HOW THE AUTO INDUSTRY CARTELS KILLED OFF THE APPLE EV. DYSON AND OTHER ELECTRIC CARS

<u>Craig Wilson - Darryl Siry -</u>

Last month, James Dyson, the head of the company that carries his name and is best known for its vacuum cleaners, hairdryers, and Airblade hand dryer, explained in an interview with *The Times* of London why the company pulled the plug on its £500 million effort to build an electric vehicle to rival the likes of Tesla and Rivian. That interview offered only a small peek at the abandoned project. Now Dyson itself has <u>pulled back the curtain</u> and gone into more detail into a car that will go down in history, even if it never goes down anyone's driveway. EVs are expensive <u>— The short answer as to why the Dyson Battery Electric Vehicle</u> failed to come to fruition is the price. Dyson argues that conventional carmakers lose money on electric cars, but that it doesn't matter because those losses can be "offset against selling traditional vehicles on which they make a good profit." It says this, combined with it being a "non-automotive company" and not using off-the-shelf components meant it would be too hard to build.

That's a shame because, as the video above and those below show, Dyson's Range Rover-like effort was striking, to say the least.



<u>Dyson</u>

<u>A giant on wheels</u> — Dyson's electric SUV, built on a platform the company planned to use for other body styles in the future, is over 16 feet long, with enormous wheels at each corner that provided lower rolling resistance and a smoother ride on bad surfaces, along with substantial ground clearance.

The company is very light on the specifics of things like battery capacity, power output, 0-60 mph times, or any of the other figures auto fans tend to enjoy pouring over, but then, if you spent half a billion Pound Sterling on something, you might keep some of its secrets to yourself, too.

No love lost for armchairs — According to Dyson, putting each wheel "at the extremities of the four corners" allowed it to have the seven-seater capacity of a long-wheelbase SUV "without the disadvantage of the massive external body." James Dyson also says he hates the "1930's armchair look that car seats typically have" and bemoans their lack of "proper lumbar support," which explains why Dyson's EV went for an admittedly attractive, highend office-chair look.



<u>Not a complete waste</u> — Despite the intensive capital outlay, the hiring of "hundreds of engineers, scientists and designers," and the acquisition of a wartime airfield to that will now be home to Dyson's robotics, environmental care, and lighting teams, James

Dyson says he has no regrets about having tried his hand at electric vehicles. But then, he would say that, wouldn't he? At least the original owners of the farmland that got converted first into a military facility and then the home of a technological pipedream got paid a contemporary market-related rate for their property. Every cloud, eh?



<u>Dyson</u>



<u>Dyson</u>



<u>Dyson</u>

Design

James Dyson made an electric Hummer to battle Tesla. Government agencies and market monopolies made sure it never got to market.

The company spent £500 million to design and test the 7-seat EV, which will never see the light of day.



<u>The Times</u> <u>Craig Wilson</u>

James Dyson, who recently became the richest person in the U.K., has shelved his plans to challenge <u>Tesla</u> with a high-end, allelectric SUV. Dubbed the Dyson Car, but officially called the N526, the only pictures of the vehicle appeared in *The Times* over the weekend, alongside an <u>interview with Dyson</u>, who explained that despite sinking £500 million (~\$612 million) and years of research into the car, it won't be coming to market.

<u>Too expensive for this world</u> — Dyson explained the final vehicle — which looks like a Range Rover Evoque, but has dimensions nearer those of a Hummer — would've needed to sell for around £150,000 (roughly \$184,000) for the company to actually make any big money off it.

While you can bet some people would buy one nonetheless and might consider it over the similarly priced Porsche Taycan, at three times the price of an optional extras-laden Tesla there'd be no hope of Dyson's vehicle being a mainstream success. Especially considering selling cars and making money from them is a volume game, and Dyson would have to create a network of after-sales support facilities that would further eat into its already slim profits.

The Times

<u>The news sucks, but Dyson doesn't</u> — Dyson is best known for its vacuum cleaners, <u>hairdryers</u>, bladeless fans, and iconic contactless Airblade hand dryers. It's also known for its obsessive engineering that results in outstanding products that come with a similarly exceptional price tag. It's also known for taking fresh approaches to products that don't always pay off.

The Dyson car isn't the first product it's had to shelve because of costs — it also canned a washing machine which proved too expensive for consumers, but not before it made it to market and sold (albeit poorly) for five years. And earlier this year it spent millions on plans to produce ventilators that eventually

turned out to be unnecessary. Fortunately, though, <u>unlike Tesla</u> Dyson is a private company, so it isn't accountable to shareholders for its decisions.

What might have been — The Dyson car is a seven-seater powered by a pair of 200kW electric motors capably of 536 BHP and 480 lb-ft of torque. Despite weighing 2.6 tonnes, it can do 0-62 mph in 4.8 seconds, has a top speed of 125 mph, and can manage a staggering 600 miles to a charge. Combine that with the futuristic interior and we're very sorry we won't be seeing it at motor shows any time soon... or ever.

Then there is Apple's Electric car; The world's most valuable company appears to have failed on an extravagant project in an embarrassingly public way. But it might not be the sign of decadence and decline that it seems at first blush.

Since early 2015, it has been an open secret in Silicon Valley that <u>Apple was building a car</u>. Under the code name Project Titan, the company reportedly assembled a huge team of engineers at an unmarked facility in Sunnyvale to build what was rumored first to be <u>an electric car (or minivan)</u>, and later a <u>self-driving electric car</u>. The excitement revved so high as recently as this summer that *Motor Trend* devoted its June 2016 cover to imagining <u>exactly</u> what the <u>Apple Car would look like</u>.

Now it seems Apple has slammed on the brakes. Following a pair of earlier reports that Apple was downsizing its car project and shifting its focus, *Bloomberg* reported on Monday that the company's plan "no longer includes building its own car." Instead, Apple's team has pivoted to building an autonomous driving system—that is, the software to power a self-driving car. The company has given Project Titan's leaders a deadline of late

2017 to "prove the feasibility of the self-driving system and decide on a final direction," *Bloomberg* writes. Meanwhile, hundreds of team members "have been reassigned, let go, or have left of their own volition in recent months," while Apple has continued to hire others with a focus on software and A.I.

As with most of the earlier media scoops on the Apple car, this one is anonymously sourced, so it's hard to say anything for sure. But the claims are consistent with prior reporting by *Bloomberg* and the *New York Times* and the documented departure of key executives from the Project Titan team.

Assuming it's true that Apple has given up on building a car, at least for the time being, the project will go down as an embarrassing misstep by CEO Tim Cook and company. It almost certainly cost the company a pile of money and distracted from its core business. If <u>Apple did peak in 2015</u>, as I've suggested, history may record this as an indicator of a company that was beginning to lose its touch.

Yet, in an odd way, it could be a sign of health that the company was willing to cut bait on such a large and highly publicized project at this juncture. One of Apple's great strengths has always been its focus. In contrast to a company like Google that seems to pursue every idea at once, Apple does a few things, and it does them far better than anyone else.

Cook, who is sometimes derided as a corporate custodian who lacks his predecessor's legendary vision, surely deserves some blame if the car project turns out to have been misguided. Yet he also deserves some credit, both for pursuing a bold new idea and for cutting his losses when it seemed clear that it was not on the road to success.

The worst possible outcome for Apple would have been to continue pouring resources into a doomed project, whether due to wishful thinking, an unwillingness to admit defeat, or sheer organizational inertia. *That* would have been a sign of a company in decline, heedlessly expanding for expansion's sake. Building and releasing an Apple car that flopped would have been far more than an embarrassment. It could have been the company's undoing.

Instead, Apple is shifting gears, redirecting resources to a software project that is far less risky and capital-intensive than actually mass-producing vehicles. It's still risky, and it could still backfire. But at least we now know that Apple won't be afraid to call it off if it isn't working.

In the technology industry, staying on top can be almost as hard as getting there. History teaches us that even the greatest companies eventually lose their way by becoming complacent and missing big trends, or by overextending themselves and losing focus. The car project, from what we know, shows Apple remaining vigilant to both fates. Project Titan may have failed, at least on the hardware side. But, to borrow a Silicon Valley cliche: At least it failed fast.

You are not allowed to build a new kind of car. If it competes with the Detroit, Tokyo or Google monopolies you are toast. Each of those Cartel's will bribe their politicians at NHTSA, DOE, EPA, FTC, etc. to block your funds, taxes, staffing and suppliers. They will put moles in your company and force over-costs and staff issues. You won't pull it off no matter how much money you have. Tesla Motor's got funded because it's investors funded the Obama

Administration and controlled major U.S. Senators (Who also owned stock in Tesla).

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 <u>advanced technology manufacturing loans</u>, 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 <u>Tesla</u> <u>Motors</u> and <u>Fisker Automotive</u>, 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.