EV Hype and Hope

By Michael T. Burr Six months after Solyndra's bankruptcy, the resulting controversy is affecting other companies that were hoping to secure loans from the Department of Energy. Lawmakers want to know whether the DOE loan program has stalled out — and whether reforms are needed to clarify the mission and the risks for taxpayers.In the past few years, hype over electric vehicles reached a crescendo in the media and in political circles. The good news is that this hype spurred major investments — both private and public — toward R&D and commercialization that's already starting to show results (See "The Hundred-Dollar Race" - left). The bad news, however, is those results haven't yet translated into dramatically better or cheaper cars in showrooms, leaving first-generation EVs to compete against mature gas-powered cars with much lower sticker prices.

The difficulty of that competition became clear in March 2012, when Chevrolet suspended production of the plug-in hybrid Volt, because inventory was stacking up. But in addition to slow sales for products already in the market, some new concepts have failed to get out of the garage, providing fodder for skeptics who say batteries can't against internal combustion, and subsidies are a waste of taxpayer dollars.

Such skepticism isn't entirely misplaced; many questions about battery technology remain unanswered. And the hype cycle for any new technology tends to raise unrealistic expectations in the early years — expectations that might never be realized. However, potholes and problems don't indicate the end of the road for electric transportation — far from it. This early-phase shakeout suggests the politically driven DOE loan program needs some restructuring to ensure it achieves the goal of a competitive and financially viable electric transportation industry.

The Valley of Death

In every new industry, companies on the so-called “bleeding edge” of technology frequently find themselves at perilous risk of running out of funding before they can establish a sustainable revenue stream. Another metaphor is the “valley of death” — the place where new technology ideas go to die, because they can’t get enough funding to become fully commercial. That seems to be happening now, as companies struggle to deliver on a promise whose technology foundation hasn’t yet solidified.

The purpose of the Department of Energy’s (DOE) clean energy loan guarantee programs — including the Advanced Technology Vehicles Manufacturing (AVTM) program — is generally to help new technologies cross that valley of death, so they can pursue a viable commercial future. These loans are differentiated from some DOE grant programs, which fund basic research at earlier stages. But as with any government program, DOE’s loan guarantees attract a great deal of political attention, creating substantial political risks for the administration that approves them.

Such political risk turned into a scandal for the Obama administration last year, when solar technology company Solyndra went bankrupt after collecting nearly $530 million in federal loans. The episode sparked a controversy about DOE processes, and prompted allegations of political favoritism in the White House. And since then, DOE seems to have tightened the purse strings for new energy technologies. In fact, DOE hasn't approved a single AVTM loan since before the Solyndra bankruptcy, and as a consequence, several EV companies have pulled the plug on their efforts:

• Bright Automotive — launched in 2008 with backing from Google Ventures, Alcoa, Johnson Controls, the Turner Foundation, and Rocky Mountain Institute — closed its doors at the end of February 2012. Bright was counting on a $450 million DOE loan that company officials said the agency delayed and loaded up with increasingly onerous conditions until Bright was "forced to say 'uncle.'"

• Aptera was developing a teardrop-shaped EV — with funding from Google, NRG Energy, and Idea Labs — until December 2011 when it fell short of the expanded $80 million private funding commitment DOE required to advance a $150 million loan.

• Next Autoworks closed its San Diego headquarters in December. The company stated that it withdrew its application for a $320 million loan after it learned DOE would decline it because of "political and credit-risk" concerns. The company had received equity support from Kleiner Perkins, T. Boone Pickens … and Google.

A common thread in their stories — other than the fact that Google was involved in all three — seems to be the assertion that DOE negotiated in bad faith by repeatedly changing terms and conditions, making them more demanding and restrictive, with ever-larger equity requirements, smaller lending commitments, and tighter deadlines to meet development milestones. Some applicants directly accused the Obama administration of stonewalling to avoid making loan commitments that could provide campaign-trail fodder for the president's opponents. William Santana Li, CEO of Carbon Motors — which is developing a fuel-efficient diesel police car and was denied in its bid for a $310 million loan — wrote a scathing letter to DOE Secretary Stephen Chu, and told the New York Times, "Since Solyndra became politicized last fall, the Department of Energy has failed to make any other loans." William Donoghue, COO at Bright Automotive, echoed the sentiment. "We got tired of waiting for heaven and earth to move."[1]

For its part, DOE says the Solyndra mess had nothing to do with its decisions regarding these particular loans, but rather that the department was focused on protecting taxpayers from unreasonable risks. Chu said as much in his comments before a U.S. Senate panel on March 13.[2] "We have to look out for taxpayer money, and as things change you have to look at the original covenant of the law, which says there must be a 'reasonable prospect of repayment.' Especially for a new company, we have to independently evaluate whether the company's market projections make sense. We try our best to do that."

Indeed, doing that allowed DOE to dodge the worst of what might become another costly crackup. Specifically, Fisker Automotive encountered problems in February, when the company delayed releasing its $102,000 Karma luxury EV. As a result, DOE withheld the latest tranche in a conditional loan commitment totaling nearly $530 million. When Fisker finally unveiled the car in March, it was plagued with technical issues; one unit inexplicably conked out during a Consumer Reports test drive, and the company recalled 200 units to implement software fixes. Then, adding insult to injury in the same month, the brokers who'd arranged private funding for Fisker learned that the Securities & Exchange Commission might bring them up on charges related to the company's 2009 private equity offering.

The Fisker case provides ammunition for EV critics who suggest tax dollars shouldn't be used to finance exotic toys for millionaires. But beyond that, DOE's decision to distance itself from Fisker seems to have happened just in time for the administration to avoid the brunt of the scandal.

Survival of the Smartest

Any new technology goes through a hype cycle. It begins with excessive excitement and inflated expectations, followed by disillusionment when those expectations aren't immediately met. Finally, years later, the technology reaches a plateau of productivity, and often it will exceed even the most optimistic predictions.

EV technology is going through this hype cycle now, and the recent spate of bad news suggests it's entering the disillusionment phase. Arguably this is a good thing, as it will bring a healthy shakeout among EV companies before too much money is spent on ventures that won't succeed. And irrespective of whether DOE has allowed the loan process to become unduly politicized, the EV industry that survives the shakeout likely will be more stable for it. In principle at least, the best technology options will continue development, and the companies that pursue them will be less dependent on government funding — which is notoriously fickle and inevitably political.

In the short term, increased attention to DOE's slow processes might spur action for some borrowers. But overall, DOE seems likely to keep its purse strings tight, rather than take the risk of loosening them in an election year. And indeed, the main focus of the March 13 Senate hearing involved protecting taxpayer interests and ensuring DOE doesn't repeat a Solyndra situation. Chu assured senators the agency already is implementing changes — recommended by independent auditor Herbert Allison — to strengthen oversight and establish "early warning" mechanisms to detect changing risk factors on a more real-time basis.

At the same time, the complaints of loan applicants suggest the federal loan program needs some basic restructuring. That's one apparent conclusion from the March 13 hearing, where Chu said the agency frequently struggles to interpret its requirement under the Energy Policy Act of 2005 to approve only those loans that have a 'reasonable prospect of repayment'—the word "reasonable" being a vague term whose subjective definition often puts the secretary in a no-win position. Sen. Ron Wyden (D-Ore.) proposed that Congress should consider clarifying the law to establish different categories of risk that might merit different loan treatments. By contrast, under the law today, DOE pursues what seems to be a "one-size-fits-all" approach, evaluating "utility-tied projects" — i.e., those with off-take agreements — on the same basis that it evaluates more speculative R&D-type ventures.

"Not all loan guarantees are created equal," Wyden said. "Would it make sense to restructure the loan guarantee statute along the lines of recognizing fundamentally different risks?"

Auditor Allison lent his support to the idea.

“The controversy about the program is that there are differing expectations about what it’s supposed to be doing,” he said. “I don’t think there’s anything wrong with making loans that are admittedly risky, as long as we’re acknowledging the risk in the loans. There needs to be great clarity about the purposes of programs and what they’re designed to achieve.”

ABOUT THE AUTHOR Michael T. Burr is editor-in-chief of Public Utilities Fortnightly.

ENDNOTES

1 “Solyndra is Blamed as Clean-Energy Loan Program Stalls,” New York Times, March 12, 2012.

2 Full Committee Hearing, “Allison Report on DOE Loan Guarantee Program,” Senate Energy & Natural Resources Committee, March 13, 2012. Webcast and some submitted testimony available at senate.gov. Also see “Senators say Energy loan programs need restructuring,” Detroit News, March 13, 2012.