28 October 2016

Tesla & SolarCity: As easy as pie?

INDUSTRY BACKGROUND

On 29th August, every Tesla employee received an email from CEO Elon Musk to let them know, directly, that "the third quarter will be our last chance to show investors that Tesla can be at least slightly positive cash flow and profitable before the Model 3 reaches production."

Just two months prior, Tesla, on the heels of ramping production capacity for its not yet delivered Model 3 sedan and still completing construction of the Nevada Gigafactory, had proposed to acquire the cash flow negative SolarCity.

At the time, FTI Intelligence published a Spark – Energy Insight called *Let the sparks fly: the (net) meter is running on Tesla's bid for SolarCity*, seeking to identify and analyse the multiple factors weighing upon the ultimate success – or failure – of this proposed combination.

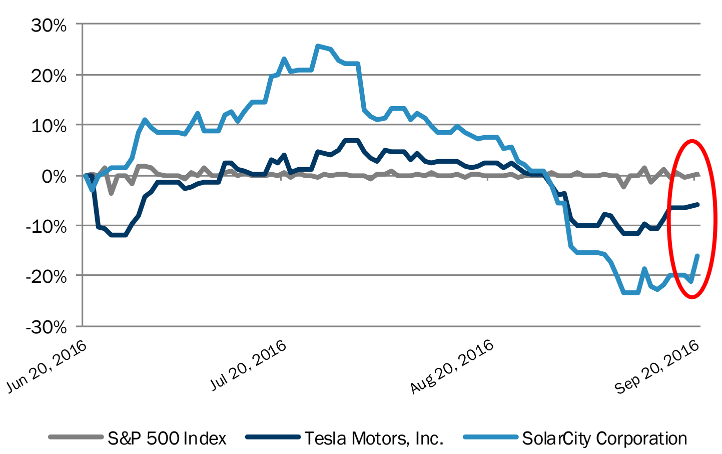
As we observed then, "it is difficult for anyone to know, as of this moment, whether or not the presumably accretive cultural and philosophical fit between Tesla and SolarCity will indeed play out in such a way that their mutually addressable market grows, synergies are realised, and performance improvements are operationalised."

In the three months since, precisely because these questions remain, the markets have on balance grown increasingly pessimistic about the transaction, expressed via the stark quantum of the two companies' stock prices. Tesla, since the 20th June announcement has seen over 7 percent of its market cap erode, while SolarCity has fallen 16 percent – substantial proof the market questions the likelihood of the transaction itself.

The basic question of "can this transaction work" continues to be the subject of generally negative (if at times melo-dramatic) scrutiny from financial insiders and analysts, the business press, and the public alike. We certainly know the outcome desired by Elon Musk – as he himself wrote to Tesla employees in the August email, *"it would be awesome to throw a pie in the face of all the naysayers on Wall Street who keep insisting that Tesla will always be a money-loser!"*

Here, FTI Intelligence presents its view on the transaction, one that is informed by our technical expertise in merger integration, identifying and implementing operational efficiencies, a deep understanding of both residential and commercial solar markets, and finally, our familiarity with the capital markets, as we seek to determine whether Elon Musk can have his pie, and throw it, too.

Stock Price Chart



Source: Bloomberg, 2016

FTI SPARK VIEW

Understanding the ingredients

From the day of its announcement, multiple audiences sought to make sense of the announced merger, quantify its economic drivers and rationale, and have clearly had difficulty in doing so. As the largest shareholder of both companies, Elon Musk was and is, fairly or not, in an enormously delicate position with regard to potential conflicts. Certainly, it did not help assuage concerns about process when subsequent regulatory filings showed one of the investment banks retained by SolarCity to advise on the merger inadvertently discounted the value of the company by $400 million.

SUMMARY

The merger of Tesla and SolarCity could be a game-changer for Elon Musk – and his shareholders.

While consensus sentiment surrounding the acquisition has been negative, investors and commentators might focus more on the synergistic opportunities of the transaction as there are significant gains to be realized.

FTI Intelligence has analysed the potential synergies that could be generated from the transaction and identifies these as the catalyst that will generate the economies of scale required to be successful in their corresponding verticals – and deliver value to all stakeholders.

EXPERTS

Robbie Goffin
Managing Director
+1 415 293 4460
robbie.goffin@fticonsulting.com

Carl Jenkins
Managing Director
+1 303 689 8877
carl.jenkins@fticonsulting.com

Chris Hollern
Consultant
+1 303 689 8883
chris.hollern@fticonsulting.com

Aris Karcanias
Managing Director
+44 20 3727 1282
aris.karcanias@fticonsulting.com

@FTIConsulting
www.fticonsulting.com

While FTI has significant commercial expertise when it comes to properly valuing energy assets, what we would say here is this: in our view, the success or failure of the transaction, at current proposed prices, is, first, a far greater function of whether or not the combined company can realise the potential synergies available to it, and second, whether the capital markets will reward these synergies with ongoing access.

Further, FTI Intelligence would also observe that while revenue synergies are likely available, when it comes to the core value driver of the acquisition, we believe the proper rationalisation and management of expenses – in particular, Selling, General & Administrative (SG&A) expenses – will be crucial.

Revenue

From a revenue standpoint, the merger of the two companies has been held as an opportunity to deliver a philosophically consistent product line across a broader customer base, under a brand that is immediately recognisable and identified not simply with happy consumers, but passionate ones.

Further, renewable energy presents adopters with two interrelated issues: generation, and storage – put simply, generating energy during the day only solves half of your problems, assuming you would like to be able to turn on your lights at night.

Integrating and selling Tesla's home battery storage solution to SolarCity's existing installed customer base (currently, over 300,000 households, or approximately one-third of the market) is a straightforward and low cost marketing program to execute. The reverse, equally, is true – there are roughly 140,000 Tesla vehicles on the road in the United States, and certainly many of these owners will be receptive to an integrated, clean energy solution.

Increased product awareness, a strong brand, providing a fully integrated solution – while pundits may aggressively debate the degree to which these customer bases will overlap and spur additional sales, FTI Intelligence believes it is disingenuous to imagine there will be no revenue benefit at all. Further, an integrated offering, marketed by an integrated salesforce, should at some point provide an opportunity to reduce not just the overall cost of sales, but improve competitiveness thanks to bundled pricing.

As far as the numbers are concerned, that translates to the following: with combined FY 2017 revenues expected to be $9.3 billion (based on consensus growth estimates of 32.9 percent for Tesla and 67.9 percent for SolarCity) projected revenue synergies are expected to range from a low of 3 percent to a high of 8 percent (based on FTI's experience).

In turn, we can expect the combined company to realise between $279.2 million and $744.7 million in additional revenues – which is to say, even at the low end, a consequential amount.

Expenses

Revenue increases are one thing, but as many have and will continue to point out, neither Tesla, nor SolarCity, have a revenue problem per se. Rather, the issue confronting both companies is profitability. Thus, when looking to quantify the impact of the merger on the combined entity, a key question is to identify whether or not there are opportunities to reduce expenses, and the magnitude of those reductions.

Due to the distinct nature of each of the business segments, the simple truth is that meaningful cost economies of scale are not going to be an impactful source of cost savings. While FTI typically looks for cost structure improvements from improved supply chain management, end to end workflow optimisation, and focusing on multichannel manufacturing efficiencies, we ultimate see consolidated improvements in the Cost of Goods Sold ranging from 0.5 – 1 percent.

With a consolidated COGS of just under $7.5 billion, we're looking at potential savings ranging from $38.5 million to $80.6 million.

Kicking SG&A

Far and away, the largest impact of the merger will be realised through the reduction in costs associated with selling, marketing and general overhead. As it stands, SolarCity in particular has been effectively managing a broad reduction in its installation costs, by far its biggest expense, driving them steadily down from $2.40 per installed Watt in Q1 2014 to &1.98 per Watt in Q1 2016. SolarCity's stated goal is to ultimately reduce its installation costs by a further 50 percent thanks to lower hardware pricing and initiatives to reduce other soft costs.

"In our view, the success or failure of the transaction is, first, a far greater function of whether or not the combined company can realise the potential synergies available to it, and second, whether the capital markets will reward these synergies with ongoing access."

EXPERTS

Robbie Goffin
Managing Director
+1 415 293 4460
robbie.goffin@fticonsulting.com

Carl Jenkins
Managing Director
+1 303 689 8877
carl.jenkins@fticonsulting.com

Chris Hollern
Consultant
+1 303 689 8883
chris.hollern@fticonsulting.com

Aris Karcanias
Managing Director
+44 20 3727 1282
aris.karcanias@fticonsulting.com

@FTIConsulting
www.fticonsulting.com

At the same time, however, sales costs have been challenging, and quite nearly doubled from Q4 2015 to Q1 2016, rising from $0.54 to $0.97 / Watt as fixed costs were amortised over lower volumes. Sales costs clearly have significant room for reduction, not just from recent levels but even further below historical norms as productivity improvements are implemented – the goal, as stated by the company, is $0.40 / Watt.

As we think about the possibilities of combining the two companies, we see real opportunities for continuing to drive sales and marketing costs lower and identify three main drivers:

1. ***Reduced customer acquisition costs for both companies.*** In consolidating, costs related to independently selling products to each other's customers is eliminated, and an immediately available referral network is created. This will only drive SolarCity's customer acquisition costs lower.

2. ***Reductions in sales force headcount by combining the battery and solar array sales departments.*** These products are naturally complimentary, and selling them as a package is sensible on its face.

3. ***Joint branding and marketing for all products going forward.*** Using Tesla's established and highly credible brand name to consolidate marketing for arrays, batteries, and cars. The presence of Tesla's growing network of bricks and mortar stores will equally benefit SolarCity's offering.

General and administrative
FTI's long experience in merger integration is that, properly executed, our clients typically benefit from streamlining organisational structures and consolidating administrative functions. Back office departments can be consolidated and deployed across multiple channels – IT, maintenance, installation, accounting, etc. – and result in meaningful savings.

Further, we believe the consolidation of the battery and solar businesses in particular, given the clearly complimentary nature of the products, not only represents a clear opportunity to realise cost synergies, but can only help with continuing to integrate and refine the product offering.

By the numbers
So practically speaking, what does all this suggest in terms of actual value?

For 2017, estimated combined SG&A for the companies is $2.386 billion. Elon Musk himself has called for cost reductions of between 20 and 30 percent for the combined company, and while he's clearly got a vested interest in those numbers being as high as possible the simple fact is that, in FTI's experience, this range is not unreasonable.

FTI Intelligence notes that Musk's proposed SG&A synergies, if implemented at the combined entity, would reduce the consolidated company's SG&A margin between 18 to 21 percent (high and low ranges) and would move the company squarely toward SG&A margins reported by other, established auto manufacturers (Ford and GM are on either side of 10 percent).

So, if the estimated synergy value improvements on the expense side range from 20 to 30 percent, this in turn suggests available synergies ranging from $491.5 million to $773.1 million.

If we further include the savings we expect from improved COGS, there is implied potential value creation from these synergies alone of between $530 million to $854 million, and again, this does not include the effect of any of the previously discussed revenue synergies.

Most interestingly, we note what happens as we flow all the synergies through a simple model of the consolidated company, using FY 2017 consensus estimates.

In other words, without making hyperbolic assumptions one way or the other, there is a scenario where the combined company is EBITDA positive at the end of 2017 to the tune of almost $95 million.

And $95 million buys a lot of pie.

A capital idea
Moving on from our synergy analysis, we'll turn to an observation we made when we first wrote about the merger: "If the combination of Tesla and SolarCity represents a philosophically consistent marriage, then the one issue that represents the greatest practical disparagement is one that has historically corroded thousands of otherwise happy unions: money."

"In other words, without making hyperbolic assumptions one way or the other, there is a scenario where the combined company is EBITDA positive at the end of 2017 to the tune of almost $95 million. And $95 million buys a lot of pie..."

EXPERTS
Robbie Goffin
Managing Director
+1 415 293 4460
robbie.goffin@fticonsulting.com

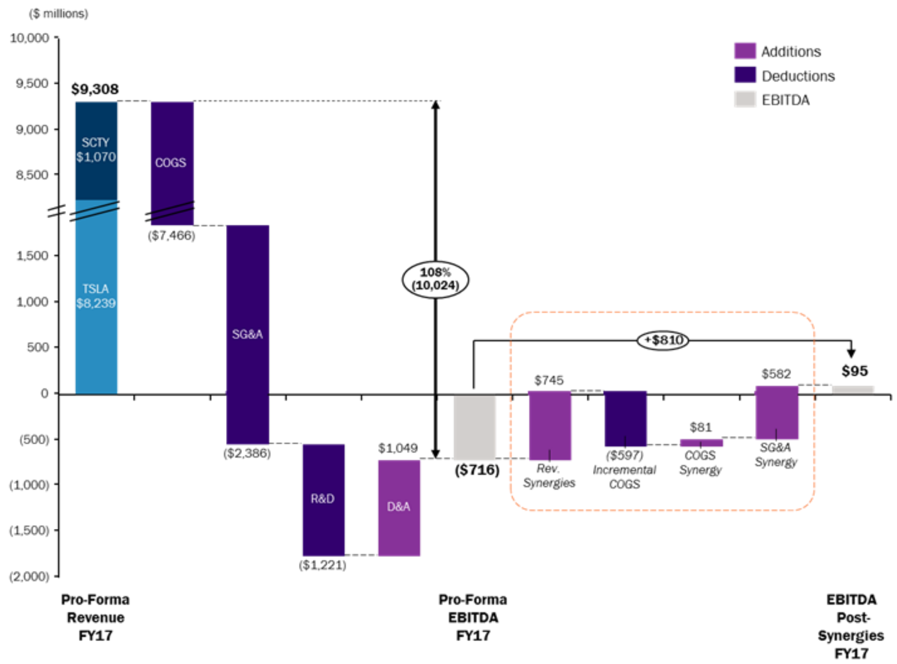
Carl Jenkins
Managing Director
+1 303 689 8877
carl.jenkins@fticonsulting.com

Chris Hollern
Consultant
+1 303 689 8883
chris.hollern@fticonsulting.com

Aris Karcanias
Managing Director
+44 20 3727 1282
aris.karcanias@fticonsulting.com

@FTIConsulting
www.fticonsulting.com

Consolidated Company – EBITDA Waterfall



Sources: Tesla and SolarCity 10-Ks and 10-Qs; Analyst Estimates from Oppenheimer, Baird and Roth Capital, 2016

Should the two companies combine, while they will have cash on hand of roughly $3.4 billion (as of 30 June 2016), after Tesla's equity raise, which by most measures is significant. However, these two particular companies are simultaneously ambitious, and growing – cash, and plenty of it, will be a critical a raw material for both over the next several years.

In the case of Tesla, while the company just reported record deliveries of 24,500 vehicles for Q3, the company still produces a fraction of the vehicles that its established, legacy competitors do (for a sense of scale, GM sold roughly ten million vehicles last year).

At the same time, new models are being developed, which means factories must be tooled at the same time that the Gigafactory is still being completed in Nevada – these are significant costs, and are being amortised over what is currently a very number of units sold. Operating losses at Tesla have been, and will continue to be, steep – the company recorded losses of $889 million in 2015 alone.

SolarCity, which at its core is a consumer lending business – revenues from leasing and lending to finance solar array installations outstrip direct array sales revenues at a ratio of roughly a 4:1 – requires ongoing access to capital in order to finance these cash-hungry activities.

Further, the ongoing development of its own production facilities in upstate New York and its dependence on scaling and deploying new technology acquired in the purchase of Silevo. On a trailing twelve month basis, SolarCity has recorded operating losses of 1.1 billion. While a thorough analysis of the pro forma capital structure of the combined structure is beyond the scope of this document, FTI here will make several observations that have interesting implications with regard to the cost of capital.

At the outset, we'll avoid the distraction of discussing equity issuance. The combination of price and opinion volatility surrounding the merger make an analysis of the cost of equity capital too subjective for comfort. However, the debt markets lend some useful insights here.

Of the two companies, SolarCity is perceived by the capital markets to represent the greatest risk. This is evident in the pricing of the company's debt, with the 2.75 percent convertible bonds due in 2018 trading at roughly $80. The strike price on the embedded

EXPERTS
Robbie Goffin
Managing Director
+1 415 293 4460
robbie.goffin@fticonsulting.com

Carl Jenkins
Managing Director
+1 303 689 8877
carl.jenkins@fticonsulting.com

Chris Hollern
Consultant
+1 303 689 8883
chris.hollern@fticonsulting.com

Aris Karcanias
Managing Director
+44 20 3727 1282
aris.karcanias@fticonsulting.com

@FTIConsulting
www.fticonsulting.com

equity option is at roughly $61.66 – which is to say, the company's stock price would have to roughly triple for this option to be in the money.

With the equity option effectively worthless, the convertible debt is a nearly pure expression of credit risk. At $80, the yield on the bonds is roughly 14.25 percent, more than 1300 basis points above the interpolated treasury curve and a clear signal that the market has significant concerns about the company.

However, the credit markets have a far more constructive view on Tesla. Looking at the outstanding Tesla 1.25 percent convertible bonds due in 2021, we observe recent trades at $86.75 – or a yield of 4.54 percent. While the option embedded in these particular bonds is not worthless, it does have low value (the strike price is over $359, so Tesla stock would have to trade up at least 75 percent from current levels to be in the money).

At 4.54 percent or roughly 335 basis points over comparable treasuries, what we can do is begin to quantify just how impactful the merger would be with regard to SolarCity's cost of capital. Even if borrowing spreads for the combined entity doubled from Tesla's current levels, it still suggests unsecured term financing should be available in the 8-9 percent area – which is to say, roughly 500 basis points below current spreads.

Further, a review of current market conditions for U.S. high yield debt suggests that implied coupons of 8 or 9 percent would frankly be high relative most similarly rated peers accessing the marketplace – the Bloomberg fair value yield curve for B3 rated industrial bonds, at five years, is 6.76 percent.

Over the last 30 days, 53 corporate high yield issues have been placed in the US high yield market for amounts of at least $200 million, at coupons ranging from 4.25 percent (Ba3/BB- Crown American) to 9.625 percent (Caa1/B- Kinetic Concepts) – but with just over 80 percent of the issuers pricing below 8 percent and an average coupon for the entire group of 6.48 percent.

While we are well aware that current trading levels in the primary and secondary market for debt hardly guarantee access and pricing, they are certainly a reasonable proxy. We would therefore suggest, in candid opposition to the majority of increasingly pessimistic financial commentary, that access to debt capital at reasonable rates may be contemplated.

Thus, setting aside any predictions that would be put at risk by equity market volatility, SolarCity's stated assumption that its pre-tax Weighted Average Cost of Capital will be 7.4 percent may be characterised as defensible in the context of a merger.

And, while Tesla's short-term cost of capital seems likely to increase given the upfront risks that the transaction represents to the enterprise, there is every opportunity for the combined company – should it execute on synergies – to be in a position to drive those costs lower.

CONCLUSION

The overwhelming combination of both surprise and skepticism that has greeted the proposed merger of SolarCity and Tesla since it was announced in late June strikes us, frankly, as somewhat misplaced when measured against the very real value it has the potential to create.

FTI is well aware of the gap that exists between identifying opportunities for operational improvements and synergies, vs. realising them. At the same time, the potential for improvements has, in our view, been perhaps too deeply discounted.

Arguing about the value of Solar City as an isolated asset, while a potentially entertaining pastime (one fueled, certainly, by revelations that the exercise was mishandled by one of the firms originally hired to do it) will not lead to a useful conclusion about the value of the merger – there are, as we have documented here, multiple, meaningful, opportunities to surface operational synergies.

Again, FTI fully acknowledges that identifying synergies is not equivalent to realising them, but we can also say that a reasonable review of the underlying and complementary business segments makes clear that there is a path – a relatively straightforward one - where the combined entity has the potential to be EBITDA positive by the end of 2017.

And, if this turns out to be the case, then Elon musk is going to keep a lot of bakeries busy: he'll be ornamenting a lot of faces with a lot of pie.

"It would be awesome to throw a pie in the face of all the naysayers on Wall Street who keep insisting that Tesla will always be a money-loser!" – Elon Musk

@FTIConsulting
www.fticonsulting.com

Aris Karcanias
Co-Lead of
Clean Energy Practice

Chris LeWand
Co-Lead of
Clean Energy Practice

Fabien Roques
Senior Vice President
FTI Intelligence

Benjamin Backwell
Managing Director
FTI Intelligence

Robert Clover
Senior Director
FTI Intelligence

Feng Zhao
Senior Director
FTI Intelligence