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In Role as Kingmaker, the Energy Department Stifles Innovation

By Darryl Siry December 1, 2009 | 8:30 am | Categories: EVs and Hybrids

Of all of the Department of Energy programs intended to advance the green agenda while stimulating the economy, the Advanced Technology Vehicle Manufacturing incentive to spur the development of cleaner, greener automobiles is perhaps the most ambitious. But it has a downside.

The energy department has approved direct loans to Nissan, Ford, Tesla Motors and Fisker Automotive totaling about $8 billion out of a budget of $25 billion. The magnitude of this program dwarfs other DOE campaigns like the $2.4 billion given to battery and electric vehicle component manufacturers and the $4 billion disbursed for “smart grid” projects.

To the recipients the support is a vital and welcome boost. But this massive government intervention in private capital markets may have the unintended consequence of stifling innovation by reducing the flow of private capital into ventures that are not anointed by the DOE.

To understand this apparent contradiction, you have to look at the market from the perspective of venture capitalists looking to deploy investors' capital and startups looking to attract it.

Venture capitalists evaluate a company on the basis of whether they think it will succeed and generate returns for their portfolios. While this evaluation is a function of many things, one key question is how much more capital the company will need to get its product to market or a liquidity event so that the venture capitalist can see a return. The more capital it needs, the more dilutive it will be to the early investors.

In cleantech, and in particular alternative fuel vehicles, the capital requirements for companies bringing a car to market in significant numbers can be extraordinarily high, reaching into the hundreds of millions of dollars if the company wants to build its own manufacturing facilities.

To a venture capitalist, this capital requirement can be daunting. This is why government financing is so attractive. In the case of the advanced technology manufacturing loans, the DOE steps up for 80 percent of the total amount needed. Private sources fund the other 20 percent. This amounts to free leverage for the venture capitalist's bet, with no downside. Hedge funds historically used massive leverage to generate outsized returns, but if the trade turns against them, that same leverage multiplies their downside and can lead to financial ruin. In the case of the DOE loans or grants, the upside is multiplied and the downside remains the same since the most the equity investor can lose is the original investment.

The proposition is so irresistible that any reasonable person would prefer to back a company that has received a DOE loan or grant than a company that has not. It is this distortion of the market for private capital that will have a stifling effect on innovation, as private capital chases fewer deals and companies that do not have government backing have a harder time attracting private capital. This doesn't mean deals won't get done outside of the energy department's umbrella, but it means fewer deals will be done and at worse terms.

According to Earth2Tech, venture capitalist John Doerr commented on this at the GreenBeat conference earlier this month, saying "If we'd been able to foresee the crash of the market we wouldn't probably have launched a green initiative. Because these ventures really need capital. The only way in which we were lucky I think is that the government stepped in, particularly the Department of Energy. Led by this great administration that put in place these loan guarantees."

Several sources within startup companies seeking DOE loans or grants have admitted that private fundraising is complicated by investor expectations of government support. None would speak publicly due to the sensitivity of the issue and the ongoing application process.

Aptera Motors has struggled this year to raise money to fund production of the Aptera 2e, its innovative aerodynamic electric 3-wheeler, recently laying off 25 percent of its staff to focus on pursuing a DOE loan. According to a source close to the company, "all of the engineers are working on documentation for the DOE loan. Not on the vehicle itself." Another highly placed source at Aptera told Wired.com many potential investors wanted to see approval of the DOE loan before committing to invest.

Startup companies that enjoy DOE support, most notably Tesla Motors and Fisker Automotive, have an extraordinary advantage over potential competitors since they have secured access to capital on very cheap terms. The magnitude of this advantage puts the DOE in the role of kingmaker with the power to vault a small startup with no product on the market –– as is the case with Fisker — into a potential global player on the back of government financial support.

As a result, the vibrant and competitive market for ideas chasing venture capital that has been the engine of innovation for decades in the United States is being subordinated to the judgments and political inclinations of a government bureaucracy that has never before wielded such market power.

A potential solution to this problem may seem counter-intuitive. The best way to avoid market distortion would be for the DOE to cast the net more broadly and provide loans and grants to a larger number of companies — which ironically means being less selective. Subject to the existing equity matching requirement, this would allow the private markets to function more effectively in funding a broader range of companies and driving more innovation. Several innovative companies with great potential have been in the DOE pipeline for many months. Perhaps it is time for the DOE to stop playing favorites and start spreading the love.

Wired.com contacted the Department of Energy for comment but did not receive a reply.

Disclosure: Darryl Siry was the chief marketing officer of Tesla Motors from December 2006 until December 2008 and is a special advisor to Coda Automotive, which has not sought an Advanced Technology Vehicle Manufacturing loan.

Photo: Ford Motor Co. Energy Secretary Steven Chu addresses Ford employees on June 23, 2009, after announcing the automaker will receive a $5.9 billion loan.

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Posted by: DOEDope | 12/1/09 | 10:21 am

Good article. The premise is sounds, but the proposed solution in the end just doesn't make sense. How much money can the DOE possibly afford in being "less selective" and "start spreading the love"? Hey, why not just give *everybody* billions of dollars, and then we'll all be happy!

Here's another, free-market approach: Remove all financing. Yes, the amount of investment capital can be daunting, but this just means that the innovators will have to work harder, and only most innovative and likely to succeed projects will be given money from VCs or other investors.

The government should not be in the business of being a VC. It has no business deciding which businesses should succeed and which shouldn't, based on who is developing technology that they think is "good" or "right".

Let the free market do its thing, and we'll see the same kind of innovation that made this country the greatest country in the history of the world.

Posted by: DOEDope | 12/1/09 | 10:27 am

One other idea is to have the DOE match investments (either a % or perhaps double, etc.) from VCs. That way, it is still completely in the market's hands as to which companies get investments. The DOE would then only increase the investment power of the free market, instead of acting as a "kingmaker" as the article title so eloquently puts it.

Posted by: Darryl Siry | 12/1/09 | 10:56 am

@DOEDope - I agree with you but we are already past that point now. I'm not suggesting the DOE support every application (for example, I think ZAP! has applied) but they should take a broader portfolio approach to minimize the problem.

Posted by: AJ | 12/1/09 | 12:51 pm

So, government subsidies (in effect, reverse tariffs) negatively impact free market growth and innovation? Didn't Adam Smith mention something along those lines a few hundred years ago? Ahh, but in their infinite wisdom, our fearless leaders have chosen to follow the old Soviet model of a centrally planned and controlled economy, and we all know how well the original worked out, right? Excellent article, just a shame that those in power have failed to learn from the abundant lessons of history.

Posted by: Fabozz | 12/1/09 | 1:01 pm

There's a simple, free-market solution to this problem that's been proven to work for, literally, centuries: innovation prizes. Government handouts just reward companies for being politically well-connected… which is of course exactly why politicians prefer them. But even when handouts live up to their stated purpose, all they really do is reward effort. Since what we care about are the results, not the effort, why not reward exactly that?

Take that money and offer it instead as a series of prizes for hitting technological milestones, and it will draw forth private investment, with the most investment flowing to the companies with the greatest chance of success. The companies that win have their success reinforced by extra capital to allow them to drive broader consumer adoption of their products. The companies that lose still have a base for competing for the next prize, and they have an even stronger incentive to create a marketable product to recoup their sunk costs. Or they go under and sell their assets to the winners, who are thereby even more capable of getting their products into consumers' hands.

Posted by: Zed | 12/1/09 | 1:14 pm

"Coda Automotive, which has not sought an Advanced Technology Vehicle Manufacturing loan."

better get on that…

Posted by: gjett95008 | 12/1/09 | 1:46 pm

Good article but it just brushes the subject. The grants game has been rigged for years by Universities and big companies. They have build high barriers to discourage anyone else from applying.

Even if a small startup wins a grant and completes first stage prototype the inventors can be cut out by the DOE/SBA.

There reasoning is the public helped pay for your research so they can take the patents and hire someone else to build it and pay the inventors nothing. Not a very motivating system.

Granted the Venture Camp will move the inventors out of the way and bring in “Professional Management” too. But at least the inventors profit from their hard work before they get tossed.

Posted by: dcx_2 | 12/1/09 | 1:49 pm

Right, spread the love…and then everyone will complain about wasting taxpayer money on ventures that won’t produce anything.

Posted by: gjett95008 | 12/1/09 | 1:57 pm

Any great energy discovery has to overcome great opposition. People making $$$ doing the same old thing today will try to ignore or stamp out innovation.

for example.

What if you discovered a cure for cancer? Would that be received with open arms??

Well no. Think about all the universities living off grants to study cancer. They would be in the unemployment line. You expect they would welcome you with open arms and conduct a fair review?

Posted by: gjett95008 | 12/1/09 | 2:03 pm

All I’m saying is they need to get the money to small companies.

Startups are where the breakthrough innovation happens, not universities or big companies. Small companies hire more people than large companies. They are the backbone of the econmomy. We get the innovation faster and create lots of (non-outsourced) jobs in the USA.

Posted by: Smoke_Jaguar4 | 12/1/09 | 2:23 pm

@gjett95008:
If a cure for cancer were discovered, then researchers would move on to the next applicable issue. At the very least, the could see how this discovery could be applied to other areas. Grant money that went to cancer research could be repurposed to other issues. There are enough topics out there to keep researchers occupied for the next million years or so.

I do agree with you, however, on small business. In particular, I’m interested in how Nissan got its hand in the pot. Any word on Japan providing similar funds to U.S. firms???
On the original topic:
If Nissan, Ford, Tesla, and Fisker have received $8B, then who has received the remaining $17B? Are there any small business set-asides for these funds?

Posted by: Followgirlfor | 12/1/09 | 2:32 pm

George Bush appointed Lachlan Seward to run the Program. He hired a bunch of people who had never done this before. He ran the Chrysler bailout in the past and was very good friends with Detroit. Now Chrysler has got the ATVM taxpayer money but they mysteriously now have backed out of making any electric cars. Of course 'ole Lach did not dispute this. Detroit and the Oil lobby have always run DOE funding. The Senate Environment Committee investigated the DOE Loan program and found it to be corrupt and conflicted. They just fired the head loan guy there and brought in a VC to fix it. Alas, that VC is tied to Matt Rogers who lives in the Bay Area with his co-manager and flies back on weekends at taxpayer expense to ride his bike in Woodside. They are friends with Tesla and its heads. See how this fits together? Want to hear more?

Posted by: Followgirlfor | 12/1/09 | 2:42 pm

So… The ATVM Loan people had already decided who was going to get money from the taxpayers last year- pretty much their friends in Detroit and clients of some giant lobby firms who had promised support. Eco Motors, Zap, Fischer, XP, pretty much every small player, were cut out because Ford, Chrysler and GM said to "never let them get a foothold". Ford, GM & Chrysler could never compete with small companies who had no overhead, shareholder debt, lawsuits, dealer layers and could make cars at way lower cost. They had to make sure they could never get off the ground. So, in a recession, it was a simple matter of simply not announcing the pre-existing "no money for you" decisions until they forced the little guys out of business. Siry understands how deadly this was because no investor would invest in these small companies because the outside investors had to wait for DOE because DOE had a sub-prime term that they could not compete with. This forced all of the hostile management upheavels at Tesla, XP, Zap, Aptera, etc.. because they were forced into a corner, forced to break: BY DOE!

Posted by: Followgirlfor | 12/1/09 | 2:47 pm

There are many house, senate, newspaper and special committee investigations about all of this underway. Heads have already started to roll, someone may go to jail, a few companies will file lawsuits against agencies. You will probably start to see all if this come out mid next year. There was a very dirty process that went down. Try to find exactly where all of the money that has already been given out to the car companies has gone. Look at who just got $200K salaries at each of them that was on deferral prior. Demand to see the review notes if you are a taxpayer. It is your money.

Posted by: SkepticalOptimist | 12/1/09 | 4:24 pm

To those who feel this kind of stuff should be funded either by government only or by venture capital only -

Both private capital and public funding have place in technology research and development. Each has its pros and cons, they both play important roles. It's a matter of determining which phase of development a particular technology is in, and applying the appropriate type of financing model.

In the early stage, where uncertainty is very high and financial ROI is not easily calculated, public financing (national labs, research funding agencies) is most appropriate for supporting basic research, and putting fundamental knowledge in the public domain. At this stage, technology is usually unattractive to private capital. Moreover, if a private entity does make a fundamental breakthrough, there's a strong tendency to monopolize this invention and corner the market, which is actually harmful to further innovation.

Once the technology nears production-worthy maturity, and financial ROI can be predicted with reasonable confidence, it's time to stop public funding and let private capital to take over, to develop products and to establish a competitive market.

This model has worked very well for many technologies that we take for granted today and drove wealth generation in the past: jet aviation, microchip, satellite communication, internet, etc.

Posted by: alexismadrigal | 12/1/09 | 4:51 pm

First, I'm not saying this was all done perfectly. It's hard.

But…

@DOEDope: "It has no business deciding which businesses should succeed and which shouldn't, based on who is developing technology that they think is 'good' or 'right'."

Unfortunately, sir, your viewpoint is contradicted by pretty much all of American history. What free market built the highways that cars run on? What free market has there ever been in the oil business? Was it the free market that that incorporated General Motors into the World War II manufacturing effort?

Was it the free market that developed the transistor and optical fibers? Or were they created at Bell Labs, an arm of a monopoly created by the United States government?

In summary, there is an enormous amount of government intervention baked into the system. There's no escaping it. And now, if you pull it all away, you end up with a system that's all momentum. You end up agreeing with the values of history instead of those of the future.

Posted by: ohsoolde | 12/1/09 | 5:07 pm

Ah, bottom-sucking disclosure, so that's why while reading I had the nagging feeling this was written by somebody with some ax to grind across the bias.

Posted by: tsport100 | 12/1/09 | 7:11 pm

Fancy looking for a down side to more money being put into EV start-ups!! Get realistic, the only way to avoid government influence is for the DOE to stop providing funds.

As it stands it seems Congress and the DOE have gone out of their way to help everyone, even a total basket cases like Aptera who are a perfect example of how even VCs can back vapourware.

How about boostrapping as an option (i.e Aptera choosing the option of actually delivering cars on time as promised) instead of blaming VCs and the DOE if your pet project gets rejected for funding?

Posted by: Followgirlfor | 12/2/09 | 8:54 pm

No VC is going to fund a car company. The handful that have, were friends of the founders. The Vc's who invested in Tesla never monitored the company and failed to help them and caused the initial near-failure of Tesla. No VC knows how to do due diligence on a car company. The few that have invested will not do any more car companies in their portfolios. Tesla pitched every VC on Earth already and has been turned down by almost all of them. Tesla only got the recent money it did "because" of the DOE money that they also got. The VC's told them they would not come in without the DOE money. Until you go out and try to start a car company do not denigrate those who are daring and visionary enough to have the nuts to do what others who write negative comments here would never even dream of trying to do. To repeat: No VC will fund a car company because they have no clue how to do it and no taste for capital intensive efforts. So the public and taxpayers and our children lose because the VC's are fearful and move as a sheep-herd, the special interests still run things and the 7 guys that control the billions for the car funding are compromised by GM, Ford & Chrysler.

Posted by: whitestraightrepublicanmale | 12/4/09 | 4:07 pm

I'm all for NOT wasting taxpayers money but to those that cry fowl when the DOE ponies up cash for innovations I say this: You wouldn't have seen this article if it wasn't for the biggest government funded invention ever (the internet). Not to mention the countless pharmaceuticals you ingest while DNA is being spliced in laboratories funded by your taxpayer dollars. Better to see our money wasted in technological innovations than wasted on feeding and healing people too lazy to help themselves.
