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**TESLA MOTORS INC. (TSLA)****BUY - \$21.98**

APPLIED TECHNOLOGIES

PLEASE REFER TO DISCLOSURES ON PAGES 16 &amp; 17 FOR IMPORTANT INFORMATION

**As the Archetypal EV, Model S Changes Everything; Initiating Coverage with \$30 PT****Changes: Initiation of coverage****Financial Summary\***

<u>EPS</u>	<u>2009</u>	<u>2010E</u>	<u>2011E</u>	<u>2012E</u>	Price	\$21.98
Mar		-0.35A	-0.37	-0.38	12-Month Target	\$30.00
Jun		-0.28A	-0.42	-0.36	52-Week Range	\$14.98-\$30.41
Sep		-0.30	-0.44	-0.50	Diluted Shares ('000)	101,000
Dec		-0.34	-0.37	-0.45	Market Cap ('000)	\$2,219,980
FY		-1.44	-1.36	-1.69	Avg. Daily Vol	741,838
EBITDA	(\$44,957)	(\$101,844)	(\$121,475)	(\$121,757)	3-5 Yr. Revenue Growth	20%+
					3-5 Yr. EPS Growth	20%+
Revs (\$'000)					Book Value	\$1.82
Mar	\$20,886	\$20,812A	\$30,327	\$26,727	Net Cash/Share*	\$1.87
Jun	\$26,945	\$28,405A	\$34,169	\$25,176	LT Debt / Total Capital	20%
Sep	\$45,527	\$27,904	\$36,449	\$24,670	Insider Ownership	57%
Dec	\$18,585	\$31,677	\$29,867	\$21,780	Est. Q3 Reporting Date	Nov'10
FY	\$111,943	\$108,799	\$130,812	\$98,352		
Mkt Cap/Rev	20x	20x	17x	23x		

\*Column totals might not sum because of rounding and changes in share count, particularly given the recent IPO. Also, Q110 and Q210 EPS estimates and cash estimates are pro-forma adjusted for post-IPO diluted shares outstanding.

**Investment Thesis:**

We are initiating coverage on Tesla Motors Inc. with a Buy rating and a \$30 price target. Simply put, we believe that Tesla can deliver eco-friendly driving with very few compromises. In fact, we believe that the Model S can be so good that buyer attitudes begin to shift from “Why would I want an electric car” to “Why would I want a gas-powered car?” At inception, we too were skeptics. Our thinking has changed.

While Tesla is a car company, we really see this as an applied technologies stock. As such, the investment decision requires an evaluation of Tesla’s competitive technological positioning, its ability to mold that technology into compelling products at a value proposition the market will adopt, and an assessment of whether the company can generate a reasonable return in the process.

Tesla’s success in its powertrain business convinces us that the company has some of the world’s best electric vehicle (EV) powertrain technology. In this business line, Tesla has competitively won and delivered on battery and drive train opportunities with some of the most successful car companies in the world, Toyota and Daimler.

Our visit to Tesla shortly after the completion of the Model S body design showed us that the car can be good enough to meet and even exceed 2013 volume expectations. In fact, the car could be so good that it completely changes mass-market thinking about EVs.

The reason is that EVs have many advantages that have never been fully explored until the Model S. In a car designed from the ground-up as an EV, the advantages that can be teased out include better acceleration and handling, improved reliability, increased internal capacity and greater safety. Lower fuel costs and zero tailpipe emissions are included. We believe that Tesla is well down a path of developing that car in the Model S.

Well-publicized EV short-comings are range and battery life. But with a 200+ mile range, the Model S will be able to handle all but the rare long road-trip, and for many buyers, the Model S will not be their only car. Tesla's battery replacement program on the Roadster has been well received and extends the value of the car's life for another seven years at a price of \$0.15 cents per mile. We expect this very economical option to be available on the Model S.

At this point, Tesla's path to success rides almost entirely on moving the Model S into production at an acceptable cost. We arrive at our \$30 price target assuming the Model S will be six months late. In fact, the alpha build of the Model S is on track to achieve management's guidance for first deliveries in mid 2012. Thus, the company is on a path to exceed our expectations.

The bulk of our report focuses on assessing whether Tesla can achieve a reasonable return on Model S, and this is a hard question to answer. However, street expectations are already 10% below management's guidance, and the company has a reasonable roadmap to success. Thus, we believe that this is a balanced risk for investors to assume at these price levels. Simply put, we are very impressed with the work that Tesla has done and continues to do to mitigate and retire that risk.

For Tesla to succeed in a competitive landscape dominated by well-established incumbents, the company must ride the disruptive forces of a transitional technology. Electric powertrain systems can be that transitional technology. EVs are different enough from ICEs that they can alter traditional buying patterns. Having embraced this transitional technology, we believe Tesla is well-positioned to win.

Tesla's unique strengths are its proprietary power storage and management technology, its highly skilled, motivated and well-managed engineering team, and its first-mover advantage. Tesla Roadsters have traveled far more electrically powered miles than any EV sold. This experience, combined with Tesla's technology, engineering and manufacturing expertise, comprise a powerful feedback loop that should lead to break-through products such as the Model S.

One often-cited concern on Tesla is that the EV industry is subsidized by tax dollars. In our investment experience, subsidized industries rarely succeed. But having said that, we believe that the Model S can be so good that buyer tax credits simply won't matter materially. Thus, we believe that Tesla has moved beyond needing any further subsidies.

Until the Model S is being delivered, financial results won't really matter. However, as Model S moves toward final design and into production, there will be many very important data-points that yield insight into the timing and cost of the Model S. We also believe that the stock will benefit from catalysts such as additional announcements of OEM powertrain partnerships.

To organize our report, we've broken the Tesla story into the following categories:

1. Model S Progress, Profitability & Adoption
2. Power Storage & Management
3. OEM Partnerships & Powertrain Development
4. Governmental Support & Subsidies

5. Current Results / Roadster Sales
6. Valuation
7. Risks

## 1. Model S Progress, Profitability & Adoption

- *Estimates and guidance anticipate mid-2012 deliveries, but we (and, we think some investors) expect a six-month delay*
- *Meeting 23% consensus GM expectations (versus 25% guidance) looks achievable and would be a positive catalyst*
- *Go-to-market strategy depends on small dealership footprint, low repair levels and modest advertisement spending*
- *At 20,000 units in 2013, Tesla would only need to take 2% of the premium auto industry market share*

### On-time Availability:

Currently, Tesla is on track to achieve its planned start of deliveries of the Model S in mid-2012. However, our model assumes that initial deliveries slip to January 2013.

Development milestones of the Model S will be key drivers of the stock. Tesla is targeting 7,000 units sold in 2012 and 20,000 units once the second shift comes online in 2013.

Virtually all of the critical path components have been sourced with minimal sourcing remaining, which gives greater resolution on the cost of the car. We expect an update on this progress on the Q310 call.

The greatest impending challenge will be the “alpha build” phase, which is slated to begin in Q410. We believe that this phase is on schedule based on our channel checks.

### Gross Margins:

One of the biggest factors affecting a DCF-derived the valuation of Tesla shares are the profit margins for the company as driven by margins on the Model S.<sup>1</sup>

Tesla is targeting 25% gross margins for both the company and for the Model S at a volume of 20,000 units per year. We believe that demand for units will be there, and that Tesla's target margins are achievable and appear generally consistent with other auto OEMs. We believe that BMW typically achieves low 20's% vehicle GMs, Jaguar/LandRover achieves upper 20's to low 30's and Porsche achieves 40% to 45% GMs. These GMs would be 800bp+ higher without dealer discounts. Put another way, Tesla sells at full retail; competitors sell at diminished wholesale prices.

As best as we can tell, published consensus gross margin expectations are 23% for the Model S in 2013, with a range of 19.5% to 26%. This is based on unit volume expectations of 15,000 to 20,000 units in 2013.<sup>2</sup>

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<sup>1</sup> Rather than DCF, some investors are evaluating Tesla based on perceptions about product adoption. See our Valuation section for a price target discussion.

<sup>2</sup> Our margin discussion excludes ZEV credits and we have adjusted the numbers in this paragraph for an apples-to-apples comparison. Some analysts include ZEV credits as part of vehicle selling price, and estimates are as high as \$5,000 per car in North America, which is a debatable assumption, in our opinion.

Whisper expectations for Model S margins may vary dramatically among some investors and short-sellers who expect that GMs of even 23% will not be achieved. We believe that achieving 23% GMs on the Model S in 2013 would be a positive catalyst for Tesla shares.

Unfortunately, the visibility on achieving the Model S margin targets is poor for external investors -- it is difficult to gain insight into these margins. That said, Tesla has discussed a 43% cost reduction roadmap from the Roadster to the Model S, detailed as follows:

Model S Cost Reduction Roadmap		
	% of Roadster Cost	Comments
Roadster Cost	100%	
More powerful battery	7%	Moving from 53kWh to 73kWh battery (22% price decline / kWh)
Design optimization	-15%	Simpler battery, cheaper drivetrain & body panels
In-house manufacturing	-14%	Eliminate Lotus margin on glider, more in-sourcing
Economies of scale	-21%	25x increase in units/yr. cuts component costs & OH allocation
Model S Cost (base version)	-43%	

- More powerful battery: The battery pack needs to be larger because the car has greater mass. We expect that to be offset by a decrease in cost per kWh at the cell level.
- Design optimization: Building the Roadster was a process of shoe-horning an electric drive train into a chassis built for a gas-powered car. That's a fast approach, but also expensive and requires a number of compromises. Instead, the Model S is a purpose-built electric vehicle that takes full advantage of all the benefits of an electric drive train (see the EV Advantages section). Three simple examples of cost savings related to design optimization include:
  1. The Roadster battery has a complicated shape, specially designed to fit into the space behind the Roadster's seats. This results in a form factor that is complicated and expensive to manufacture. The Model S battery is a simple, flat sandwich situated in the floor of the car. It is more modular and less expensive to manufacture.
  2. In addition to the battery, the Roadster drive train has three additional components, a gear box (a single-speed transmission), motor and power module. In the Model S, the drive train is one integrated unit that connects directly to the rear axle and nests neatly between the rear suspension – simple, easy and less expensive to manufacture and assemble than the Roadster's three separate components.
  3. Moving from carbon fiber body panels (made in France by a third-party supplier) to aluminum body panels stamped at the new Fremont facility.
- In-house manufacturing:

1. Tesla must balance capital outlays versus component costs. Investing more in capital equipment can lower component costs.
  2. Tesla should achieve cost elimination by moving from a Lotus glider to an in-house chassis. By producing in-house components, Tesla will save margin that would go to a supplier.
  3. Given excess auto industry manufacturing capacity, Tesla has been able to purchase manufacturing equipment and the NUMMI plant in Fremont, Calif. at favorable cost.
- Economies of scale: At 20,000 units per year, Tesla would be selling about 30x more Model S vehicles than the Roadster at its current run rate. The higher volume should benefit purchasing.

#### Go-To Market Strategy & Related Operating Expenses:

Traditional auto-OEM's "spend" about 1,300bp on their go-to-market strategy. This includes about 1,000bp on dealer support, primarily through auto discounts, about 50bp in elevated warranty costs and another 200bp to 300bp on advertising expense.<sup>3</sup>

We believe that the traditional dealership model wastes about 500bp on large dealership lots and inventory carrying costs. Tesla needs to do almost no advertising and it may get some savings on service work. Thus, Tesla's go-to-market strategy will likely cost about 500bp, or roughly \$2MM per store per year. This seems reasonable.

Given that Tesla targets 25% GMs and 12% to 16% OMs, operating expenses would be about 9% to 13%, of which 400bp will be for R&D, 400bp to support the go-to-market strategy, leaving 100bp to 400bp for general and administrative expenses.

As we see it, Tesla must be successful with its unique, direct go-to-market strategy to achieve its profit margins. If Tesla someday decides that the direct model is not working, profitability could be substantially reduced.

#### Adoption:

Tesla has guided to 20,000 Model S deliveries in 2013, the first full year of production. This level of production is expected to require two shifts at the new Fremont manufacturing facility. By going to three shifts, we believe initial capacity for this plant is 30,000 units. NUMMI at its height was producing 400,000 units, so the potential for the plant is greater than just producing the Model S line.

The target sales volume of 20,000 units means 6,600 units in Europe, North America and Asia, each. We see demand meeting these targets. We believe that initial consumers will adopt electric vehicles to use as a second car, given the range and infrastructure limitations of an electric vehicle compared with an internal combustion engine. The extended range of the Model S gives it an advantage over other electric vehicles. The Model S range of 160 miles to 300 miles per charge, depending on the version, is at least 60% farther than the stated range of the Nissan Leaf, which is 100 miles per charge. We believe that the cache of Tesla as a high-end premium brand, combined with the added range, will justify Tesla's price premium to mid-market electric vehicles.

<sup>3</sup> In this analysis, we assume that traditional auto dealership profits are low and derived primarily from used car sales and excess service work.

While we have set our 2013 assumptions at 20,000 units as well, we believe that demand can easily exceed this level. Simply put, we believe an electric vehicle drive train leads to a better car.

Consumers may wonder what compromises must be accepted to purchase an electric vehicle. We think that they will soon learn that the answer is only one or two.

**EV Negatives:** The EV range is the biggest disadvantage. However the range gap, or difference between an ICE and an EV is beginning to close with improving battery technology. Also, for many buyers the Model S can be a second car, such as a commuter car, that blends into a home fleet of two or more cars that include longer range ICEs. The average daily commute in the U.S. is 40 miles round trip. Finally, this issue should begin to mitigate as charging station infrastructure begins to build out.

And yet that said, we believe the range gap will never close completely. Sure, one can always build in a bigger battery, but eventually the limits of cost, weight and size all conspire to limit range. We believe this is simply because gasoline is such a compelling method of power storage.

Internal Combustion Engine	Tank Capacity (gallons)	MPG (combined)	Range (miles)	MSRP	
<u>2011 Make / Model</u>					
BMW 5-Series 550i Sedan	18.4	17	313	\$	59,700
BMW 750 LI xDrive	21.7	16	347	\$	88,900
Mercedes SL550 Roadster	21.1	17	359	\$	102,600
Porsche Boxster Spyder	22	14.3	315	\$	61,200
Jaguar XF R	18.4	17	313	\$	79,150
<b>Electric Vehicles / Hybrids</b>					
	Type	Advertised Range*	Expected Range**	MSRP***	
Tesla Model S (low)	EV	160	112	\$	49,900
Tesla Model S (mid)	EV	230	161	\$	60,500
Tesla Model S (high)	EV	300	210	\$	70,500
Chevy Volt Hatchback	EV/Gas Hybrid	300	300	\$	32,780
Toyota Prius 5	Hybrid	595	595	\$	20,570
Nissan Leaf	EV	100	70	\$	25,280
*- Based on EPA test and / or company expectations					
**- Often 65%-75% of EPA; varies on driver usage and conditions					
***- Includes \$7,500 federal tax credit; Tesla MSRPs are D&Co estimates					

The other issue is battery life. Roadster batteries lose about 40% of the charge they can hold after seven years and 100,000 miles. Thus, the value of the car after seven years, which is crucial for residual values, is negatively affected by battery deterioration. For the Roadster, Tesla currently offers a \$12,000 battery replacement program and we expect Tesla to offer something similar for the Model S.

**EV Advantages:** After those two issues, pretty much everything else is upside. In fact, there are so many advantages to an EV, and thus the Model S, that we believe even non-eco-conscious buyers will strongly consider purchasing them. These advantages are not given, but instead need to be teased-out through the design and development processes. This is what the Tesla team has been able to uniquely achieve.



**Acceleration** – An EV drive train has essentially full torque over the motor's RPM range. An ICE builds torque as the engine RPM increases. Full torque can translate into much faster acceleration. Faster acceleration is safer for passing and crash avoidance ... it is also more fun!

**Reliability** – Tesla's drive train will be the simplest on the road. An ICE is loaded with wear-parts, while an EV has only a few. Maintenance, downtime and warranty costs should all be lower because of fewer failure points and faster repairs due to more modular design.

**Safety** – The Model S is expected to have a five-star crash safety rating under the tougher standards to be implemented in 2010. Given the structure of the battery pack and its location spanning the floor of the vehicle, the battery pack will add structural rigidity to the Model S. The result is a car that is much safer in a side-impact crash. Passengers get hurt in side-impact crashes when the side of the car folds in upon the occupants. The structural rigidity will dramatically reduce the level of cabin intrusion in these types of crashes. Finally, while a battery pack can (in theory) catch fire, it is *much* less flammable than gasoline.

**Handling** – Steering responsiveness is what makes a car fun to drive. It also makes a car safer as it improves crash avoidance and reduces driver distraction. Based on our understanding of vehicle design and handling dynamics, we believe that the Model S can meet or beat the leading competitors, such as the BMW 5-series, with its higher torsional rigidity and lower center-of-gravity. By using the battery pack as the base of the car, Tesla engineers have created the most rigid body structure likely to be on the road in 2013. The car also looks like it may have the lowest un-sprung weight in its class, given a simpler and more elegant suspension, especially in the rear.

**Interior Space** – Any EV can have a much larger interior for a given exterior because the volume and configuration of an ICE is larger and more complicated than an EV. We estimate that the Model S will have a net gain of about 12 to 14 cubic feet relative to a comparable car. Thus, the Model S looks slightly smaller than a BMW 5-series, but will seat five adults with equal comfort, plus seat two 10-year-olds in the back, or have much larger cargo space. Examples of space savings include (our estimates):

- **Engine & driveshaft** – An ICE's gas-powered engine and driveshaft are large and the driveshaft tunnel running the length of the car represents a significant design constraint. An ICE and related controls runs about 8-10 cubic feet versus the Tesla at about 0.4 cubic feet. The driveshaft tunnel in an ICE requires another very cumbersome 3 cubic feet.
- **Exhaust/emissions systems** – ICEs require about 2 to 3 very cumbersome cubic feet. The EV requires none.
- **The transmission of an ICE** requires about 1 to 2 cubic feet, while the Model S's transmission and power module consume about 0.3 cubic feet.
- **Fuel storage** – This is the only place the EV loses, disadvantaged by 1 to 2 cubic feet. An ICE requires a fuel tank, piping and electronics that consume 3.5 to 4.5 cubic feet in a typical car. We estimate the volume of the Model S battery and related controls at about 5 to 6 cubic feet.

**Quieter** – At low speed, electric vehicles are essentially silent. But at highway speed, wind and tire noise largely offset drive train noise. However, the positioning of the battery pack essentially in the floor of the car should dampen a material portion of tire, road and under-car wind noise. Also, the Model S should be one of the most aerodynamic cars in its class, meaning it should generate less wind noise.

**Other Advantages:**

- Imagine never having to go to a gas station again. Nice.

- Better for the environment? Maybe, maybe not. That debate is not over, but in the minds of many, EVs have much less impact on the environment than ICEs.
- The Model S is beautiful and unique.
- The Model S has a 17-inch, color haptic touch in-dash screen that is dangerously close to being too large to be attractive, but it is very high tech.
- Smell/Cleanliness – Personal preferences aside, EVs generally smell cleaner than ICEs. They also have less risk of leaking fluids onto the garage floor.

## **2. Power Storage & Management**

*In totality, Tesla has a sustainable collection of intellectual property in automotive electronics, design and manufacturing*

Battery – Contrary to general perception, the batteries for the Model S are not laptop batteries. Instead, they have differentiated chemistry and proprietary cathode geometry. However, the batteries still conform to the ubiquitous 18650 form-factor. The Tesla batteries will be produced primarily by Panasonic on the same manufacturing equipment that is used for ultra-high volume production. Thus, Tesla will benefit from lower production costs relative to large format batteries (see last point).

Thermal and charge management – Tesla has developed proprietary heat and charge management technologies for its battery packs. This extends the life of the battery pack of the Roadster, so that even after seven years and 100,000 miles, the battery will still retain about 60% to 65% of its initial charge. We expect the battery life to be even longer on the Model S, up to about 10 years.

Electric power train integration – This provides superior feel and handling, integration of the motor and power electronics module and the appropriate level of charge and discharge into the system. Each design element in the power train is designed to maximize range.

Safety – The design, configuration and cooling system in the Tesla battery pack significantly mitigates the risk of thermal propagation. Of the thousand Tesla Roadsters on today's streets, there have been no reports of battery fires despite two significant accidents.

Manufacturing knowledge-base – Tesla has been building battery packs for several years. During this time the company has developed a collection of purpose-built manufacturing equipment and techniques for building battery packs. All this has been done with an eye toward benefiting from more rapid, cost effective manufacturing in the future.

Competing battery technologies – Battery manufacturers, such as A123 Systems, LG Chem and Ener1 Inc., generally focus on large format prismatic batteries. Tesla currently does not. Large format prismatic batteries may have greater power density (think acceleration) but Tesla's batteries tend to have better energy density (think range). Prismatic batteries may also be able to be configured to fit more compactly into a vehicle. Conversely fitting batteries closely together allows little to no room for cooling fluid and thus the risk of thermal runaway may be increased. Also, the manufacturing of these larger batteries may suffer diminished yield, and, thus, higher cost, as the large material surface can lead to elevated defect incidence, similar to the challenge of producing large semiconductors. Finally, because fewer large format batteries fit within a car, failure of one cell dramatically reduces the power.



### **3. OEM Partnerships & Powertrain Development**

*Expanding and new OEM partnerships should be positive catalysts, as current expectations are modest*

Tesla's core company focus is making cars, but the powertrain business is an important validation of Tesla's technology. The company is continuing to pursue wins. It has thus far sold engineering services, batteries and chargers, and may have recently won development work on the full powertrain for Toyota's Rav4.

The Department of Energy has provided \$100MM in loan commitments for Tesla to expand its powertrain business.

With at least \$10,000 in revenue per battery pack unit, we believe that new OEM development contracts or commercial production contracts can be a significant catalyst for the stock.

Tesla currently has several R&D and development relationships with original equipment manufacturers and others. To the extent that Tesla announces other relationships, it could be a catalyst to the stock.

Currently, Daimler is Tesla's biggest partner. Tesla has three programs with the German automaker, which comprise developing battery packs and chargers for the Smart Fortwo electric vehicle, developing batteries and chargers for the Mercedes A-Class pilot fleet of 500 electric vehicles and developing modular battery packs for the Freightliner electric delivery van.

Our channel checks indicate that Daimler intends to continue its partnership with Tesla and Daimler executives have been impressed by Tesla's fast turnaround on battery packs for the Smart Fortwo and the A-Class. We note that Tesla's Q210 revenue of \$28MM included \$9MM from Daimler contracts.

Daimler was the first auto maker to invest in Tesla, and did so because it was impressed with the technology and because the company can nimbly turn around a product. However, Daimler is one of the companies that have assumed that the large prismatic batteries may represent the future of electric vehicles and it has partnered with Evonik to develop them. However, this sentiment may be changing and our checks have found that Daimler may turn its attention away from Evonik and strengthen its relationship with Tesla.

Tesla's other major OEM relationship is with Toyota, in which it is developing prototype batteries for the Rav4 EV. We believe Tesla's partnership with Toyota may expand. Finally, Tesla holds a research and development contract with Southern California Edison to adapt a battery pack for grid applications.

We believe that expansion of current contracts, or the conversion of development contracts into contracts to deliver powertrain components for commercial production, would be a positive catalyst for Tesla's shares. We've modeled this business between now and 2013 based upon projections and ramp of currently known contracts, which allows room for upside. We also believe that some street expectations for OEM revenue growth are modest.

### **4. Governmental support and subsidies**

*Government subsidies, while nice, are not necessary for Model S adoption*

Governments at all levels are throwing their weight behind supporting electric vehicle adoption. Most prominent in the U.S. is a direct subsidy of the vehicles themselves – a federal tax credit of up to \$7,500 for the purchase of alternative fuel vehicles that expires in 2012.

Beyond that, there are 21 other separate federal tax, loan and grant incentives for electric vehicles. The government is investing in charging infrastructure, manufacturing plant development and providing loans and grants for various electric vehicle company research and initiatives. The federal incentives are in addition to another 274 incentives among the states.

This support has mixed consequences for the emerging electric vehicle industry. While government support is likely to lead to faster adoption and infrastructure investments, it also deprives investors of the ability to see if business models involving electric vehicle can stand on their own.

While we understand investor concern over betting on an industry that is propped up by government subsidies, we have identified three key considerations that should mitigate that concern.

1. We do not think a collapse in government support would affect Tesla adoption. We believe that Tesla's Model S pricing can be adjusted to reflect consumer demand, with or without a buyer tax credit. Also, weaning consumers off of tax refunds should be offset by gasoline cost savings.
2. We also believe that *quality vehicles* can withstand fluctuations in government support. For example, when the second generation Toyota Prius was first introduced in the U.S. in 2004, it benefitted from a \$2,000 federal tax credit. That credit has fluctuated downward and back up again in the past six years and Prius sales have remained strong. (See table, next page.)
3. We think that a dramatic withdrawal of government support is unlikely (in fact, it is likely to increase in Europe). Alternative fuel development faces political support in the U.S. from various groups, including those who support eco-friendly legislation and those who make the case for energy independence. Also, local city governments tend to support clean air investments. Finally, it is worth noting that the sheer volume of legislation precludes an immediate withdrawal of support. Repeal would be a slow process. Any continuation of current tax credits could be a catalyst for Tesla's stock.

For its part, Tesla benefits directly from a Department of Energy loan commitment, from the federal buyer tax subsidy and from California's tax-exempt manufacturing equipment procurement incentives. The most important of these subsidies for Tesla, in our view, is the buyer tax subsidy.

Tesla also benefits indirectly from myriad other incentives, including those that encourage charging infrastructure and state-mandated fuel efficiency programs.

California has the most electric vehicle incentives, with 29 laws, grants and tax incentives. California is followed by Washington state, which has 18 laws and programs. Laws and programs range from mandating that states purchase electric vehicles for their own use as soon as they are commercially available, to providing tax incentives for charging infrastructure, to free home charging grants. In many cases, individual cities also have adopted incentives, or are considering adoption. City and township-level incentives are in addition to federal and state incentives.

Other state subsidies include regulations in 13 states that mandate that large auto manufacturers sell a certain number of "zero emission vehicles" each year, depending upon the number of cars sold. The 13 states that have such legislation, including California and New York, represent 32% of the U.S. population.

Outside of the U.S., government subsidies and tax breaks for electric vehicles abound, including France's "super environment incentive," of 5,000 Euros for every low-emissions vehicle, a 5,000 pounds sterling bonus for electric cars bought in the U.K., and exemption from a burdensome registration tax in Denmark. European governments also provide disincentives for internal combustion engine vehicles, such as heavily taxing gasoline, which amounts to an indirect subsidy of electric vehicles.

China and Japan also offer subsidies of 6,500 Euros and 11,000 Euros respectively.

We also believe that it is possible that major cities, including Beijing and London, will adopt "zero-emissions zones" for regular commuters and taxis. Such proposals are already being considered and other major automakers have been investing in electric vehicle development in anticipation of such laws, according to our market research.

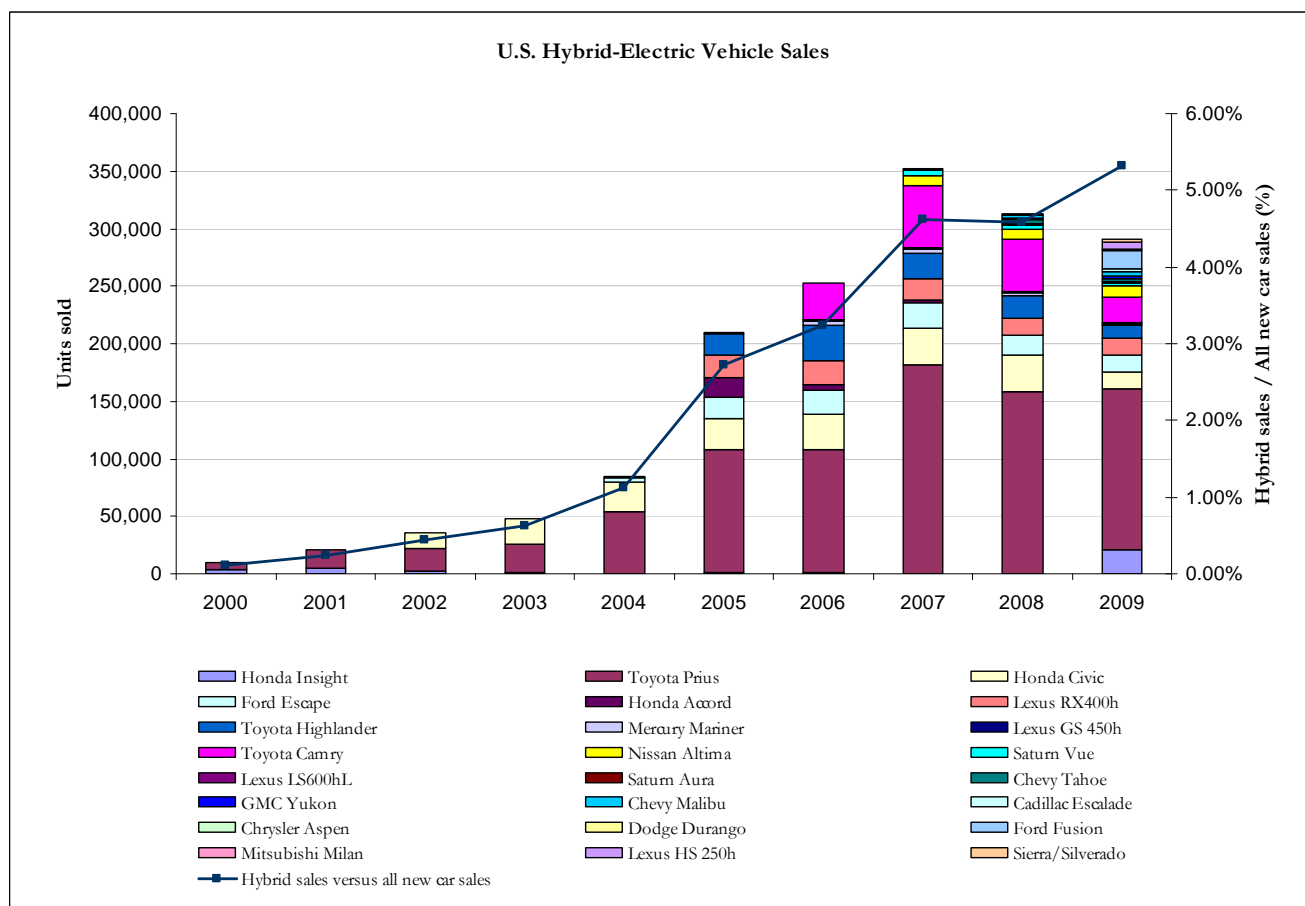


Table sources: Department of Energy, Bureau of Transportation Statistics, Wards Auto

## 5. Current Results / Roadster Sales

### *Roadster sales and current powertrain expectations*

The Tesla Roadster, which goes 245 miles on a charge, accelerates to 60 mph faster than most vehicles, including Ferraris and Lamborghinis. We expect Roadster sales to taper from their peak in 2009. However, we also believe that expectation is priced into the stock.

The ASP on the Roadster has gone from \$105,000 in FY08, to \$110,000 and \$140,000 in FY09 and FY10. ASP increases have come from sales into greater geographies and up sales on options and accessories.

Tesla's gross margin climbed from 9% in FY09 to 22% in Q210. GM increases can be attributed to growth in the powertrain business and expanded GMs on the Roadster.

The Roadster is the result of \$125MM investment. We note that the Chevy Volt and the Toyota Prius ranged from \$750MM to \$1B in development costs.

## 6. Valuation:

*Our \$30 Price Target anticipates 40% appreciation*

Our price target of \$30 is based on a five-year DCF analysis on the business. Current operations, while important, are not going to motivate investors. Thus, we are valuing TSLA shares based on a DCF-analysis that assumes a 12.5% discount rate and an operating income CAGR of 1.1%. (This CAGR assumes 20% growth until 2020, and zero growth beyond that.)

5 Yr DCF	\$ (338)
Terminal Value:	3,383
Enterprise Value	3,045
Debt on 6/30/10	(45)
Cash on 6/30/10	53
Equity Value	\$ 3,052
Share Price	\$ 30.22

The most important factors that affect the share price are Model S deliveries and Model S margins. We expect that Tesla can achieve a 24.4% GM on the Model S business, assuming 20,000 units sold in 2013.

	Year	2008	2009	2010E	2011E	2012E	2013E	2014E
<b>Discounted Cash Flow</b>								
Total Units Sold (Roadster, Model S)			830	557	600	322	20,380	25,180
Company Operating Income		(78,504)	(51,897)	(122,279)	(160,119)	(169,794)	157,216	280,337
Depreciation & Amortization		4,157	6,940	20,434	38,644	48,037	56,723	64,359
CapEx								
Property purchases		(10,630)	(11,884)	(57,672)	(60,000)	(48,000)	(44,000)	(40,000)
Additional CapEx		-	-	(54,000)	(60,000)	(48,000)	(44,000)	(24,000)
Operating Income +D&A, -CapEx		(84,977)	(56,841)	(213,516)	(241,475)	(217,757)	125,939	280,696
ETR		-0.12%	-0.05%	-0.12%	-0.12%	-0.12%	-0.24%	-0.24%
Tax effect on Operating Income		100	27	252	285	257	302	674
Operating Income (after tax)		(85,077)	(56,868)	(213,768)	(241,759)	(218,014)	125,636	280,022
DCF Value				(337,868)	(214,897)	(172,258)	88,238	174,817

It is possible to look at TSLA shares based on a 2013 EV/EBITDA multiple, however, any discussion here should bear in mind that we expect debt levels to jump from their current \$45MM, as TSLA draws upon its DOE loan, and consequently, restricted cash draws down proportionately.

Keeping that in mind, at its current \$20 level, TSLA shares are trading at about 9x our 2013 EV/EBITDA estimates. We believe that shares can rise from here, provided that indications of Model S demand stay level and the company achieves development milestone targets, including alpha and beta build completion.

A \$30 price target represents 13.8x our 2013 EV/EBITDA estimate. TSLA has few easy-for-comparison peers. We've looked at multiples for auto makers (including Ford and Toyota), electric vehicle battery makers A123 (AONE) and Ener1 (HEV), and other applied technology / ecological companies. That amalgamated universe trades at an average multiple of 15x next year's estimates.

Auto / Emerging Technology			Price / Sales		PE Ratio		EV/EBITDA	
			FY1	FY2	FY1	FY2	FY1	FY2
<u>Overlap w/ Tsla</u>	TSLA	Tesla	17.3x	12.9x	-9.1x	-9.9x	-9x	-7x
<i>Auto maker</i>	F	Ford	.3x	.3x	6.5x	6.4x	13.5x	11.8x
<i>Auto maker</i>	TM	Toyota	.8x	.5x	37.7x	16.x	13.3x	9.4x
<i>Auto maker</i>	HMC	Honda	.6x	.5x	15.3x	11.1x	9.3x	7.2x
<i>Auto maker</i>	DAI	Daimler	.5x	.5x	12.x	9.8x	4.2x	3.7x
<i>Innovative tech</i>	AAPL	Apple	3.8x	3.x	18.2x	15.x	10.x	8.x
<i>Innovative tech</i>	GOOG	Google	7.2x	6.2x	17.5x	15.2x	11.8x	10.3x
<i>Applied tech</i>	TRMB	Trimble	2.8x	2.5x	20.9x	17.5x	13.8x	12.1x
<i>Applied tech</i>	GRMN	Garmin	1.9x	2.x	9.4x	10.2x	8.5x	9.1x
<i>Applied tech / EV</i>	AVAV	AeroVironment	1.7x	1.6x	23.8x	18.8x	8.5x	6.9x
<i>Applied tech</i>	PANL	Universal Display	32.4x	20.9x	-51.9x	-455.x	-44.8x	66.4x
<i>Applied tech / Eco</i>	ERII	Energy Recovery	3.4x	2.8x	-183.8x	44.8x	40.1x	14.1x
<i>Applied tech / Eco</i>	MBLX	Metabolix	119.3x	21.9x	-7.7x	-13.5x	-4.8x	-6.7x
<i>Applied tech / EV</i>	UQM	UQM Technologies	4.3x	1.5x	-3333.3x	26.7x	-73.4x	37.1x
<i>Applied tech / EV</i>	AONE	A123 Systems	6.4x	2.9x	-6.1x	-7.5x	-5.x	-8.4x
<i>Applied tech / EV</i>	HEV	Ener1	5.2x	2.x	-7.5x	-13.9x	-11.1x	-23.5x
<i>Applied tech / Eco</i>	CREE	CREE	4.3x	3.4x	20.2x	16.9x	13.5x	10.8x
<i>Applied tech / Eco</i>	ENOC	EnerNOC	2.9x	2.4x	82.2x	39.3x	23.6x	15.1x
<i>Applied tech / EV / Auto</i>	JCI	Johnson Controls	.6x	.5x	14.5x	11.9x	8.8x	7.2x
<b>Mean*</b>			11.4x	4.6x	23.2x	18.5x	4.x	15.3x
<b>Median*</b>			3.4x	2.4x	17.9x	15.6x	10.x	10.3x

\*Excludes negatives

## 7. Risks:

Risks that could prevent Tesla (TSLA) shares from achieving our price target include:

- **Model S Progress Risks** – We believe that not achieving the anticipated roadmap for the Model S platform presents one of the largest risks to the stock. Supplier issues could be a source of delay. Tesla's Roadster, for example, relies on 150 suppliers for 2,000 parts. In the past, supplier delays have stalled progress on the Roadster.
- **Profitability Targets** – Tesla's future profitability depends upon achieving 43% net cost reduction from the Roadster to the Model S. Failure to achieve cost reduction objectives would be detrimental to the company and the stock.
- **CEO Leadership Dependence** – We believe that Tesla has been able to secure a bevy of automotive engineering and design talent. Much of that can be attributed to the leadership and vision of CEO Elon Musk. We don't expect Musk, a serial entrepreneur, to remain at the helm of the company beyond 2014. Contractually, Musk should stay on until the Model S has performed successfully.
- **Withdrawal of Government Support** – Widespread electric vehicle adoption is encouraged by government buyer incentives, government emissions regulations and government grants that support technological advancement and buildout of the charging infrastructure. A deleterious change to the subsidies or support surrounding electric vehicles could create an ethanol-like failure of the concept.
- **Failure of the Electric Vehicle Concept** – Despite the hype, electric vehicles have not proven their success as a concept. Range anxiety is a real obstacle faced by consumers. Advertised ranges are generally overstated. Like internal combustion engines, ranges vary by usage pattern, including speed, acceleration and cabin climate control, and the temperature and climate of the operating environment.

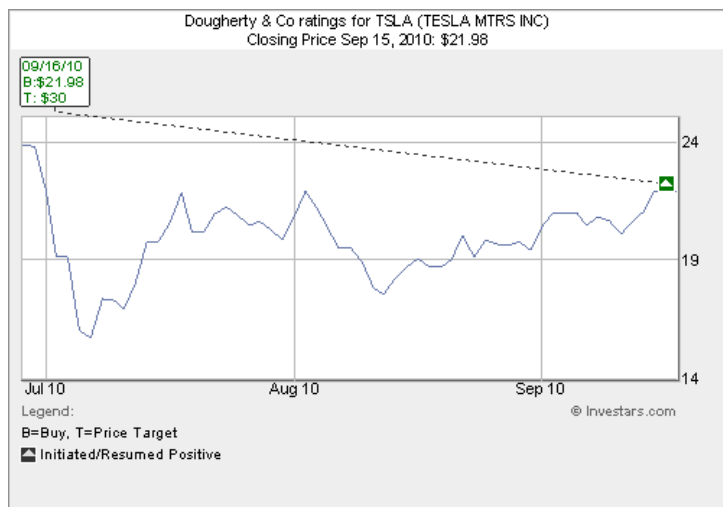
This issue is much bigger for electric vehicles than for internal combustion engines, given the existing limits to their ranges. Also, we note that ethanol failed for a variety of reasons, but a key reason was poor consumer adoption at the pump – vehicle range drops up to 20% when fueled by E85. (Tesla has floated the idea of swap pack batteries that can be rented for longer trips. We think that this model is unlikely to take off.)





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TESLA	Actual									Estimated								Model S Begins						
	FY 2007	FY 2008	Q1 2009 MAR	Q2 2009 JUN	Q3 2009 SEP	Q4 2009 DEC	FY 2009	Q1 2010 MAR	Q2 2010 JUN	Q3 2010E SEP	Q4 2010E DEC	FY 2010E	Q1 2011E MAR	Q2 2011E JUN	Q3 2011E SEP	Q4 2011E DEC	FY 2011E	Q1 2012E MAR	Q2 2012E JUN	Q3 2012E SEP	Q4 2012E DEC	FY 2012E		
Income Statement																								
YOY		20095%					659%	-0.4%	5.4%	-38.7%	70.4%	-15%	45.7%	20.3%	30.6%	-5.7%	18%	-11.9%	-26.3%	-32.3%	-27.1%	-30%		
QOQ				29.0%	69.0%	-59.2%		12.0%	36.5%	-1.8%	13.5%		12.7%	6.7%	-18.1%			-5.8%	-2.0%	-11.7%				
Auto Sales	73	14,742	20,886	26,945	45,527	18,585	111,943	20,585	23,971	23,426	27,154	95,136	25,759	29,555	31,788	25,160	112,262	21,973	20,374	19,821	16,882	79,050		
Development services sales	-	-	-	-	-	-	-	227	4,434	4,478	4,523	13,662	4,568	4,614	4,660	4,707	18,549	4,754	4,801	4,849	4,898	19,303		
Total Revenue	73	14,742	20,886	26,945	45,527	18,585	111,943	20,812	28,405	27,904	31,677	108,799	30,327	34,169	36,449	29,867	130,812	26,727	25,176	24,670	21,780	98,352		
Cost of Auto sales	9	15,883	22,932	24,844	37,828	16,804	102,408	16,858	20,266	19,912	23,081	80,117	23,183	26,599	27,020	22,644	99,447	17,578	16,299	30,859	28,508	93,245		
Cost of development svcs	-	-	-	-	-	-	-	102	1,878	2,015	2,035	6,031	2,056	2,076	2,097	2,118	8,347	2,139	2,161	2,182	2,204	8,686		
Total COGS	9	15,883	22,932	24,844	37,828	16,804	102,408	16,960	22,144	21,927	25,116	86,148	25,239	28,676	29,117	24,762	107,794	19,717	18,460	33,041	30,712	101,931		
Gross profit (loss)	64	(1,141)	(2,046)	2,101	7,699	1,781	9,535	3,852	6,261	5,977	6,561	22,651	5,088	5,493	7,331	5,105	23,018	7,009	6,716	(8,371)	(8,932)	(3,579)		
GM	88%	-8%	-10%	8%	17%	10%	9%	19%	22%	21%	21%	21%	17%	16%	20%	17%	18%	26%	27%	-34%	-41%	-4%		
R&D	62,753	53,714	7,941	1,941	1,257	8,143	19,282	13,265	15,416	16,743	19,006	64,430	18,196	20,501	21,869	17,920	78,487	19,243	18,126	17,763	15,681	70,814		
SG&A	17,244	23,649	6,807	8,247	10,733	16,563	42,150	16,585	22,207	19,533	22,174	80,499	24,262	27,335	29,159	23,894	104,649	25,925	24,420	23,930	21,126	95,402		
Total OpEx	79,997	77,363	14,548	10,188	11,990	24,706	61,432	29,850	37,623	36,276	41,181	144,929	42,458	47,837	51,028	41,814	183,137	45,168	42,547	41,693	36,808	166,215		
Op profit (loss)	(79,933)	(78,504)	(16,594)	(8,087)	(4,291)	(22,925)	(51,897)	(25,998)	(31,362)	(30,299)	(34,620)	(122,279)	(37,370)	(42,343)	(43,697)	(36,709)	(160,119)	(38,159)	(35,831)	(50,064)	(45,740)	(169,794)		
OM	-109497%	-533%	-79%	-30%	-9%	-123%	-46%	-125%	-110%	-109%	-109%	-112%	-123%	-124%	-120%	-123%	-122%	-143%	-142%	-203%	-210%	-173%		
Interest income	1,749	529	16	29	52	62	159	48	47	47	146	288	84	51	0	0	135	0	0	0	0	-		
Interest expense	-	(3,747)	(1,402)	(1,086)	(18)	(25)	(2,531)	(230)	(464)	(464)	(464)	(1,622)	(665)	(665)	(665)	(665)	(2,862)	(665)	(665)	(665)	(665)	(2,862)		
Other income (expense)	137	(963)	1,972	(1,715)	(577)	(1,125)	(1,445)	(3,221)	(6,729)			(9,950)												
Income (loss) before tax	(78,047)	(82,685)	(16,008)	(10,859)	(4,834)	(24,013)	(55,714)	(29,401)	(38,508)	(30,716)	(34,938)	(133,562)	(37,951)	(42,958)	(44,362)	(37,375)	(162,646)	(38,824)	(36,497)	(50,729)	(46,405)	(172,456)		
Tax	110	97	8	8	(219)	229	26	118	9	7	8	142	45	51	52	44	192	46	43	60	55	203		
Net Income (Loss)	(78,157)	(82,782)	(16,016)	(10,867)	(4,615)	(24,242)	(55,740)	(29,519)	(38,517)	(30,723)	(34,946)	(133,705)	(37,996)	(43,009)	(44,414)	(37,419)	(162,838)	(38,870)	(36,540)	(50,789)	(46,460)	(172,659)		
Diluted shares	3,444	6,646	6,924	6,966	7,014	7,066	7,022	7,302	7,643	7,643	7,643													
QoQ Growth			4.2%	0.6%	0.7%	0.7%		3.3%	8.8%	0.5%	0.5%													
GAAP EPS	(22.69)	(12.46)	(2.31)	(1.56)	(0.66)	(3.43)	(7.94)	(4.04)	(5.04)															
Diluted (pro-forma)				71,828			77,694	77,974	91,208	101,000	101,505	92,922	101,607	101,708	101,810	101,912	101,759	102,014	102,116	102,218	102,320	102,167		
QoQ Growth									0.5%	0.5%	0.5%		0.10%	0.10%	0.1%	0.1%		0.1%	0.10%	0.1%	0.1%			
EPS (calculated)				(0.15)			(0.72)	(0.38)	(0.42)	(0.30)	(0.34)	(1.44)	(0.37)	(0.42)	(0.44)	(0.37)	(1.60)	(0.38)	(0.36)	(0.50)	(0.45)	(1.69)		
EPS (given pro-forma)							(0.70)	(0.35)	(0.28)															



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