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TESTIMONY

A GUARANTEE FOR FAILURE: GOVERNMENT LENDING UNDER SEC. 1705

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The Administration's Bet on Abound Solar: Assessing the Costs to the American Taxpayers
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In 2009, renewable energy company Solyndra received $535 million through the federally backed 1705 loan guarantee program of the Department of Energy (DOE). Two years later, the firm filed for bankruptcy and had to lay off its 1,100 employees, leaving taxpayers to bear the cost of the loan. For obvious reasons, more than any other recent events, this waste of taxpayer money has attracted much attention.

But Solyndra isn't the only company to fail after receiving a loan through this particular program. Back in October, Beacon Power Corp., an energy-storage company that received $43 million in backing from the 1705 loan program, filed for bankruptcy. More recently, Abound Solar, Inc, a U.S. solar manufacturer that was awarded $400 million through the program, announced that it would suspend operations and file for bankruptcy. Abound borrowed about $70 million against the guarantee, which is likely to result in a cost of $40 million to $60 million to U.S. taxpayers after Abound's assets are sold and the bankruptcy proceeding is completed.

In addition, there are signs that other companies may follow in the steps of Solyndra and Abound. First Solar's Antelope Valley project, which received a $646 million 1705 loan in 2011 through its partner Exelon, is one likely casualty; SunPower's California Valley Solar Ranch— now owned by NRG Solar—is another. The ranch received a $1.2 billion loan guarantee last September. Whether these companies will fail or not is not yet clear, and the potential cost to taxpayers is not known. However, the precarious situation of these companies exemplifies the risk faced by taxpayers when the government extends loan guarantees to high-risk companies.

Now, the important question is whether or not these examples are representative of the 1705 loan program. What we find is that loan guarantees in this program go to two types of projects:

- Projects that would not have been funded in the open market without a government guarantee because they are too risky, and
- Projects that could have gotten a loan but were happy to benefit from the lower interest rate available through a DOE loan guarantee.

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The failure of Solyndra has attracted much attention, but the problems with loan guarantees are much more fundamental than the cost of one or more failed projects. In fact, the economic literature shows that every loan guarantee program (a) transfers the risk from lenders to taxpayers, (b) is likely to inhibit innovation, and (c) increases the overall cost of borrowing. At a minimum, such guarantees distort crucial market signals that determine where capital should be invested, resulting in lower interest rates that are unmerited and a reduction of capital for more worthy projects. At their worst, these guarantees introduce political incentives into business decisions, creating the conditions for businesses to seek financial rewards by pleasing political interests rather than customers. This is called cronyism, and it entails real economic costs.[1]

Yet these loan programs remain popular with Congress and the executive branch. That's because in general most of the financial cost of these guaranteed loans will not surface for many years. Consequently, Congress can approve billions of dollars to benefit special interests with little or no immediate impact to federal appropriations, because these dollars are almost entirely off budget.

HOW DO THESE LOAN GUARANTEES WORK?

The DOE Loan Programs Office (LPO) administers three separate loan programs: (1) Section 1703 loan guarantees, (2) Section 1705 loan guarantees, and (3) Advanced Technology Vehicles Manufacturing (ATVM) loans. Here are descriptions of the three loan programs, as explained by DOE:

- Section 1703 of Title XVII of the Energy Policy Act of 2005 authorizes the U.S. Department of Energy to support innovative clean energy technologies that are typically unable to obtain conventional private financing due to high technology risks.
- Advanced Technology Vehicles Manufacturing (ATVM) loans support the development of advanced technology vehicles (ATV) and associated components in the United States. They also meet higher efficiency standards.
- The Section 1705 Loan Program authorizes loan guarantees for U.S.-based projects that commenced construction no later than September 30, 2011 and involve certain renewable energy systems, electric power transmission systems, and leading edge biofuels. [2]

According to LPO's website, DOE's loan guarantee authority originated from Title XVII of the Energy Policy Act of 2005 (P.L. 109–58).[3] Under Section 1703, the federal government can guarantee 80 percent of a project's total cost. The American Recovery and Reinvestment Act of 2009 (P.L. 111–5) amended the Energy Policy Act of 2005 by adding Section 1705.[4] Section 1705 was created as a temporary program, and 1705 loan guarantee authority ended on September 30, 2011.

The dollar volume of loans that can be guaranteed under DOE's authority is predetermined by congressional appropriations that oversee the program. A simple way to explain how these loans work is this: If a recipient defaults on its loan, the federal government pays the remainder of the debt to the lenders and repossesses all of the assets from the unfinished projects.[5]

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1. Matt Mitchell, "The Pathology of Privilege: The Economic Consequences of Government Favoritism" (Mercatus Research, Mercatus Center at George Mason University, Arlington, VA, July 2012).
2. United States Department of Energy, accessed June 13, 2012, https://lpo.energy.gov/.
3. Section 1703 of the Energy Policy Act of 2005 (P.L. 109-58).
4. Section 1705 of the Energy Policy Act of 2005 (P.L. 109-58). Section 1705 was created by amending the Energy Policy Act of 2005 through the American Recovery and Reinvestment Act of 2009 (P.L. 111-5).
5. However, the Office of Management and Budget has calculated that only 55 percent of loans can be recouped from the sale of assets.

As with other loan programs, the federal government has established a credit subsidy fee to prevent taxpayer exposure. In this case, the cost of the fee is determined by DOE, with guidance from the Office of Management and Budget (OMB). The lenders usually charge the up-front guarantee fee to the borrower after the lender has paid the fee to DOE and has made the first disbursement of the loan.

Lenders handle fees differently for 1705 loans, however. Under the stimulus bill, DOE received appropriated funds to pay for credit subsidy costs associated with Section 1705 loan guarantees, which, after rescissions and transfers, was $2.435 billion. As the Congressional Research Service rightly puts it, "Section 1705 loan guarantees were very attractive as they provided an opportunity to obtain low-cost capital with the required credit subsidy costs paid for by appropriated government funds."[6]

DOE does not provide loans directly. Instead, borrowers have to apply to qualified lenders, who are expected to perform a complete analysis of the application. DOE then reviews the lender's credit analysis, rather than conducting a second analysis, and DOE makes the final credit and eligibility decision.

DO LOAN GUARANTEES DO WHAT THEY CLAIM TO DO?

Leaving aside the question of whether the government should encourage the production of certain goods or services, the economic justification for any government-sponsored lending or loan-guarantee program must rest on a well-established failure of the private sector to allocate loans efficiently (meaning that deserving recipients could not have gotten capital on their own). Absent such a private-sector deficiency, the DOE's activities would simply be a wasteful subsidy at best, and a politically motivated one at worst, to this sector of the economy.

Yet many argue that some public policy objectives require the sacrifice of marketplace efficiency. It is an accepted feature of modern American government that some public interests or social policy gains outweigh economic losses. In the case of green energy, the government's lending programs could fulfill specific public policy objectives that the marketplace on its own would either not serve, or would supply at suboptimal levels. But do these programs do what they claim to do?

The DOE proclaims that its loan guarantees help save the planet[7] by helping to secure funding for early-stage technologies or for the later (risky) commercialization stage—known as the manufacturing "Valley of Death."[8] It also claims that loan recipients will generate economic growth and "green" jobs that otherwise would not appear. DOE can thus be judged on its ability to meet these public policy goals—specifically, on its ability to fill the supply-and-demand gap in the clean energy loan market, particularly for startups.

To measure the DOE results, I looked at the flow of DOE credits to evaluate who receives them and whether the DOE is meeting its stated policy objectives of promoting new startups and encouraging the creation of green jobs. Close examination demonstrates that neither stated DOE policies nor actual lending patterns provide evidence that DOE's loan guarantees serve any of their defined public policy purposes.

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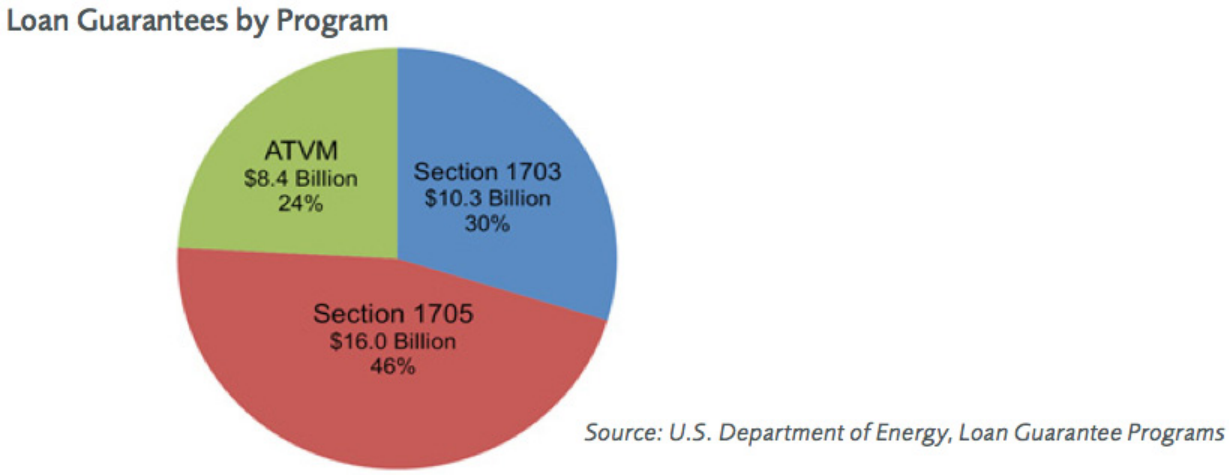
6. Phillip Brown, "Solar Projects: DOE Section 1705 Loan Guarantees" (Congressional Research Service, October 25, 2011), accessed June 13, 2012, http://op.bna.com/env.nsf/id/jstn-8mzszy/$File/CRSSolar.pdf.
7. Mike King and W. David Montgomery, "Let's Reset Our Energy Policy Starting with Loan Guarantees," in *Pure Risk: Federal Clean Energy Loan Guarantees*, ed. Henry Sokolski (Arlington, VA: Nonproliferation Policy Education Center, 2012).
8. Sustainablebusiness.com, "Clean Energy: Crossing the Valley of Death," June 2010, http://www.sustainablebusiness.com/index.cfm/go/news.display/id/20544.

FOLLOWING THE 1705 LOAN GUARANTEE PROGRAM MONEY

Since 2009, DOE has guaranteed $34.7 billion, 46 percent of it through the 1705 loan program, 30 percent through the 1703 program, and 24 percent through the ATVM.[9]



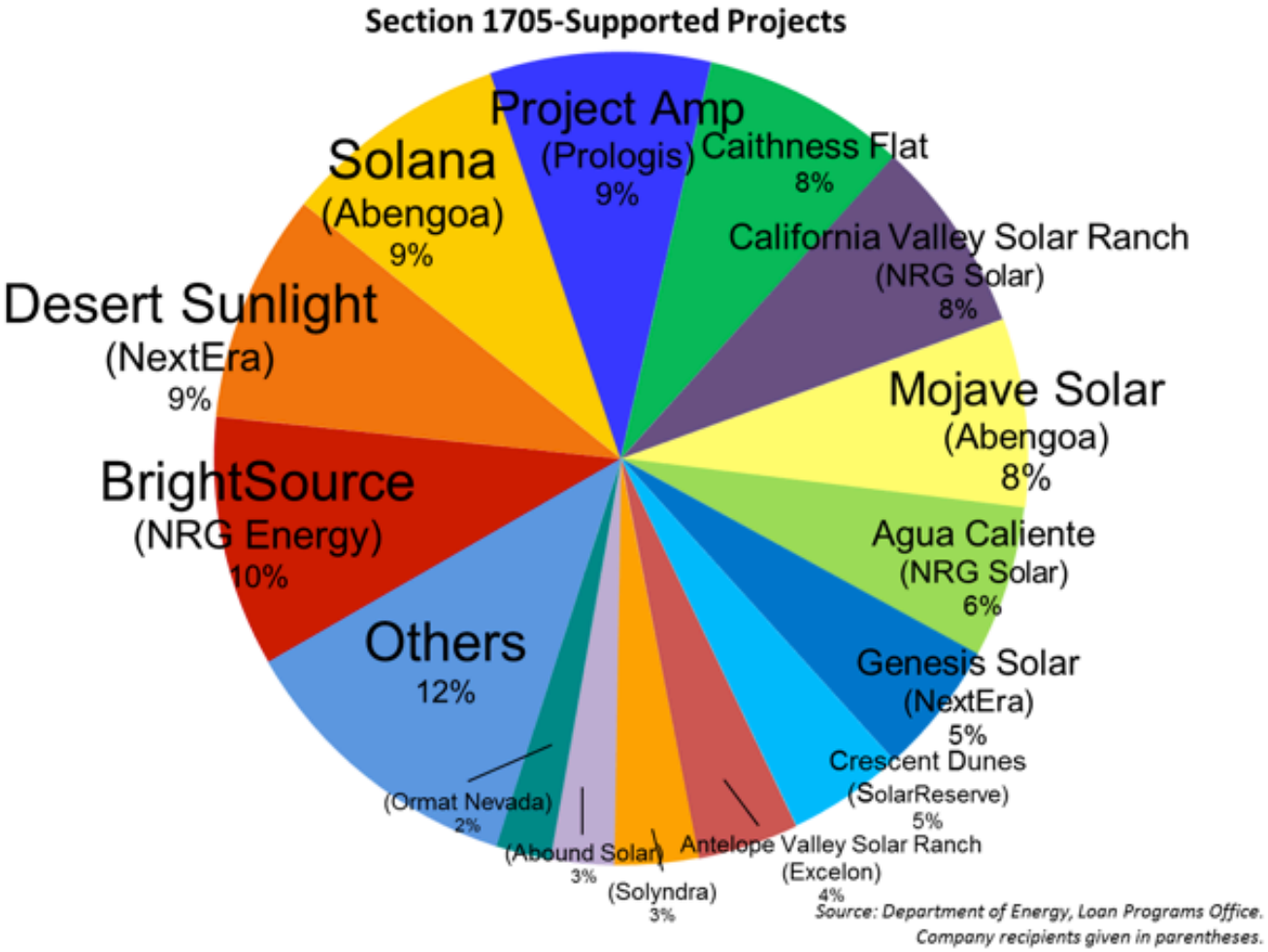
Source: U.S. Department of Energy, Loan Guarantee Programs

As noted earlier, the 1705 program (under which Solyndra received funding) is a product of the economic stimulus bill of 2009. This program offered borrowers better terms than the 1703 program; in fact, in some cases the government paid a substantial fee out of appropriated funds, a fee that is the borrower's responsibility under the 1703 plan. Also, many 1703-eligible projects were also eligible under the 1705 program.

The data on the 1705 program shows that 26 projects were funded under the 1705. Further analysis showed that

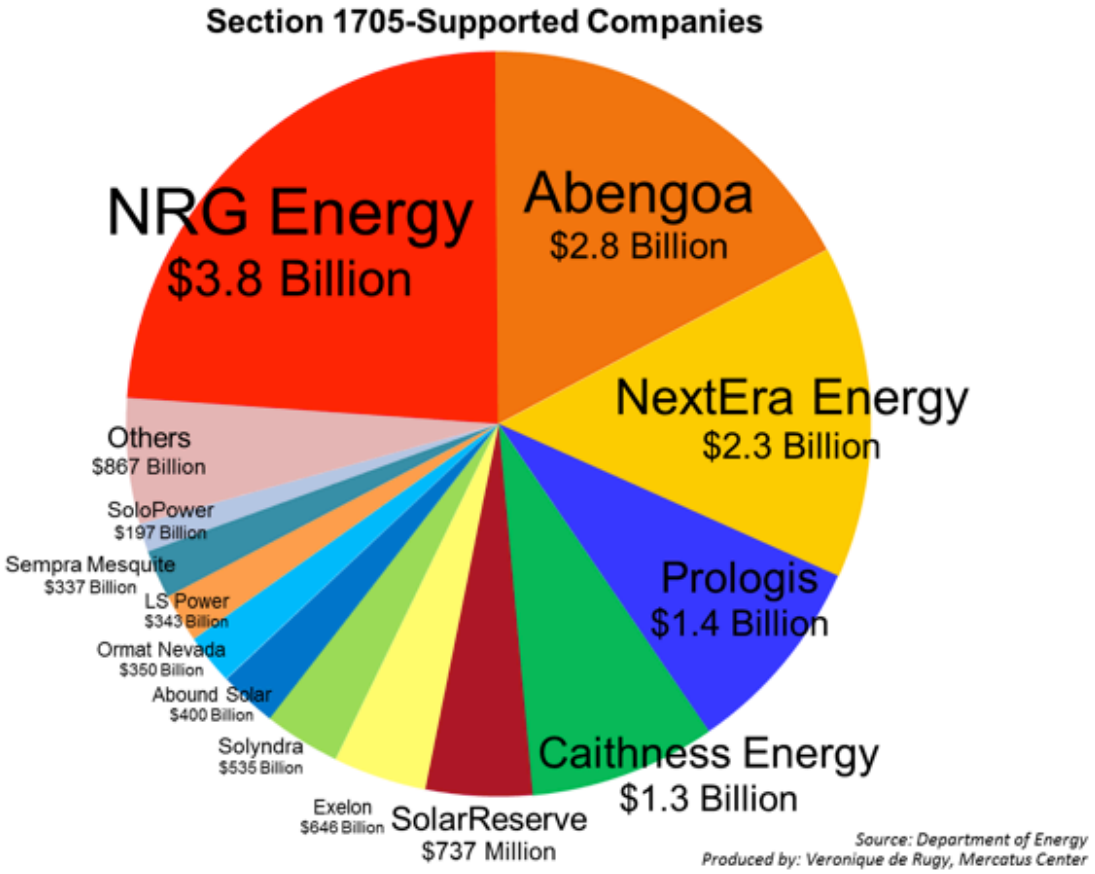
- The program guaranteed roughly $16 billion in all.
- Some 2,378 permanent jobs were claimed to be created under the program. That works out to a taxpayer exposure of $6,731,034 per job.
- The recipient of the most 1705 loans was NRG Energy Inc. (BrightSource), which received $1.6 billion, or 11 percent of the overall amount guaranteed under the program.
- The top 10 recipients of loans under the 1705 program were all solar generation companies, which received a combined $12.2 billion in loan guarantees (76 percent of the overall amount guaranteed). Included were NextEra Energy Resources, LLC (Desert Sunlight), a Fortune 200 company; Abengoa Solar Inc. (Solana), a Spanish multinational company; and Prologis (Project Amp), a global real estate investment trust. Utility firms like NRG Energy received three separate loans in the top-10 recipient list.
    - Prologis received $1.4 billion (8.75 percent of the total) to install solar panels on top of a building it owns.
    - Cogentrix, a wholly owned subsidiary of the Goldman Sachs Group, Inc., received a $90 million guarantee from the government.
    - Three companies have filed for bankruptcy so far: Solyndra, which received $535 million in loan guarantees (3.34 percent of the total); Abound Solar, which received $400 million (3 percent of the total); and Beacon Power, which received $43 million (less than 0.1 percent).

9 U.S. Department of Energy, Loan Programs Office: https://lpo.energy.gov/?page_id=45.



If we organize the data by the companies that received the 1705 loans, we find

- The recipient of the most 1705 loans was NRG Energy, Inc., which received a total of $3.8 billion—23.7 percent of the overall amount guaranteed under the 1705 program.
- Four companies— NRG Energy, NextEra Energy, Arbogea, and Prologis—received 64 percent, or $10.3 billion, of the total amount guaranteed under the program.



So what can we make of these figures? First, it should be noted that very few permanent green jobs were created under the 1705 loan program, or any of the other loan programs. The Obama administration had initially pushed these projects as job generators, claiming that these programs could create 5 million American jobs through investment in green technology. Also, to the extent that green jobs were created, the $6.7 million taxpayer exposure per job is quite spectacular. This number alone would seem to debunk the idea that these DOE loan programs efficiently generate new permanent jobs.

Second, our data demonstrates that under the 1705 program most of the money has gone to large, established companies rather than to startups. Companies that benefited included established utility firms, large multinational manufacturers, and a global real estate investment fund. In addition, the data shows that nearly 90 percent of the loans guaranteed by the federal government since 2009 went to subsidize lower-risk power plants, which in many cases were backed by big companies with vast resources. This includes loans such as the $90 million guarantee granted to Cogentrix, a subsidiary of Goldman Sachs. Currently, Goldman Sachs ranks number 80 on the list of America's Fortune 500 companies.[10]

Quoted in the *New York Times* recently, David W. Crane, NRG's chief executive, explained, "I have never seen anything that I have had to do in my 20 years in the power industry that involved less risk than these projects," he said. "It is just filling the desert with panels."[11]

10. CNN Money, "America's Fortune 500 Companies," http://money.cnn.com/magazines/fortune/fortune500/2012/snapshots/10777.html.
11. Eric Lipton and Clifford Krauss, "A Gold Rush of Subsidies in Clean Energy Search," *New York Times*, November 11, 2011, http://www.nytimes.com/2011/11/12/business/energy-environment/a-cornucopia-of-help-for-renewable-energy.html?pagewanted=all.

This probably means that if there were an actual gap between supply and demand in the area of loans for energy companies, startups, and others, this program wouldn't be filling it. In fact, most of these loans look like government transfers of the worst kind. Subsidies to very large corporations smack of cronyism.

Further, while these projects are relatively low risk and backed by large companies, that does not mean that they are risk-free for taxpayers. These projects are organized as separate corporations from the parent companies, so in case of a problem, the parent company could simply restructure and get rid of the struggling project, leaving taxpayers with the bill.

Third, some of the loans went to provide capital for high-risk projects—projects likely unable to get financing from the broader market without a government guarantee. Either the company or the technology did not have the credibility that is normally required for a major loan, or the company had serious, existing financial woes that were not alleviated by the loan. Companies like Solyndra, Beacon Power, and Abound fall in this category; it may also prove to be the case for BrightSource, Solar Reserve, US Geothermal, First Solar, and California Valley Solar Ranch.

Fourth, there seems to be an even more troubling trend of "double dipping" by large companies that received loan guarantees from the DOE program. Many of the companies that have benefitted from subsidized loans under the 1705 guarantee program also received grants under the American Recovery and Reinvestment Act (ARRA). Prologis, for example, received $1.4 billion in subsidized loans and also received a grant for $68,000 under the Recovery Act for the purpose of "rent for warehouse space."

Green Mountain Energy, a company of NRG Energy, received two grants under the ARRA in the second quarter of fiscal year 2011. Likewise, Reliant Energy and Reliant Energy Tax Retail LLC, two other NRG Energy companies, reported receiving *at least 37 grants* under the ARRA. These grants augmented the $3.8 billion in loan guarantees distributed to NRG Energy under the Section 1705 loan program.

NRG will also be eligible to receive $430 million from the Department of the Treasury.[12] Many other companies that have received DOE loan guarantees have also benefited from the Department of Treasury 1603 grants.[13]

Overall, NRG and its partners have secured $5.2 billion in federal loan guarantees, plus hundreds of millions in other subsidies for four large solar projects.[14] Examples abound of companies benefitting from multiple assistance programs initiated during this period. For instance, in addition to the $538 million it received under the 1705 loan program, Solyndra benefited from a $10.3 million loan guarantee that the Export-Import Bank extended to a Belgian company (described in the Ex-Im deal data as "Zellik Ii Bvba") to finance a sale of Solyndra products.[15]

Solyndra isn't alone. First Solar's Antelope Valley project received a $646 million 1705 loan in 2011 through its partner Exelon, and per my calculation from the Ex-Im Bank FOIA deal data information for FY2011,[16] the company also scored $547.7 million in loan guarantees to subsidize the sale of solar panels to solar farms abroad.

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12. Eric Lipton and Clifford Krauss, "A Gold Rush of Subsidies in Clean Energy Search," *New York Times*, November 11, 2011, http://www.nytimes.com/2011/11/12/business/energy-environment/a-cornucopia-of-help-for-renewable-energy.html?pagewanted=all
13. Department of Treasury, "1603 Program: Payments for Specified Energy Property in Lieu of Tax Credits," http://www.treasury.gov/initiatives/recovery/Pages/1603.aspx.
14. Eric Lipton and Clifford Krauss, "A Gold Rush of Subsidies in Clean Energy Search," *New York Times*, November 11, 2011, http://www.nytimes.com/2011/11/12/business/energy-environment/a-cornucopia-of-help-for-renewable-energy.html?pagewanted=all.
15. Export-Import Bank of the United States, 2011 Annual Report, http://www.exim.gov/about/reports/ar/2011/index.html, p. 30.
16. Export-Import Bank of the United States, "Open Government Initiative," http://www.exim.gov/open/.

More troubling is the fact that some of the Ex-Im money went to a Canadian company named St. Clair Solar, which is a wholly owned subsidiary of First Solar.[17] St. Clair Solar received a total of $192.9 million (broken into two loans) to buy solar panels from First Solar. In other words, the company received a loan to buy solar panels from itself. Incidentally, First Solar also received a $16.3 million loan from the government in 2010 to expand its factory in Ohio.[18]

Unfortunately, this double dipping by energy companies isn't new—and while there is no doubt that the deals are lucrative for the companies involved, taxpayers have a lot to lose. Further, double-dipping provides evidence that businesses will be tempted to steer away from productive value creation for society and instead work on narrowly serving political interests for financial gain.

THE CASE AGAINST CLEAN ENERGY LOAN GUARANTEES

The case of Solyndra—a startup that received $528 million in federal loans before it went bankrupt, laid off over one thousand workers, and left taxpayers to foot the bill—is striking, but it actually represents only one aspect of the fundamental problems caused by loan guarantee programs in general, and DOE's clean energy loan programs in particular.

Socialized Losses and Privatized Gains

One conspicuous issue is the default rate. Historically, loans guaranteed by the government have had a higher default rate than loans issued by the private sector. For instance, the Small Business Administration (SBA) has a long-term default rate of roughly 17 percent.[19] This compares to 4.3 percent for credit cards and 1.5 percent for bank loans guaranteed by the Federal Deposit Insurance Corporation.

The Congressional Budget Office has calculated that the risk of default on the DOE's nuclear loan guarantee program is well above 50 percent.[20] In 2011, the CBO updated its study and replaced this embarrassing default rate with a list of variables affecting the rate.[21] The report now asserts that higher equity financing of these projects would reduce the risk of default; such a solution seems unlikely, however, as most loan guarantee programs cover 80 percent of their financing through debt rather than equity.

Moreover, according to the CBO, when the federal government extends credit, the associated risk of those obligations is effectively passed along from private lenders onto taxpayers who, as investors, would view this risk as costly. In other words, when the federal government encourages a risky loan guarantee it is "effectively shifting risk to the members of the public."[22]

Another issue might best be summarized as the sharing of loss versus the privatizing of gain. If a loan is not repaid, the cost of the investment devolves to the taxpayers. But what if the loan is repaid? The lender will benefit from all the interest payments it collected thanks to a low-risk loan, and the borrower will benefit from its successful

17. Tim Carney, "Firm Sells Solar Panel to Itself: Taxpayers Pay," *Washington Examiner*, March 18, 2010, http://campaign2012.washingtonexaminer.com/article/firm-sells-solar-panels-itself-taxpayers-pay/434251.
18. Tim Carney, "Firm Sells Solar Panel to Itself: Taxpayers Pay," *Washington Examiner*, March 18, 2010, http://campaign2012.washingtonexaminer.com/article/firm-sells-solar-panels-itself-taxpayers-pay/434251.
19. Veronique de Rugy, "Banking on the SBA" (Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, 2007), accessed on June 13, 2012, http://mercatus.org/publication/mercatus-policy-banking-sba.
20. Pamir Wang, "Federal Clean Energy Loan Guarantees: Their Moral Hazards," in *Pure Risk: Federal Clean Energy Loan Guarantees*, ed. Henry Sokolski (Arlington, VA: Nonproliferation Policy Education Center, 2012).
21. Congressional Budget Office, "The Cost-Effectiveness of Nuclear Power for Navy Surface Ships" (May 12, 2011), http://www.cbo.gov/publication/41454.
22. Congressional Budget Office, "Fair-Value Accounting for Federal Credit Programs" (Issue Brief, March 2012).

business venture. In other words, loan guarantee programs are yet another way that the federal government socializes losses while privatizing benefits.[23]

The Moral Hazard

Federally backed loans create a classic moral hazard. Because the loan amount is guaranteed, banks have less incentive to evaluate applicants thoroughly or apply proper oversight. In other words, the less skin the lender has in the game, the less likely it is that the lender will vet the quality of the project. In addition, the company that borrows the money risks less than it would if its loan weren't guaranteed. Further, each time the government bails out a firm or shoulders the cost of a loan guarantee, it conveys to borrowers and bankers alike the mistaken idea that it's okay for them to take excessive risks.

In a March 2012 report, the Government Accountability Office (GAO) found that the DOE loan guarantee program was riddled with program inefficiencies, which calls the fairness of its decisions into question.[24] When the GAO requested data from the DOE on the status of applications, the DOE did not have consolidated data readily available and had to assemble the data from various sources over several months. Inadequate documentation and out-of-date review processes reduce one's sense of confidence in the consistency and fairness of DOE's decisions and raise questions about DOE's ability to fully assess and mitigate project risks.

Moreover, the private sector (in the absence of government intervention) builds the infrastructure to assess risk, but the federal government has neither the expertise nor the incentive to build such a safety net. This increases the likelihood that loan guarantees will be awarded based on factors other than the ability of the borrower to repay the loan, such as political connections and congressional pork.[25]

The moral hazard of loan guarantees increases when rules intended to prevent the program from being a pure company giveaway are removed. When, as part of the stimulus bill of 2009, the government lifted the subsidy fees for 1705 loans, the cost to taxpayers went up and high-risk companies were drawn in.

Mal-investment

Loan guarantee programs can also have an impact on the economy beyond their cost to taxpayers because mal-investment—the misallocation of capital and labor—may result. In theory, banks lend money to the projects that represent the greatest likelihood of success, in terms of loan repayment, profits, and economic growth. However, since there isn't an infinite amount of capital available at a given interest rate, loan guarantee programs could redirect resources from politically neutral projects to politically motivated ones. Think about it this way: When the government reduces a lender's exposure to fund a project it wouldn't have funded otherwise, it reduces the amount of money available for projects that would have been viable without subsidies.

This government involvement can distort the market's signals further. For instance, the data shows that private investors tend to congregate toward government guarantee projects, regardless of the merits of the projects. This takes capital away from unsubsidized projects that have a more viable business plan and a better probability of success without subsidies. As the GAO noted, "Guarantees would make projects [the federal government] assists

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23. Russ Roberts, "Gambling With Other People's Money" (Mercatus Center at George Mason University, Arlington, VA, April 28, 2010), accessed June 13, 2012, http://mercatus.org/publication/gambling-other-peoples-money.
24. Government Accountability Office, "DOE Loan Guarantees: Further actions are needed to improve tracking and review of applications" (March 2012), accessed June 13, 2012, http://www.gao.gov/assets/590/589210.pdf.
25. King and Montgomery, "Let's Reset," 22.

financially more attractive to private capital than conservation projects not backed by federal guarantees. Thus both its loans and its guarantees will siphon private capital away."[26]

This reallocation of resources by private investors away from viable projects may even take place within the same industry—that is, one green energy project might trade off with another, more viable, green energy project.

More important, once the government subsidizes a portion of the market, the object of the subsidy becomes a safe asset. Safety in the market, however, often means low return on investments, which is likely to turn venture capitalists away. As a result, capital investments will likely dry out, and innovation rates will go down.[27]

In fact, the data show that in cases in which the federal government introduced few distortions, private investors were more than happy to take risks and invest their money— even in projects that required high initial capital requirements. The Alaska pipeline project, for example, was privately financed at a cost of $35 billion, making it one of the most expensive energy projects undertaken by private enterprise.[28] The project was ultimately abandoned in 2011 because of weak customer demand and the development of shale gas resources outside Alaska.[29] However, the undertaking proves that the private sector invests money even when there is a chance that it could lose it. Private investment in U.S. clean energy totaled $34 billion in 2010, up 51 percent from the previous year.[30]

Finally, when the government picks winners and losers (in the form of a technology or a company), it often fails. Two factors come into play. First, the government does not have an advantage in information or technology over private agents. In many cases their decision makers are insulated from market signals and won't learn important and necessary lessons about the technology or the market. Second, the resources that the government offers are so addictive that companies may switch their focus from the needs of the customer to the wishes of government officials.

Cronyism

In a 2003 speech to the National Economists Club in Washington, D.C., then–Federal Reserve Governor Edward M. Gramlich argued that loan guarantee programs are unable to save failing industries or to create millions of jobs, because—he explained—the original lack of access to credit markets is caused by serious industrial problems, not vice versa. If an applicant's business plan cannot show a profit under reasonable economic assumptions, private lenders are unlikely to issue a loan, and rightly so.

Then why is the federal government still guaranteeing loans? Because it serves three powerful constituencies: lawmakers, bankers, and the companies that receive the subsidized loans.

Politicians are able to use loan programs to reward interest groups while hiding the costs. Because such loan programs are almost entirely off budget, Congress can approve billions of dollars in loan guarantees with little or no impact on appropriations. Moreover, unlike Solyndra, most failing projects take years to collapse, allowing politicians to collect short-term rewards while skirting, or postponing, political blame. It's like buying a house on credit without having a trace of the transaction on your credit report.

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26. Wang, "Federal Clean Energy," 15.
27. Wang, "Federal Clean Energy," 15.
28. Peter Bradford, "Taxpayer Financing for Nuclear Power: Precedents and Consequences" (Nonproliferation Policy Education Center, 2008), http://www.npolicy.org/article_file/Taxpayer_Financing_for_Nuclear_Power-Precedents_and_Consequences.pdf.
29. Ben Casselman, "Alaska Pipeline Scrapped," *Wall Street Journal*, May 18, 2011, http://online.wsj.com/article/SB10001424052748703509104576329541913338186.html.
30. The Center for the Next Generation website, "Advanced Energy and Sustainability," accessed June 13, 2012, http://www.tcng.org/programs/advanced-energy-and-sustainability.

It is also easy to understand why companies and company executives seek these loans. The preferential treatment they enjoy comes at the expense of the taxpayer, however, and ultimately at the expense of our market and political system.

Another potential beneficiary of these loans is the financial institution that issues them. With other loan programs, such as the SBA's, evidence suggests that lenders may have an incentive to favor borrowers that qualify for a loan with a government guarantee over those that do not. When a small business defaults on its obligation to repay a loan, bankers do not bear most of the cost; taxpayers do. Meanwhile, lenders make large profits on SBA loans by pooling the guaranteed portions and selling investors trust certificates that represent a claim to the cash flow.

How profitable is this? Testifying before Congress in April 2006, David Bartram, the president of the SBA Division of U.S. Bancorp, the nation's sixth largest financial services company, explained that "return on equity of SBA loans can exceed 70 percent."[31] A 70 percent return on equity (RoE) is remarkably high. Right now, the five-year average RoEs for the two biggest banks in America—Citigroup and Bank of America—are 16.2 percent and 14.5 percent, respectively.

More study is required to determine whether a similarly outsized return to financial institutions occurs with the DOE program, but the parallels between the DOE and SBA programs suggest that this is a possibility.

CONCLUSION

The Department of Energy's loan guarantee programs have been the focus of much public attention since energy companies Solyndra, Beacon Power, and Abound went bankrupt, leaving taxpayers to shoulder hundreds of millions of dollars in loan guarantees. The evidence strongly suggests that these programs fall short of their stated goals of developing clean energy and creating jobs. Of equal concern is the indirect damage to the nation's economic fabric through distortion of market signals, cronyism, and mal-investment. Companies are pursuing financial benefit through the political system, and the economy—and our country—are paying the price.

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31. Veronique de Rugy, "Banking on the SBA" (Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, 2007), http://mercatus.org/publication/mercatus-policy-banking-sba.

ABOUT THE AUTHOR

Veronique de Rugy is a senior research fellow at the Mercatus Center at George Mason University. Her primary research interests include the U.S. economy, federal budget, homeland security, taxation, tax competition, and financial privacy issues. Her popular weekly charts, published by Mercatus, address economic issues ranging from lessons on creating sustainable economic growth to the implications of government tax and fiscal policies.

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PHD THESIS

"Public Versus Private Tax Revolt"

This dissertation explores the relationship between private and collective tax revolt. Private revolt is tax evasion or avoidance. Collective revolt includes things like tax strikes and ballot initiatives to reduce taxes. Existing literature has explored both of these types of revolt separately. Chapter 2 reviews this literature and argues for the necessity of considering these two types of revolt jointly.

The model presented in Chapter 3 illustrates the relationship between private and collective revolt. It shows that taxpayers will substitute between types of revolt when the costs or benefits of the various types of revolt change. For example, tax evasion will be larger when the political process does not allow tax initiatives. Collective revolt is more likely when evasion would be costly, such as with taxes on property. Chapter 4 uses the model to explain the tax strike in Chicago in the 1930s, Proposition 13 in California, Proposition 2½ in Massachusetts, the revolt against the Poll Tax in England in the 1980s, and the Poujade tax revolt in France in the 1950s. The chapter concludes with an explanation of the differences in taxpayers' responses toward taxes in two countries, France and the United States.

These cases support the contention that private and collective tax revolts are interdependent. Taxpayers substitute away from a given form of revolt when the costs increase or the benefits decrease. As such, the emergence of a sudden collective tax movement should be interpreted as taxpayers switching from private to collective revolts, rather than as a decrease in voter apathy, as assumed in the existing literature. The analysis shows that a theory based on differences in taxpayers' tastes or preferences for taxes is incomplete or even in large part incorrect.

TEACHING AND RESEARCH EXPERIENCES

George Mason University, Department of Economics:
Post-doctoral Fellow. Fall 2000 – Summer 2001
Visiting Scholar. Spring 1999 – Spring 2000.

University of Tours, Department of Economics.
Lecturer. 1994 – 1998. Microeconomics I (Fall and Spring).
Allocataire (Paris, Research Fellow) and *Monitorat* (Tours, Teaching Fellow). 1994 – 1997.
Attaché de Recherche et d'Enseignement (Research and Teaching Fellow). 1998.

[1] "DEA" is an acronym for "Diplôme d'Etudes Approfondies", which is all the coursework required for a PhD in that field (i.e., the French equivalent of ABD).

OTHER EXPERIENCES

The Mercatus Center at George Mason University
Senior Research Fellow. April 2007-present.

American Enterprise Institute.
Resident Fellow. March 2004 – March 2007
Research Fellow. March 2004 – March 2006.

Cato Institute.
Fiscal policy Analyst. Sept 2001-March 2004.

Center for Freedom and Prosperity.
Secretary. Oct 2000-present.

IHS Europe.
Assistant Director, Student Affairs. 1992 – 1997. In charge of the student seminars.

Committee on Oversight and Government Reform
Witness Disclosure Requirement – "Truth in Testimony"
Required by House Rule XI, Clause 2(g)(5)

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1. Please list any federal grants or contracts (including subgrants or subcontracts) you have received since October 1, 2010. Include the source and amount of each grant or contract.

None

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I certify that the above information is true and correct.
Signature: [signature]

Date: July 17 2012