

# **The Energy Innovation Environmental Case against Loan Guarantees**

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Catastrophic climate change is perhaps the biggest environmental crisis that humanity has ever faced. It will take real political commitment to mobilize the resources necessary to avoid the worst impacts of climate change. Like the Apollo Project of the 1960s, which turned a national vision into reality within ten years, the federal government will need to play a central role in making the transition to clean energy.

Renewable energy and energy efficiency technologies, and especially distributed renewables, must be scaled up dramatically to replace fossil fuels. There is no silver bullet for doing this; it will take a suite of policies including regulating greenhouse gases, putting a price on carbon (preferably with a carbon tax), and economic incentives like a feed-in tariff to ensure a stable market for distributed renewable energy. Government action is necessary to regulate emissions and impose a price on carbon, and there is also an important role for the government in financing renewable energy and efficiency.

But given the urgency of the climate crisis, we do not have time to waste, or money to spare, on the wrong technologies, and we certainly cannot continue to subsidize dirty and dangerous forms of energy. The Department of Energy's Title XVII Loan Guarantee Program is guilty of both these transgressions. That is why we need to eliminate Title XVII and replace it with policies like regulations on greenhouse gases, a carbon tax and a feed-in tariff that will effectively lead to deployment of renewable energy and efficiency technologies at a significant scale.

## **The Title XVII loan guarantee program**

Title XVII was created in the Energy Policy Act of 2005.<sup>1</sup> Billed as a way to get a small number of innovative, low-emission technologies off the ground, in reality the program has always been little more than a taxpayer handout for mature and environmentally harmful technologies that cannot compete on the open market. In 2005, many in the environmental community, including Friends of the Earth, as well as members of Congress on both sides of the aisle, strongly opposed the creation of Title XVII.

The program grew out of an unsuccessful attempt by the nuclear industry, which had problems raising private capital for new reactors, to get a nuclear-specific financing program as part of the Energy Policy Act of 2003. This industry-specific program did not gain political traction, so the nuclear industry's champions in Congress broadened the scope of the program in the 2005 bill. While new technologies were included, the program's structure remains designed to meet the needs of the nuclear industry.

In 2011, Congress stripped away any pretense that the program benefits clean technology by eliminating \$17.3 billion in financing authority for renewable energy and energy efficiency, while leaving all the authority for nuclear and coal intact.<sup>2</sup> Today \$32.5 billion of the \$33.68 billion of loan guarantee authority in DOE's permanent program has been earmarked for the coal and nuclear industries — a far cry from the program's purported objective of spurring new, innovative, and clean energy.

Title XVII has become best none for a temporary (and now expired) program for renewable energy projects that the 2009 stimulus bill tacked onto the existing Title XVII framework. While the stimulus program funded some good projects, as well as some well-publicized failures, it did nothing to address the fundamental flaws of Title XVII. As a result, taxpayers have lost hundreds of millions of dollars on three stimulus program guarantees, and the solar technologies that are desperately need to fight climate change have taken a public relations beating. Many in Congress used the Title XVII Solyndra scandal as a broadside attack on renewable energy, but few members of Congress have worked to fix the structural flaws of the loan guarantee program.

Investigations into the program have made it clear that members of Congress in both parties view the loan guarantee program as a means of bringing pork home to their district, with no regard to the merits of the projects they push.

### **Not the program we need for renewables**

Because of its structure, Title XVII is more advantageous to dirty and dangerous technologies like nuclear reactors and coal than it is for renewable energy or energy efficiency. Even if the program were dedicated entirely to renewable energy, it is poorly suited to develop the small distributed generation that is key to avoiding climate change. Key reasons include:

- *Many renewable projects do not qualify:* Onshore wind technologies, for example, do not qualify for loans under Title XVII because they do not meet the definition of innovative. While many renewables projects do not qualify, mature technologies such as liquid coal and nuclear reactors, which have been around since the 1940s and 1950s respectively, are defined as “innovative” under Title XVII.

- *The program advantages large projects:* Under DOE’s rules for Title XVII, a technology is eligible to receive loan guarantees until three projects of the same design have been in commercial operation in the United States for 5 years. For projects such as nuclear reactors, that will take a decade or more to construct, this means that many projects of the same design can receive government loan guarantees. Renewable and efficiency projects can be brought online in two years or less, so a relatively small number of those projects would be eligible for loan guarantees. It is especially perverse that the program benefits projects with long construction times, because the cumulative nature of carbon emissions means that reductions achieved today are more valuable than those achieved a decade from now.

- *The size of renewables projects means less generating capacity is created:* An individual nuclear reactor or coal facility has a much larger generating capacity than an individual renewable or efficiency project. If the same number of projects of each technology received loan guarantees, the effect would be to increase megawatts of nuclear and coal-generated energy relative to those generated by renewables.

Exacerbating this situation, funding for all renewable energy technologies is lumped with transmission into a single category, while dirty technologies like nuclear reactors and coal each have an individual category, or even categories, for funding.

Furthermore, in order for the government to perform the due diligence necessary to protect taxpayers on such risky investments, loan guarantees have a high administrative cost for both the company and the government. That means that loan guarantees are more suited to mega-projects, and DOE has an incentive to provide guarantees for a small number of expensive projects. Even if the program were funding only renewable energy projects, it would be predisposed to invest in large utility-scale projects and not in smaller distributed generation.

### **Structured as a money loser**

The fiscal problems that have arisen out of the stimulus loan guarantees were obvious to anyone who was willing to look at the program with a critical eye. There should be a role for government financing of projects, but public finance should only be used for safe and environmentally beneficial technologies. Title XVII supports a myriad of dirty projects and its structure makes it a giant risk to taxpayers because it:

- *Backs intrinsically risky projects*: Loan guarantees by their nature back projects that cannot obtain affordable financing on the private market. This means that Title XVII is designed to take on a portfolio of uncreditworthy projects, and its bias towards nuclear power heightens this risk. Nuclear reactors have been projected to suffer a default rate of over 50 percent, and are not commercially viable without a large and persistent suite of subsidies designed to reduce costs and liabilities.<sup>3</sup>
- *Is biased towards underestimating project subsidy costs*: Title XVII is designed to be largely self-financed by requiring companies to pay a fee, called the project subsidy cost, to the U.S. Treasury before receiving their guarantee. The project subsidy cost is difficult to calculate, so DOE likely overestimates the project subsidy cost for some applicants, and underestimates it for others. According to the Congressional Budget Office, borrowers “may turn down a guarantee if they believe DOE’s fee is too high but go forward if they consider [it] too low. This also makes it

more likely that DOE's loan guarantee portfolio will have more projects where the subsidy fee has been underestimated than overestimated.<sup>24</sup> As a result, DOE will likely not charge enough fees to cover the costs of defaults for the entire portfolio.

- *Is mandated to approve projects:* According to CBO, if a company receiving a loan guarantee were truly paying the full project subsidy cost up front, then the company would be able to get the same terms on the private market and there would be no need for the program. However, by design, DOE provides loan guarantees to projects that cannot get private financing, thus shifting risk from Wall Street onto taxpayers. Since DOE's mandate is to get projects out the door, and because the program often comes under political pressure to approve certain deals, there is a built-in programmatic incentive to underestimate the project subsidy cost.<sup>5</sup>

### **Implemented to increase risk**

As designed by Congress, Title XVII is risky for taxpayers because it puts tens of billions of dollars at jeopardy. Yet the technologies that DOE is backing are so financially unsound that the meager taxpayer protections contained in the bill made it impossible for many loan guarantees to be approved. To get around this DOE has implemented Title XVII in ways that shift additional risk to taxpayers including:

- *Skirting guidance designed to protect taxpayers:* The final rule for implementing Title XVII ignores OMB safeguards that are intended to protect taxpayers. In EPACT 2005, Congress limited the amount the government can guarantee to a maximum of 80 percent of a project's cost. This ensures that any company building a project has a financial stake in it.<sup>6</sup> The Office of Management and Budget guidance also recommends that "private lenders who extend credit that is guaranteed by the Government should bear at least 20 percent of the loss from a default" to subject them to risk and provide an incentive to perform due diligence before lending.<sup>7</sup> In other words, no more than 80% of any loan (not the project cost) should be guaranteed. However, DOE's final rule for Title XVII allows for loan guarantees to cover 100 percent of a loan (not the project cost). This eliminates the incentive for private lenders to perform due diligence — an important taxpayer safeguard.

- *Allowing the build-up of technical risk in the portfolio:* DOE's rule further increases risk to the U.S. Treasury by allowing multiple projects to go forward using the same untested and potentially flawed design. This concentrates risk within the portfolio, and means that taxpayers could end up on the hook for a multitude of the same failed projects.

- *Eliminating taxpayers' preferred creditor status:* The language of EPACT 2005 explicitly says that taxpayers' rights "shall be superior to the rights of any other person with respect to the property."<sup>8</sup> A plain English reading of this provision would be that in the case of default, the U.S. Treasury has the right to recover their losses before other creditors. However, in interpreting this rule, DOE has weakened this safeguard by voluntarily giving up the right of first lien and sharing any money recovered "pari passu," or in proportion, with the holders of the non-guaranteed portion of the loan.<sup>9</sup> This is the same flawed logic that DOE applied in administering the synthetic fuels loan guarantee program of the late 1970s and early 1980s, the last time it issued loan guarantees. The synthetic fuels corporation ended up costing taxpayers billions of dollars.<sup>10</sup>

The federal government has an important role to play if we are to have any chance of avoiding the worst effects of climate change. Unfortunately, Title XVII takes the wrong approach to energy finance so it should be eliminated. The program is subject to pork barrel politics, risks taxpayer money and creates incentives for dirty and dangerous energy projects like nuclear reactors and coal plants. It is also ill-suited to creating a system of small distributed renewable energy or increasing energy efficiency. We simply cannot afford to make missteps like this if we are going to have any chance of effectively fighting climate change.

Today, the biggest impact of the loan guarantee program is not any progress in solving the climate crisis but rather the damage it has done to the reputation of renewable energy. The harm caused by the Solyndra scandal is significant and it has made success in the fight against climate change more difficult. If we do not end the program, however, the damage to the environment could be much worse. DOE is moving forward with issuing loan guarantees for the Vogtle nuclear reactor in Georgia, the Kemper coal gasification project in

Mississippi and the Medicine-Bow liquid coal plant and associated coal mine in Wyoming. These projects would take us backwards in our fight against climate change and diminish our chances of success. This flawed program should be ended immediately and replaced with proven policies including regulations on greenhouse gases, a carbon tax and a feed-in tariff that will lead to real emissions reductions now.

## Endnotes

1. Energy Policy Act of 2005 § 42 U.S.C § 16513 (2005).
2. Public law 112-10-Apr. 15, 2011.
3. Congressional Budget Office cost estimate of S.14, Energy Policy Act of 2003 <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/42xx/doc4206/s14.pdf>
4. Congressional Budget Office cost estimate of S. 1321, Energy Savings Act of 2007, <http://www.cbo.gov/ftpdocs/82xx/doc8206/s1321.pdf>.
5. “Having a federal loan guarantee would lower the cost of capital and improve a project’s viability if the credit risk is shifted to the federal government. However, requiring the borrower to pay the subsidy fee shifts most of that risk and cost back to the project, leaving its creditworthiness largely unchanged. Because such projects are either uneconomic or marginally so without the guarantee, there is a practical limit to how large the subsidy fee can be without jeopardizing the project’s financial prospects. In addition, prospective borrowers will have imperfect information about the risk associated with their proposals and may turn down a guarantee if they believe DOE’s fee is too high but go forward if they consider it low. This also makes it more likely that DOE’s loan guarantee portfolio will have more projects where the subsidy fee has been underestimated than overestimated.” Ibid.
6. Energy Policy Act of 2005 § 42 U.S.C § 16513 (2005).
7. OMB Circular NO. 1-129, revised, November 2000, [http://www.whitehouse.gov/omb/circulars\\_a129rev/](http://www.whitehouse.gov/omb/circulars_a129rev/)
8. Energy Policy Act of 2005 § 42 U.S.C § 16513 (2005).
9. Loan Guarantees for Projects that Employ Innovative Technologies, 72 Fed. Reg. 204, (Oct. 23, 2007) (to be codified at 10 C.F.R. pt. 609)
- 10 Ibid.