him directly did the fact that John Bryson at BrightSource, now the Commerce Secretary, have any influence on your decisions to grant BrightSource a loan guarantee of $1.6 billion, when I asked him did he have any correspondence with the White House, did any of that influence you, and I specifically mentioned the chief of staff, do you guys think that there is any concern or confusion there?

Mr. Nelson? Do you think at least it was worth looking into?

Mr. NELSON. Yes, I think it is, although I have no basis to believe that it actually happened. But if there is some malfeasance in that regard, I would look into it.

Mr. JORDAN. Mr. Witsoe?

Mr. WITSOE. I don't have any knowledge of it.

Mr. JORDAN. I figured you guys would take that.

Anyone else want to comment?

[No response.]

Mr. JORDAN. I didn't think so. I didn't think so.

We will turn next to the gentleman from Maryland, the Ranking Member of the full Committee, Mr. Cummings.

Mr. CUMMINGS. I yield a minute to Mr. Kucinich.

Mr. KUCINICH. I thank the gentleman. A couple things here very quickly. Going back to the memo from Mr. Woolard to Matt Rogers, the paragraph that reads, "Also, Darby at PG&E talked directly to Obama about the program's challenges and the bad situation it puts him in." Now, is this memo talking about the bad situation Darby is put in or the bad situation President Obama was put in?

Mr. WOOLARD. As I read it, it is clear PG&E was in a bad situation.

Mr. KUCINICH. Okay. So this does not say the President was in a bad situation, this is about PG&E and Darby?

Mr. WOOLARD. Right. In fact, I believe concurrent with this there was a public report out starting to discuss their bad situation relative to the loan guarantee program disclosure.

Mr. KUCINICH. Okay. This comes up with a new aphorism, that familiarity breeds investigation.

I also want to thank my friends from this side of the aisle for exploring the mythologies of free market capitalism.

Mr. Cummings, thank you.

Mr. CUMMINGS. Mr. Chairman, you have announced your intention to hold a follow-up hearing and you committed to inviting Governor Schwarzenegger, and I would invite you to consider asking both Wall Street investors who wrote Secretary Chu and the former CEO of PG&E and ask them why they believe this project was so important. Would you do that, sir?

Mr. JORDAN. I will take that up with, the Chairman of the full Committee committed to that. I will take that up with Chairman Issa.

Mr. CUMMINGS. Thank you very much.

Gentlemen, I have been listening to you very carefully. I want to go back to something Mr. Nelson said. I believe that all of you are honorable people simply trying to carry out a business in a very competitive world. And as I sit here and I listen to you, I am convinced that, if I were you, I would feel like I was being beaten up on for simply trying to do what was best for your businesses.

And while we are sitting here going through this, there are people all through these United States that both parties claim they want to see become employed, millions upon millions of them hoping and praying that they can get a job. And part of the stimulus bill was to try to get folks employed and I, for one, believe that it was quite effective in doing that; I don't give a damn what anybody says. I wish we had more jobs.

But one of the things that it also was to do, and I quote from the law, was to provide investments needed to increase economic efficiency by spurring technological advances in science and health, and to invest in transportation, environmental protection, and other infrastructure that will provide long-term economic benefits.

The reason why I am getting into this is one of the things that we wanted to do was be innovative. I have said from many a podium that while we may go through our economic problems, we have to be—and the President said this—we have to be innovative, create jobs and be innovative. That is what the United States is all about. That is why we are the Country that we are.

Mr. Nelson, I applaud you for saying what you said. You said you believe these guys; these are great guys basically is what you were saying. Maybe there is something wrong with the rules, but these are great guys being competitive.

I want to ask you, Mr. Ahearn, talk about innovation with regard to the stimulus and jobs. Can you talk about that with regard to your company?

Mr. AHEARN. Yes, I sure can. Well, one way to think about it, these three projects we are talking about are the power equivalent of an average size nuclear plant. We have built something here that has never been done anywhere in the world. In order to build solar plants of that size and magnitude, we have had to solve a lot of problems that had never been solved before. We now have, even though they are not completely constructed, we have people coming from all over the world to see what we have done and we have begun negotiations and discussions with potential customers in markets all over the world.

As those markets take shape, the innovation and the job creation in the U.S. for our business and for our value chain will accelerate because the creation of goods and services that are exported into these countries to meet their power needs will begin to open up and grow massively. And we are really keyed by getting solar off the rooftop, into big utility scale power plants, and that did require, and still does, the solution of a lot of pressing problems, and it can only be done, some of this can be done in a laboratory; some of it can only be done in the marketplace, at the project, encountering and solving problems. So that is the big piece.

It directly created an average of 1200 construction jobs, which is not trivial. It kept our factory and our supply chain here in the U.S. running in a stable fashion, and will for several years. But the future, I think, is the export and the innovation that allows us to break into new markets, and this has been instrumental.

Mr. CUMMINGS. You know, Mr. Ahearn, I often say our children are our living messages that we send to a future we will never see, and listening to what you just said——

Mr. Chairman, I just ask that I get two additional minutes like Mr. Guinta got.

Mr. JORDAN. Go ahead.

Mr. CUMMINGS. You know, the things you are talking about are things that I take it will have spinoff into a time when we are probably dead, in other words, what you are doing now. Is that a fair statement?

Mr. AHEARN. Absolutely. And there are lots of follow-on effects to this. One thing, with our success, we have put down a marker in the marketplace where Mr. Nelson and others are now competing to try to beat us. So you have a whole new wave of R&D opening. Silicon Valley is full of startup solar companies that were funded to try to beat First Solar. That is literally the motto that some of them have. And that is really what I think our Country has been all about, is competition and innovation spurred by success and by market opportunities. It is a global marketplace and the hub of the activity and the innovation will always be in the United States.

Mr. CUMMINGS. Mr. Woolard?

Mr. WOOLARD. In terms of innovation?

Mr. CUMMINGS. Innovation, yes. And the value of innovation. See we are talking all this stuff here today, but the big picture is innovation and jobs, and how does the United States stay competitive. You know, we hear a lot of talk, but we don't always walk the walk. And what I am saying to you is you are the guys who are like on the front line, like in the trenches, like having to make decisions, difficult decisions, putting your butts on the line every day.

So I am just so glad that you are here and that you are the innovators. I just want to just get an idea. While we are talking all this stuff, the Chinese are running, just moving rapidly, and I just want to make sure we stay focused on what we need to stay focused on, and that is the United States being number one. I don't want to be number two. I don't want to be number three. We are better than that. And sometimes I think we get mired in stuff that distracts us, and then get mired in a culture of mediocrity and failure, and I think we need to be very careful with that.

I think my time is up, unfortunately.

Mr. JORDAN. Mr. Nelson, do you want to be number one? Do you want to have the best company you can possibly have?

Mr. NELSON. Yes, sir.

Mr. JORDAN. Okay, good.

Mr. Woolard, just real quick. The email, the proofread email that you sent and you asked them to take a look at, and you said that you did not send that to the White House chief of staff, Mr. Daley?

Mr. WOOLARD. Yes, sir.

Mr. JORDAN. You know for certain, you clearly remember that you did not send that email?

Mr. WOOLARD. I would not have sent it; I believe it would have been from John, and I don't believe John——

Mr. JORDAN. Well, which is it, he didn't send it or you don't believe he sent it?

Mr. WOOLARD. To the best of my knowledge, he did not send it.

Mr. JORDAN. So you know that you didn't send it, even though you are the one who asked for them to proofread it, and, to the best of your knowledge, you think Mr. Bryson, now Commerce Secretary, didn't send it.

Mr. WOOLARD. Yes, sir.

Mr. JORDAN. Okay. Did you communicate with the White House in some other fashion? Did you send them another letter? Did you call them? Did you go to the White House and meet with them about this issue?

Mr. WOOLARD. I have never met with Mr. Obama.

Mr. JORDAN. Do you know if Mr. Bryson did while he was still CEO? Did he meet with, did he discuss this on a phone call? Did he or you discuss this on a phone call with the White House chief of staff?

Mr. WOOLARD. I certainly never have and——

Mr. JORDAN. You did not?

Mr. WOOLARD. I did not.

Mr. JORDAN. And Mr. Bryson, to your knowledge?

Mr. WOOLARD. To the best of my knowledge didn't.

Mr. JORDAN. Okay. Just wanted to be clear.

The gentlelady from New York is recognized.

Ms. BUERKLE. Thank you, Mr. Chairman, and I apologize. Quite ironically, I have been chairing a subcommittee hearing for veteran affairs, making sure that the heroes of this Country who have served our Country in service and sacrifice are getting what they need, and our hearing today was on prosthetic devices. So I apologize for not being here for most of this morning's hearing.

I want to just talk for a few minutes here. A few weeks back, in March, Secretary Chu was here and talked to us about the loan guarantee program, and he praised the work that was being done by the Department of Energy. And three days after his appearance right in this very room the Secretary put out a memo, and the memo had to do with scientific integrity. And he stated in the memo, he laid out a very commendable framework for the Department of Energy and specifically he stated the Department's mission relies on objective, reliable, accurate, and accessible scientific and technical information. The Department of Energy is committed to ensuring a culture of scientific integrity. And I think we can all agree that that is a very laudable goal.

In November of 2011 the Department of Energy responded to a letter from Chairman Issa, and I believe he referenced that earlier while he was here, with an explanation of the Department of Energy's awareness of the risks associated with Cadmium-Telluride. In that letter, as their source, they cited Professor Vasilis Fthenackis. Now, my understanding, and I am a nurse and I spent most of my professional career in healthcare, both with hospitals and as a nurse, my understanding is that cadmium is a highly toxic carcinogen and could pose serious public health risks if not handled properly.

So, Mr. Ahearn, my question is for you, at least this first question is. Did you or First Solar, or anyone on First Solar's behalf, ever pay Professor Fthenackis, or any organization with him or that he was affiliated with, for research related to Cadmium-Telluride? And that is just a yes or a no, sir.

Mr. AHEARN. As you have phrased that question, I think the answer would be yes.

Ms. BUERKLE. Thank you. Now, on the screen you are going to see a slide here from a First Solar PowerPoint presentation related to the company's use of Cadmium-Telluride. The highlighted portion of the slide states that a risk for First Solar is its reliance solely on the research of Professor Fthenackis. So my question again to you, Mr. Ahearn, is did you or anyone on First Solar's behalf influence or recommend specific lines of research by Professor Fthenackis in any fashion? And again that is just a yes or no.

Mr. AHEARN. Well, the answer is no, but I think it is incomplete without further explanation, if you would allow me.

Ms. BUERKLE. Sure. Go ahead.

Mr. AHEARN. So Professor Fthenackis was employed by Brookhaven National Laboratory, which is charged by the Department of Energy with assessing the environmental health and safety aspects of all photovoltaic technologies. Before we invested, and even after, in First Solar, Brookhaven and the National Renewable Energy Lab conducted their own independent assessment of the use of cadmium.

At some point after that, Vasilis Fthenackis and Brookhaven associated with Columbia University and formed a life cycle study center, and we contributed money, I am just not sure the entity or how it was done, to the Columbia University Center, but not with influence on any of their specific programs or research.

Ms. BUERKLE. Thank you. Perhaps you could comment, then, the risk here on this first slide: We are almost completely reliant on Vasilis, and that is Professor Fthenackis, and his team. So—go ahead.

Mr. AHEARN. I think this might relate to the European activities. So in the U.S. the independent assessment and validation work around cadmium had been done by Brookhaven and NREL. In Europe, at one point, there had not been any comparable independent government agencies or work done to assess Cadmium-Telluride because it hadn't been introduced to the market, so we wanted to broaden the scope of research and interest the relevant agencies in Europe in conducting these kinds of assessments on Cadmium-Telluride. So I believe that is what this is referring to.

Ms. BUERKLE. Did you or anyone on First Solar's behalf at any time request that this research undertaken by the professor be kept confidential or otherwise not disclosed?

Mr. AHEARN. Not to my knowledge.

Ms. BUERKLE. On the screen you are going to see another slide.

And I see that I am running out of time here, so I will make this quick, Mr. Chairman.

On the screen you are going to see another slide from the First Solar presentation, again related to a risk matrix, stating successful future studies establish Cadmium-Telluride photovoltaic desired outcomes. It sounds to me like you are trying to state goals for your company and you are trying to really compromise the objectivity of scientific reports, and that, of course, is of grave concern to us. Given this evidence and this slide, Mr. Ahearn, the Department of Energy's dedication to relying on credible and objective information seems to have been compromised by your campaign and I just would ask whether you agree or disagree with that.

Mr. AHEARN. I disagree with that. These look like they are dated back in 2006, and if you would permit me to explain, I think I can explain this.

Mr. JORDAN. Quickly.

Mr. AHEARN. Okay. So the issue we faced in Europe was what will competitors likely do relative to First Solar, because we had the lowest cost technology. And our area of vulnerability would have been around the use of cadmium. So I think these slides are going to how do you anticipate a competitive attack and how do you get the scientific community engaged properly to get Cadmium-Telluride recognized as a proper technology in Europe. So it was back in that earlier time frame.

Ms. BUERKLE. Thank you.

And I yield back my time.

Mr. JORDAN. I want to thank the gentlelady. I know she has to run. I have run too.

And I promised you guys we would be out by 12 and we are actually—I know this is hard to believe—we are going to be close. We have two left. Mr. Kelly has agreed to chair for the final two ques-

tions from our members. Mr. DesJarlais will go first, then Mr. Kelly will close out the hearing and get the final round.

I want to thank all our witnesses for being here and for making the trip and the sacrifice it takes to come here and testify. We appreciate it. I think it has been a very good hearing. And as the chairman indicated, we plan to follow up with Mr. Chu and get some clarifications to his statements under oath back in March. But I want to thank our witnesses.

With that, I will turn the chair over to Mr. Kelly, and Mr. DesJarlais is recognized.

Mr. DESJARLAIS. Thank you, Mr. Chairman.

In the spirit of trying to stay on time, I was listening to Mr. Cummings', the Ranking Member's, comments about the integrity of the panel sitting here, and really what we are here for today is to look into whether or not the taxpayer money was spent wisely in this area, in these investments. And I guess I might agree that it may not be any of your faults that these things didn't go like you wanted, but I would question whether or not it is a failure in government, once again meddling probably where it doesn't belong, trying to invest in the private sector when we have a shining example in Mr. Nelson of what the American spirit and free enterprise can do if you leave it alone, if the Federal Government would simply stay out of the way.

For all the taxpayers sitting here watching today, I am sure that they are not very pleased with the way we, the Federal Government, invested their money in this case, and in many cases in business. So clearly maybe not shame on you, shame on us for not doing our homework better, loaning money in areas where clearly the risk was very high. And I guess I would wonder, for all you sitting there, if you had to invest all that money out of your own pocket, whether you would have taken the same path, and that is only a question you can answer.

But this is the frustration we face here in the Federal Government and looking after the taxpayer money, trying to reduce this deficit and the spending problem that we have. We are asking right now, or a lot of people in Washington are asking to take more of the taxpayers' money, and I would challenge whether anybody watching this hearing today would agree that the Federal Government needs another dime of taxpayer money until it can learn to manage it better than what we have seen in this hearing today.

So that is just one man's opinion, but I thank you all for joining us today and I yield back.

Mr. KELLY. [Presiding.] Thank you, doctor.

Mr. Woolard, some of the questions have been was there any political influence that was involved in these loans. Let me go to slide number 9.

[Slide.]

Mr. KELLY. This is from Manley Shafer from BrightSource to Doug Schultz at DOE Loan Program, and it says the team is at the White House, in the Vice President's office at 10:00 tomorrow. So why at the White House and why at the VP meeting if it is not politically influenced? Why not just the DOE?

Mr. WOOLARD. I believe—I am trying to make sure I have the dates accurate—this was in March——

Mr. KELLY. It is March 8, 2011.

Mr. WOOLARD. Yes. So we had—whenever we had correspondence on the Hill, we talked to the members of Senate about policy, we talked to Carol Browner sometimes, in the Administration, in the White House, about broader policy issues.

Mr. KELLY. Okay. So you can see why—these are your own emails, so it comes up as, okay, there is no political influence being shown, we are not trying to go that way, but we are going to go to the White House, then we are going to meet with the Vice President, but this is really just a briefing just to keep them abreast of what is going on.

Mr. WOOLARD. Well, we met with Lindsay Graham and others as well, and we met with——

Mr. KELLY. Well, I understand that. People come to my office everyday too. In fact, Mr. Ahearn's people were in our office last week, very nice people, and their concern was the respect shown to you folks. And I know this is like getting a root canal without Novocaine. I understand that. But it comes down to this is taxpayer money, and because of what Mr. Mulvaney said—I am a General Motors dealer. General Motors has gone through more scrutiny than anybody, and I get told on the sales floor all the time I would never buy a guy from you guys again because you took the bailout. Well, actually, the dealership didn't get it, it went to the corporation; the corporation is no longer the corporation; dada dada. But you go through all that stuff all the time.

Mr. Ahearn, I looked at your resume and looked at your background. You are pretty astute when it comes to investing, there is no question about that. What happened at the end of the summer, in August of 2011, that all of a sudden the market started to drop, the shares for the company started to just go off the cliff?

Mr. AHEARN. The core issue is that the subsidy programs that were creating the market for solar, which are, for the most part, in Europe, began to shrink pretty drastically as a function of the fiscal problems in Europe and a variety of dynamics, and that was coupled with a massive oversupply of Chinese panels coming on the market. So basically the market space started to dry up, and that really impacted all the industry stocks across the board.

Mr. KELLY. So all of them were tumbling?

Mr. AHEARN. They are all tumbling, yes.

Mr. KELLY. And we look at Europe today and we look at—really, subsidies are driving—they just don't have enough money to continue to fund what they have been funding.

Mr. AHEARN. That is correct.

Mr. KELLY. Okay. And the same thing really is pretty much going to happen here; we are running out of money to do the things that we think we should be doing, so you run out of capital and there is no infusion.

Mr. AHEARN. That is right. And that is why I think I agree with your overall point that we have to be in markets that are not subsidy dependent, and I think we are fortunate we had some time and ability to lower our cost, but we need to move, now, strongly into markets that do not require these types of subsidies, which is what we are doing now.

Mr. KELLY. Okay. And the energy market—and I know. I am from Western Pennsylvania and I know what is going on in Western Pennsylvania. Around the rest of the Country, you look at all the fossils that are very much abundant and very much affordable and very accessible, so we are watching that go away. And I know that I probably would have gotten rid of my stock then too. Even though you had the loan guarantees coming in. You know, usually when you get the loan guarantees, it is like, okay, we have the money, we are going to be okay. But if you see the market kind of tanking, you say, you know what, it is time for me to get the heck out of here; I am going to take my marbles and run. So I understand why you did that. That is a smart investor.

Mr. Nelson, one of the Administration's top justifications for the 1705 loan program was there just wasn't enough private capital. So what do you guys know that nobody else knows? Why didn't you go after that low hanging fruit that was out there with the government money?

Mr. NELSON. Well, the bottom line is that I believe in the long run it is economics, not government policy, that is going to drive widespread adoption of green energy, and our whole point of view is to reduce the cost of green energy so it is affordable for people, and that is our approach. Ultimately, we change the economics and don't rely on government funding.

Right now we have plenty of private funding to do what we need to do and we anticipate that we will come up with a product that will actually be competitive and close to grid parity so it will be widely demanded, and that people that we want to do business with will accept us as a partner.

Mr. KELLY. Okay. And, again, your background, Mr. Ahearn's background, you folks are venture capitalists. You were with Bain for a while, so you understand a little bit about investing and turning companies around and making them good enough.

Mr. NELSON. My wife would say just a little bit.

Mr. KELLY. Just a little bit. Well, you know what? I am interested in that because, really, there is an old saying out there: if it not market ready, no amount of subsidy will affect it; and if it is market ready, it doesn't need subsidize at all.

Mr. NELSON. Well, that is the bottom line. We have talked a lot about innovation. Mr. Cummings talked articulately about innovation. The fact is that funding innovation is a really important part of the government's function in this. But that is different than the loan guarantee program; that funds commercialization. And commercialization should be a private function and it should happen with good projects. When you have a project that isn't economically viable or which costs substantially more than economic alternatives, no amount of government subsidy will ever bring that into widespread adoption.

Mr. KELLY. Probably not a good investment.

Mr. NELSON. That is my feeling.

Mr. KELLY. Okay. I wonder, because I am looking at JPMorgan Chase and I see the DOJ is going to do an investigation because they had a $2 billion loss; $20 billion profit. And the people that we really come down on them is people who run $16 trillion in the red, that make investments everyday, that if the shareholders in

that company, which is the American taxpayers, they should be demanding also a look into what in the world are we doing with this money and where are we investing it, and at the end of the day what do we come up with.

So I think we are done for the day.

I want to thank you sincerely. And I know how difficult it is, but Mick made a good point: you can't follow this trend and then be upset because people hold you responsible for it. I want you to understand I have deep respect for what you do. I have done—my own life has been very much through hard work and sweat equity and everything else, a lot of skin in the game. So I understand. I know it is difficult. But when that money is put out there and they dangle that carrot in front of you, sometimes it is a Judas goat that you probably shouldn't follow because it really does come down hard on you.

I appreciate your comments, Mr. Nelson. I read your background. I know exactly what works, what doesn't work, and I do agree. This is science that sometimes is just way ahead of the market. It is not economically viable right now. There will be a time sometime in the future, but maybe right now is not the right time. We haven't had a really positive ROI on it.

So, with that, this hearing is now adjourned.

[Whereupon, at 12:01 p.m., the subcommittee was adjourned.]

Chairman Issa's Opening Statement for the Record as agreed to by unanimous consent.

The promotion of green energy has been a key pillar of the Obama Administration's economic growth strategy. Three years later, the results have been dismal. To accomplish their goals, the Administration has suppressed the expansion of traditional sources of energy while putting the federal government's weight behind alternative energy.

Recently, the GAO released a report on the federal government's support of green energy and found more than 700 initiatives dedicated to this purpose. The vast majority of these initiatives are regulations, mandates, tax credits, and other incentives aimed at directing provide sector activity towards favoring wind, solar, and other alternative energy projects.

Today, Representative Kucinich compared oil and gas subsidies to subsidies for renewable energy arising out of the 1705 DOE loan guarantee program. His comparison was fraught with errors and failed to provide an apples to apples comparison. As you will see, in the aggregate, the integrated oil or gas companies receive no significant federal tax expenditure subsidies at all. This surprising outcome results from punitive tax treatment that charges integrated oil companies a higher tax rate than all other domestic manufacturing and production companies, and fully offsets the only significant tax benefit that integrated oil or gas companies receive – the ability to expense intangible drilling costs.

The details are as follows. Only three significant tax expenditure subsidies even exist that apply to oil and gas companies.

1) The first and most important subsidy to oil and gas, which I described above, is called the Intangible Drilling Costs tax deduction (IDC). This IDC allows for oil and gas drillers to expense the development of oil and gas sites instead of capitalizing those costs and then deducting them over a longer time period. This deduction has an important economic purpose – drilling is extremely cash intensive and this deduction enables oil and gas companies to recognize those expenses as they occur, as opposed to years later. Given that these are actual expenses, this can hardly be called a subsidy. Nonetheless, according to the Joint Committee on Taxation, this tax expenditure is expected to cost $800 million a year.

2) The second is a "percentage depletion allowance" deduction relating to the depletion of oil and gas properties. This deduction allows independent oil producers (not the big integrated oil or gas companies) to take percentage depletion when it exceeds the value of cost depletion. According to the Joint Committee on Taxation, this depletion deduction is expected to cost $900 million a year, but, as I said, the big integrated oil companies are not allowed to take this deduction. Only independent drillers can take this deduction.

3) Finally, let us discuss the deduction for income attributable to domestic production activities. This deduction allows all manufacturing and production companies to reduce their production income by 9% before calculating tax. However, oil and gas companies were singled out and punished. They can only reduce income by 6%, hence oil and gas companies lose a 3% deduction available to all other domestic producers and manufacturers. In contrast, the renewable energy firms get the full 9% reduction for the power that they produce. The punitive tax treatment is estimated to cost $850 million in higher taxes to oil and gas companies.

When we consider these deductions in the aggregate, the integrated oil companies pay $50 million more per year in taxes after considering all significant tax expenditure benefits and punitive tax treatment.

In contrast, renewable energy firms, such as solar and wind companies, receive an enormous amount of subsidies. The federal government subsidizes green energy at every stage. The following is a partial list of subsidies that amounts to over 2.5 billion dollars a year:

1) A credit paid for electricity production from wind resources, under Section 45 of the Internal Revenue Code, is expected to cost taxpayers $1.3 billion in 2012, and rise to $1.5 billion, by 2014.

2) This same Section 45 credit will cost taxpayers $300 million each year in payments to open-loop biomass projects.

2) The 1603 treasury grant pays renewable energy companies a full one third of the cost of constructing a renewable energy power plant. According to the Joint Committee on Taxation, this energy credit is estimated to cost taxpayers $400 million per year.

3) DOE loan guarantees provide these renewable energy firms with government guaranteed loans and direct federal loans. Note that this is the only renewable subsidy Representative Kucinich included in his chart that he discussed here today, where he provided that the subsidy cost is expected to be over $2.4 billion over ten years or $240 million per year. We will only know the true cost of this failed program years later.

4) Renewable energy firms receive accelerated 5 year depreciation (MACRS) for certain energy property like solar and wind. According to the Joint Committee on Taxation, this is estimated to cost $300 million per year.

As you can see, renewable energy firms gain far more from federal subsidies than oil and gas companies. In the aggregate, oil and gas companies receive $850 million a year in tax expenditures while renewable energy companies receive $2.54 billion. When we compare only the integrated oil companies, since they suffer aggregate punitive tax treatment, the renewable energy companies receive $2.59 billion more than integrated oil companies each year.

Opening Statement
Rep. Elijah E. Cummings, Ranking Member

Subcommittee on Regulatory Affairs, Stimulus Oversight and Government Spending
Hearing on "The Obama Administration's Green Energy Gamble:
What Have All the Taxpayer Subsidies Achieved?"

May 16, 2012

I welcome the opportunity to participate in today's hearing because the American people deserve the facts about the Department of Energy's (DOE) loan guarantee program.

The most significant fact is that DOE's 1705 loan guarantee program is performing better than Congress expected when the program was created in 2009. When Congress passed the Recovery Act, we recognized the inherent risk in investing in these cutting-edge technologies. We authorized a set-aside of $2.47 billion for potential losses, estimating a potential default rate of 15.54%.

According to a recent report by Bloomberg, however, the current default rate is "less than 3.6 percent." According to this report, the set-aside fund that Congress created "could cover the defaults of all eight of the remaining high-risk projects and have money in reserve."

This success is due in no small part to the unprecedented levels of due diligence performed by DOE staff in reviewing loan guarantee applications.

In March, the Government Accountability Office issued a report concluding that the procedures used by DOE's loan guarantee program "may equal or exceed those used by the private lenders to assess and mitigate project risk."

This conclusion is confirmed by company officials testifying here today. My staff has boxes of these loan applications piled up in their offices, so I know just how painstaking a process it must have been for the Department to review materials for all of the companies that applied to the program.

DOE's process was so extensive that it received complaints from companies and utilities waiting to confirm that they would have funding for their projects. In fact, Members of Congress from both parties sent nearly 500 letters to DOE in support of projects in their districts. Despite these endorsements, DOE's due diligence process took years for most companies to complete.

Some Members of this Committee have chosen to disregard the overall success of this program and focus instead on companies that have failed, even though such failures were always anticipated.

We need to remember that these companies are creating the energy technologies of the future. They are struggling to succeed in an increasingly competitive global market against foreign forces that are putting the weight of their entire countries behind their efforts. We should be supporting these companies, not only because they hire U.S. workers, but because they are developing technologies today that will fuel our entire economy in the future.

Unfortunately, our own Chairman, Congressman Issa, has made reckless accusations against these companies, calling the DOE loan program a "broad scandal." He claims that that their loans were "driven by political favoritism and accusations of pay-to-play relationships." Although the Committee has uncovered no evidence to support these claims, they are repeated over and over.

At some point, these unsubstantiated accusations start affecting these companies' bottom lines, the willingness of their investors to participate, and the ability of these companies to succeed. At some point, these irresponsible allegations cross the line from merely rooting for failure to actually contributing to it.

Today, I hope we will have a constructive hearing to explore ways that our Committee and Congress as a whole can help these American companies compete, and succeed, in our common goal of achieving energy independence.

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