



**TESLA MOTORS**

Tesla Motors, Inc.

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**Application for:  
Department of Energy  
Advanced Technology Vehicles Manufacturing Incentive Program  
November 17, 2008**





## GA – 1 EXECUTIVE SUMMARY

### The Company

Tesla Motors designs, manufactures and sells 100% electric cars and advanced electric vehicle components. The Tesla Roadster is the first vehicle to integrate zero petroleum consumption, high energy efficiency, and great driving performance. The company is based in San Carlos, California and is a privately held entity. Founded in 2003, the Company's fully integrated electric powertrain powers over seventy Tesla Roadsters currently on American roads. The Tesla Roadster is the first high-performance electric vehicle ever available to American consumers, the first electric vehicle to travel more than 200 miles on a single charge, and the first ever Federally certified lithium ion battery electric vehicle. Over 1,200 people have placed reservations for the Tesla Roadster. Tesla entered full production on the Tesla Roadster in March 2008 and is currently ramping production to a target of 130 per month in Q1 2009.

The Company will continue to introduce its cars and powertrain components to an ever-growing pool of consumers, ensuring both the sustainability of the company and the growth in the total number of electric miles driven worldwide. Tesla Motors' strategy to enter at the high end of the automobile market has demonstrated the viability of its technology, catalyzed the automotive industry, and excited American consumers about the vast potential for advanced technology vehicles. In fact, the Tesla Roadster was named the second best invention of 2008 by *Time Magazine*. Bob Lutz, the Vice chairman of General Motors, confirmed Tesla's success in an interview with *Newsweek*, saying "If some Silicon Valley start-up can solve this equation, no one is going to tell me anymore that it's [the production of an electric automobile] unfeasible." As a result of Tesla's accomplishments, General Motors is set to introduce the Chevy Volt, a hybrid-electric vehicle, in 2010.

Tesla Motors is currently designing new models to move to the mass market as fast as possible with higher unit volumes, lower prices and to a far larger consumer base. The Company is also developing electric powertrain components (primarily battery packs) for other automotive OEMs, thus enabling the introduction of electric vehicles in other vehicle segments in which the Company does not currently compete. Each product line drives toward Tesla's corporate goal: to increase the total number of electric miles driven worldwide.

The Tesla Roadster, the Company's first product, is the first truly disruptive vehicle to hit the market since Ford's Model T. The supercar accelerates from 0 to 60 mph in 3.9 seconds, gets the equivalent of 256 MPG, travels over 240 miles on a single charge and produces zero tailpipe emissions. The Tesla Roadster breaks the historical compromise between automobile performance and efficiency and established Tesla Motors as an icon of the US automobile industry and a catalyst for its change. The Company has received significant attention in industry press reports and trade magazines such as *Car and Driver*, *Automobile*, *AutoWeek*, *Road & Track*, and *Motor Trend*. The acclaim is international – following the Company's announcement that the Tesla Roadster would be shipping to Europe in the summer of 2009, the U.K.'s preeminent automobile publication, *TopGear*, branded the vehicle an "astonishing electric supercar."

The commercial success of the Tesla Roadster is the foundation that will bring to fruition the Company's vision of delivering electric vehicles to a wider market. The introduction of the Tesla Roadster required the development of a purpose-built electric powertrain, specifically proprietary technology to build automobile batteries from high-volume, commodity lithium ion cells. Delivering the instant power of electric technology to the wheels required several key advancements in the Company's proprietary polyphase AC induction motor and its power electronics. These powertrain innovations resulted in approximately thirty patent applications, and delivered sufficient performance to attract several automotive OEMs. One of these, a major international automotive OEM, is currently partnering with Tesla Motors to develop and purchase battery packs for one of its vehicles. Development on this project began in June 2008 and is well underway.

### The Projects

Having introduced the world to the inherent economic and environmental advantages of electric drive technology, Tesla is poised to develop an affordable sedan, the Tesla Model S, and expand its powertrain component sales. Proposals for both the Advanced Technology Vehicle and Manufacturing Project and the Advanced Powertrain Facility (each a "Project") are included within this application. The realization of either Project hinges on Tesla's ability to develop more





sophisticated manufacturing capacity. As both Projects are already underway, the receipt of funding under Section 136 will accelerate the completion of each project and thereby further commercialization of the Company's technology.

#### *Project A: Advanced Powertrain Facility*

The Advanced Powertrain Facility Project will fund the construction of a state of the art, domestic facility to design and manufacture lithium-ion battery packs, electric motors and electric components—a multi-billion dollar market opportunity. The facility will provide Tesla Motors with sufficient capacity to develop and integrate powertrain components for third party automotive OEMs. The development of this powertrain facility will ensure that Tesla Motors retains its domestic competitive leadership of advanced vehicle battery technology and powertrain manufacturing.

A major third-party customer for this project has already begun working with Tesla Motors. The Company has a partnership with a major international automotive OEM to develop and purchase battery packs for one of its vehicles. Development on this project began in June 2008 and is well underway. The Company is in active negotiations with other potential customers.

The facility for this operation will not only include prototyping and production for third parties, but also the continuing redesign of existing powertrain components for the Tesla Roadster. Importantly, the Company would continue to bring jobs back to the United States with this facility. The Company currently produces its battery packs in San Carlos, California, having relocated its battery manufacturing facility from Thailand in 2007. A state of the art cell testing laboratory will complement the prototyping and engineering efforts at this center.

The Company has identified several potential locations in the San Francisco Bay Area for this project, all of which are over 250,000 square feet and within 20 miles of its corporate headquarters. The Company anticipates entering into a lease upon the completion of financing. The company expects to employ over 650 people at this facility. The total project cost of the Advanced Powertrain Facility is approximately \$140 million. If both Project A and Project B are executed, Tesla Motors may consider consolidating both projects at the proposed site for the Advanced Vehicle Program.

#### *Project B: Advanced Technology Vehicle and Manufacturing Project*

The Tesla Model S Project scope includes the development of the Tesla Model S and an integrated manufacturing facility for 100% electric vehicles and their accompanying powertrains.

The Tesla Model S, a fully electric, four door, five passenger sedan, will bring Tesla's technology to a wider audience at a more attractive price point. While the base model of the Tesla Model S will be priced below \$60,000, the price to the consumer will be less than \$40,000 given federal tax credits and the lower cost of ownership when compared to a conventional internal-combustion engine vehicle (\$10,000 over 5 years). As such, Tesla Motors expects the Model S to vastly broaden the marketability of the pure electric powertrain. Moreover, the Model S platform will be sufficiently flexible to allow Tesla to offer variants on its base model electric sedan. Those variants may include different top hats such as a pure electric SUV, cargo van, or coupe. The Model S will be the first in a line of more affordable and practical electric vehicles offered by Tesla Motors.

The manufacturing facility for the Tesla Model S will be only the third built by a domestic automotive company in the US in more than 20 years. It will provide over 1,000 manufacturing jobs. The integrated facility will include body, paint, and final assembly plants. The plant will initially produce 20,000 vehicles per year, and provide the capacity for future product offerings. A location in California is currently identified as the site for this facility.

Development of the Tesla Model S and its manufacturing site has been underway for almost three years. Tesla now looks to accelerate final development work and begin production in 2011. Engineering design and development work will take place primarily in San Carlos, CA. The total cost of the project is approximately \$435 million.

#### **Investment Considerations of the Projects**

- **Creating Green Jobs in the United States.** The projects will create a combined 1,650 jobs in clean technology—all in California—and will continue the Company's trend to bring jobs back to U.S. soil. In addition, approximately 400 additional jobs will be created for the construction and fit out of the facilities contemplated by the Projects.





- **Leveraging Proven, Clean Technology.** The projects build upon technology that has been thoroughly tested and is now available in a vehicle that has passed all federal compliance tests. The technology uses energy efficiently and eliminates environmentally detrimental emissions from vehicles. According to the Environmental Protection Agency's 2008 Inventory of United States Greenhouse Gas Emissions and Sinks report, in the United States, the United States transportation sector accounted for 33% of carbon dioxide emissions from fossil fuel combustion in 2006.
- **Accelerating Technology Commercialization.** Both projects are already underway and have been funded to date privately. Financing from the Department of Energy will accelerate these projects, speeding the further commercialization of the Company's revolutionary technology.
- **Advancing Energy Security.** Electric vehicles are the only alternative vehicle solution that eliminate tailpipe emissions, utilize America's diverse electricity sources, and reduce dependency on volatile commodities. Tesla believes that high gasoline prices, the need to reduce dependence on foreign oil, growing consumer and political concerns about the environmental impacts of carbon dioxide emissions, and the improved performance of electric vehicles will help fuel electric vehicle adoption and sales.
- **Promoting Electric Powertrain Leadership Domestically.** These projects will significantly promote the leadership of the United States in the field of advanced vehicle technology, specifically electric vehicle propulsion.
- **Delivering Compelling Financial Returns.** Each project addresses a large, rapidly growing market and has a significantly positive net present value.





## B. DESCRIPTION OF PROPOSED PROJECT ADVANCED POWERTRAIN FACTORY

### Nature & Scope of Project

Tesla Motors, Inc is most well known for the Tesla Roadster battery electric sports car that it is producing and delivering to customers now. However the fundamental mission of the company is the improvement and distribution of advanced all-electric powertrains into vehicles of all types made by both Tesla Motors and other OEM's. Our mission is to leverage this technology to make the largest impact possible in improving vehicle MPGe, reducing petroleum usage, reducing CO2 emissions and improving local air quality. To this end while Tesla continues to expand Roadster production we are also aggressively moving to sell and integrate our powertrain technology, particularly the battery system, into many other medium-sized mass-market vehicles as we profitably support other automobile manufacturer's electric vehicle product lines.



The project that best defines this strategy is our now year-long relationship with a major auto OEM doing technology development and engineering integration of our electric powertrain into their economy class vehicle, thus creating an Economy Class Electric Vehicle. (Referred to as the "Economy EV" for the purpose of this application.) In volume production the Economy EV will be the lowest cost and most efficient alternative propulsion vehicle on the road and is well positioned to become the first truly mass-produced, mass-marketed EV ever made. It could be offered for under \$20,000 with an efficiency of over 300MPGe. In addition, we expect to sell electric powertrains to this same automobile manufacturer for a Small Car series of Electric Vehicles. (Referred to as the "Small Car EV" for the purpose of this application.)

The engineering risk and technology risk of this current generation electric powertrain technology is very low due to heavy investment by Tesla in the extensive development and testing work done for the Tesla Roadster. Our main challenge now is to secure the capital needed to rapidly scale up the production of electric powertrain components to expand the Economy EV production and capture the many business opportunities that exist due to the scarcity of electric powertrain expertise and production.

The project that Tesla Motors, Inc. is proposing is an expanded advanced electric powertrain components manufacturing plant. Tesla Motors is already manufacturing battery packs in California and we are proposing to more quickly expand this production capability and also consolidate several other electric drivetrain components that we are currently manufacturing overseas in this same new location.

This new factory will quickly expand our Economy EV production business, begin Small Car EV supply, expand Roadster production and support other OEM EV powertrain supply and integration projects that are underway. We have located an existing, empty 250,000 square foot building in California where we will install this expanded production line to build 60,000 battery packs and 20,000 drivetrain components per year for several different vehicles.

The advanced powertrain factory will lower part costs for electric vehicle components by achieving initial economies of scale, create hundreds of high technology jobs, and maintain a strong domestic leadership position in advanced powertrain technology. With increased production investment we will be able to accelerate the introduction of more efficient powertrains into a wider variety of vehicles.

The project is segmented into two phases. Tesla has already heavily invested in the technology required to develop battery packs for the Roadster and the Economy EV. As such, Tesla is ready to immediately scale production of the battery pack and other powertrain components. The final milestone to begin new investment will be the completion of the final lease arrangement on the site, expected to be complete in December 2008. Upon completing the site contract, Tesla requests the first portion of the Direct Loan for the Powertrain Factory Project. The second phase is designed to scale the production line to add additional capacity and serve other clients. The milestone to gate this phase will be a formal contract with an automobile manufacturer to provide powertrain components at production volume, beyond the existing





Economy EV contract. Upon completion of that new or expanded contract, Tesla requests the final phase of Direct Loan funding. In general, Tesla Motors has designed this project to make an immediate impact in improving fuel economy, reducing petroleum usage, and improving vehicle related emissions. The project is fundamentally focused on accelerating the adoption of electric vehicle technology, across a wide range of vehicle brands and specifications. Each phase of the project has been designed to reduce risk, speed implementation, and rapidly launch electric vehicle powertrain production.



**C. Qualifications of Project**

The Tesla Motors Powertrain Factory will produce battery packs and electric powertrain components that supply a wide range of vehicles, including Economy, Small Car, 2-seater performance cars, and 5-passenger sedans. In each category, the Tesla Powertrain will enable a vehicle to vastly exceed the 2005 Model Year MPGe for fuel economy.

	Volume	Typical Miles per Year	MY2005 MPG	Electric MPGe	Improvement	Motor Fuel Saved (Gallons)	Fuel Equivalent Saved (Gallons)	Economic Savings at \$2.00 / Gallon
<b>ECONOMY EV</b>	35,000	15,000	40	356	885%	13,051,264	11,576,545	\$ 23,153,090
<b>SMALL CAR EV</b>	15,000	15,000	48	275	574%	4,696,364	3,878,182	7,756,364
<b>ROADSTER</b>	2,500	12,000	20	244	1238%	1,522,131	1,399,180	2,798,361
<b>SEDAN EV</b>	7,500	15,000	25	220	871%	4,453,977	3,942,614	7,885,227
	<b>60,000</b>					<b>23,723,736</b>	<b>20,796,521</b>	<b>\$ 41,593,041</b>

All Miles-per-Gallon equivalency calculations were performed by Tesla Powertrain engineers, and details of the calculation will be provided upon request.





#### **D. Detailed Cost Estimates**

The investment required to fully fund the development of Tesla's Advanced Powertrain Factory is \$154 million. Tesla Motors, Inc. has already invested \$53 million of the total into engineering integration for its proprietary advanced electric powertrain. The forward costs of the program are \$55 million for Phase I in 2009 and \$46M for Phase II in 2010.



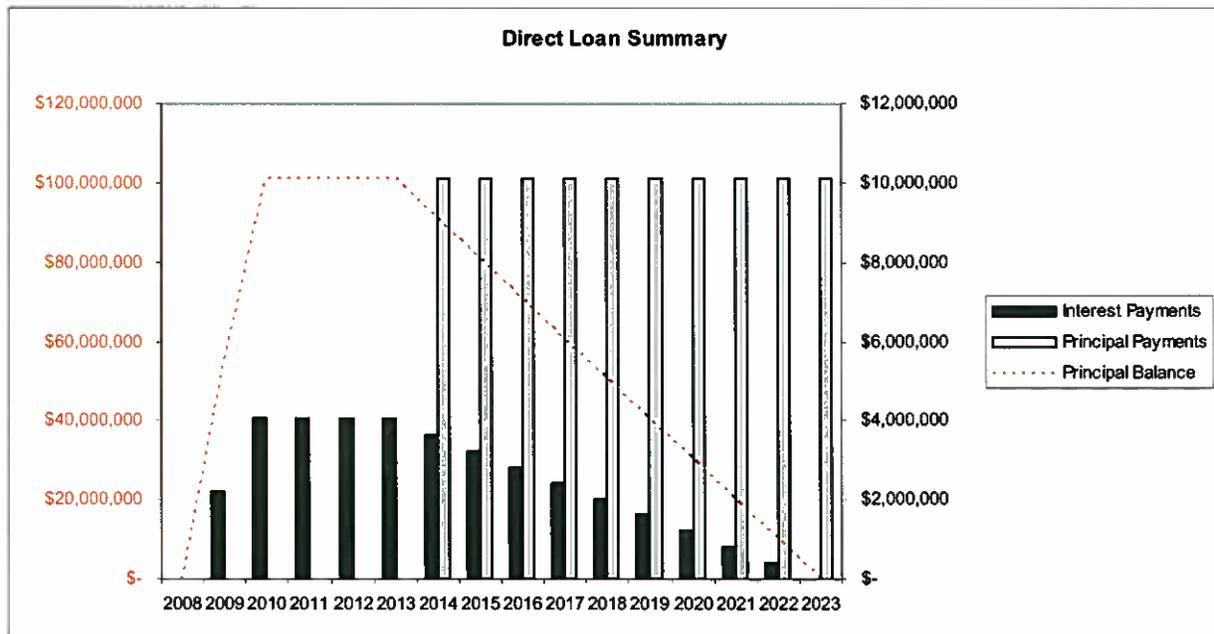


### E. FINANCIAL PLAN

The investment required to fully fund the development of Tesla’s Advanced Powertrain Factory is \$154 million. Tesla Motors, Inc. has already invested \$53 million of the total into engineering integration for its proprietary advanced electric powertrain. The forward costs of the program are \$101 million, distributed into two years of further investment.

To fully fund the project, Tesla will invest the equity it has contributed to bring the powertrain into production and secure a supply business. The remaining 66% of the project will be financed by a Direct Loan through the Advanced Technology Vehicles Manufacturing Incentive Program. Those funds will be drawn in 2009 and 2010, based on milestones previously discussed in this application.

After a five-year forbearance on principal payments during initial factory operation, Tesla Motors, Inc. will begin making equal principal payments beginning in 2014. Tesla Motors, Inc. will have repaid the entire loan by 2023. During the period of the loan, Tesla Motors will incur a 4% annual interest rate, or whichever fixed rating is applicable at time of loan. The summary of the loan schedule is presented below.







## F. BUSINESS PLAN

The Advanced Powertrain Factory will provide several product lines for both Tesla Motors and other automobile manufacturers. Tesla's first production vehicle, the Roadster, will require 2,500 battery packs and motors per year at full volume. While the Roadster is Tesla's first product line, the primary purpose of the Powertrain Factory is to speed the adoption of electric vehicles for the mass market. Therefore, the factory is being designed for flexibility in order to accommodate powertrain orders from other automobile manufactures. Tesla is currently selling battery packs to the Economy EV manufacturer for use in a pilot program. Tesla estimates that the volume for the Economy EV will exceed 35,000 units per year, the majority of which will be sold in the United States.

Tesla is also preparing the Powertrain Factory to accommodate other vehicles such as Small Car EV's. The factory will have floor space to accommodate an additional 15,000 battery pack units for Small Car models. Finally, Tesla is designing the factory to allow for 6,250 additional battery packs, reserved for pilot and initial production deals with automobile manufactures, or for Tesla's own new product lines like the Tesla Sedan.

Battery pack production will scale over the initial five years of factory operations. Currently, Tesla requires 2,500 battery packs to support Roadster volume. By 2011, Tesla expects to be in full production of the Economy EV battery pack. In 2012, Tesla expects to be producing additional battery packs for the Economy EV, or another product line. In 2012, Tesla expects to have secured an additional OEM contract, or an internal contract for additional Tesla vehicles.

The Tesla Powertrain Factory will also produce other electric vehicle components, including Tesla's patented A/C induction motor. Initial factory volume will support the Roadster, but Tesla expects to provide a complete powertrain solution for many product lines. At peak capacity, the factory will produce 60,000 battery packs and nearly 25,000 motors and other electronic components for use in electric vehicles.

Tesla Motors estimates that this project has a positive NPV of over \$700 million, measured throughout the period covered by the DOE Direct Loan.



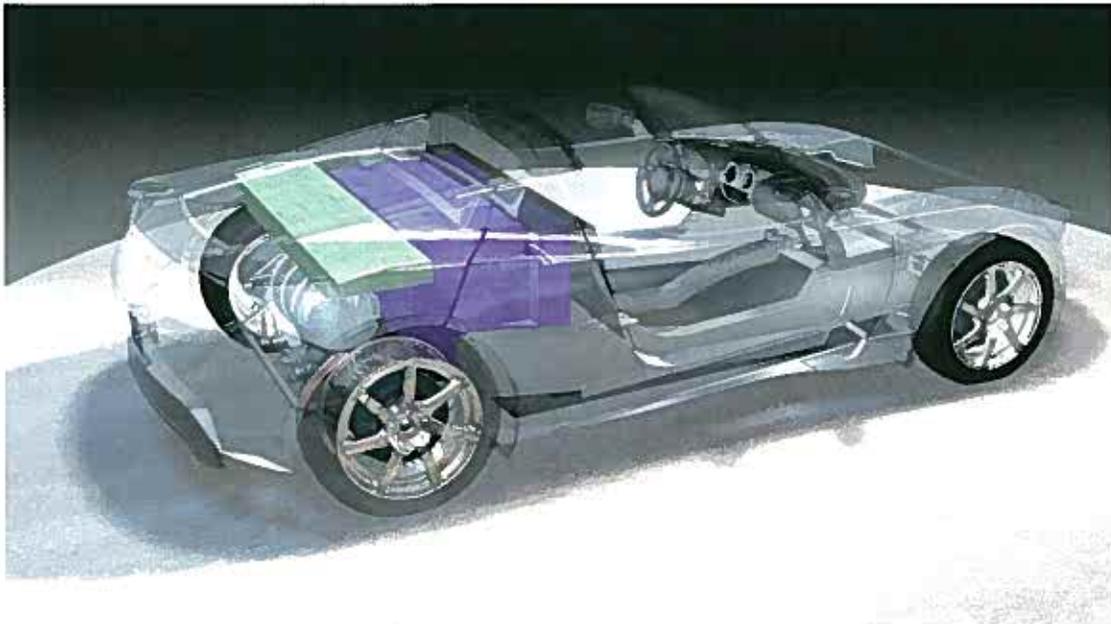


## G. MARKET ANALYSIS

### Tesla Powertrain Business

#### Overview

Tesla Motors Inc. is creating a separate division to focus on designing, manufacturing and selling powertrains for electric vehicles. Focused initially on battery packs, the division will expand to include the motor and PEM (power electronics module). Tesla believes the market size of the powertrain business for the electric passenger car market will be several tens of billions of dollars within 5 years. Tesla expects to capture a significant share of this market particularly in the early period. The creation of the powertrain business will yield additional revenue and synergies that will contribute to the long term success of Tesla Motors' core mission of manufacturing and selling industry leading electric vehicles.



#### Market Size

There are approximately 50 million internal combustion engine (ICE) powered vehicles sold worldwide each year. The market for electric vehicles (EVs), and their corresponding powertrains, will grow in stages. It is widely believed that the first stage will be driven by economic, environmental and political incentives to reduce oil consumption. The second stage will be driven by cost advantages of operating an EV versus a conventional vehicle. The cost of ownership advantage appears in multiple areas:

- Maintenance is much cheaper for EVs (no tune-ups or oil changes, reduced brake wear, etc)
- Price of electricity < price of gas (these operation advantages vary depending on the prices of oil and electricity)
- Efficiency of EVs is higher than internal combustion vehicles leading to improved mileage

Tesla has added an additional element to the rationale to switch to EVs: performance. Because of the ability for electric motors to utilize full torque instantaneously, EVs have the potential to outperform their ICE-powered counterparts.

According to a private market analysis report, the size of the EV market in the U.S. will reach nearly 3% of new vehicle sales in 2020. This is equivalent to 538,000 EVs. In making this forecasts, the independent study conservatively assumed there were no disruptive technology breakthroughs: they were assuming only incremental improvements in technology. They also ignored other potential factors which could accelerate adoption of EVs:





- Disruptive advances in battery technology
- Rapidly rising oil prices
- Tightening CO2 regulations
- Tightening fuel consumption regulations
- Subsidies for new EV purchases
- Additional regulatory incentives such as toll districts, carpool lanes, etc
- Leasing opportunities which can take advantage of battery lifetime forecasts and possible secondary use of EV batteries in other applications

The independent consulting firm forecasted the EV market first starting in 2013, despite announcements from Mitsubishi, Subaru, Nissan, Renault and BMW that they will start shipping EVs within the next two years. It also ignores the limited shipments that have already occurred of the Daimler Smart, Think City and Tesla Roadsters. For all of the above reasons, we believe the independent consulting report is overly conservative. However, even assuming these conservative forecasts are accurate, Tesla is forecasting a powertrain market share of less than 20% in the U.S. market. On a worldwide basis, Tesla's share of EV powertrains is projected to be less than 5% in 2020, which is less than 0.1% of total worldwide vehicle sales.

Following an initial focus on EVs, Tesla will gradually start addressing the below markets which each, independently, has the potential to grow to over billion dollar/year business within 5-7 years:

- Plug in Hybrids (PHEV)
- Hybrid Electric Vehicles (HEV)
- EV delivery vehicles
- EV Buses

#### ***Advantages to Tesla Motors' Core Business***

Tesla Motors' core mission is to develop, manufacture and sell electric vehicles. The creation of the powertrain division will not only generate a significant source of additional revenue and income for Tesla Motors, it will yield significant strategic advantages that will enable Tesla Motors' success. Specifically, the advantages are:

- **Enhanced R&D at a lower effective cost** - As it develops powertrains for other customers, Tesla will gain knowledge and solutions to problems, leading to an expansion of its know-how. Tesla will have access to detailed information and requirements of its EV/HEV/PHEV customers. Net result to Tesla Motors will be more resources developing know-how for Tesla Motors' powertrain at a lower effective cost as increased R&D costs are shared by external customers.
- **Economies of scale** – By combining the purchasing volumes among several powertrain customers all applications will benefit. The cost of battery cells is greatly reduced by combining even as few as 3 projects purchases together and by doing this Tesla will be able to reduce cost to the end customers.
- **Leverage with suppliers in R&D** - By becoming one of the largest purchasers of lithium ion cells, Tesla Motors Inc. will be able to influence future R&D strategies of battery manufacturers. Similar results can be expected for other components as Tesla's orders increase in size. This can lead to the development of batteries and other components that are optimized for EV applications.





## **I. LIST OF REQUIRED PERMITS**

A detailed update on permitting progress will be furnished upon request to Tesla Motors, Inc.





## J. NEPA INFORMATION

### NEPA Compliance

#### Advanced Powertrain Factory

##### Tesla Motors, Inc.

Tesla Motors, Inc. is currently completing state and local permitting, including CEQA. The requirements of CEQA largely embrace the standards and criteria of NEPA, providing a strong foundation to complete all NEPA required analysis in an expedited manner. We have completed much of the CEQA analysis for the manufacturing and assembly of powertrains and related operations. As we commence CEQA submissions, we expect to simultaneously complete the further analysis in compliance with NEPA.

In compliance with the DOE Section 136 requirements, we are proceeding to further detail the environmental reviews to more extensively investigate and report on:

- A) Analysis of cumulative effects, existing or reasonably foreseeable.
- B) Socio-economic effects on local infrastructure, construction manpower, transportation patterns (worker commute, materials supply, product distribution)
- C) Fiscal impact analysis for local government including analysis of additional revenues as well as increased expenditures by local government for roads, services, utilities, schools and other provided services.
- D) Alternatives analysis, delineated costs and benefits of project implementation.

The Bay Area has been the site of diverse industrial activity compatible to our intended use, including bus assembly, steel products fabrication, electrical power generation, and regional warehousing for a wide variety of materials and products distributors. Many of these uses have had acute declines, causing substantial real estate and asset underutilization, and exacerbated unemployment of the semi-skilled and skilled labor force.

Tesla's intention to establish an all-electric alternative fuel vehicle production facility is seen by the local governments as a strong benefit to the economic and social needs of the community while being an environmentally conscientious manufacturer that will stimulate further re-use of existing underutilized or vacant infrastructure and assets.

Compliance with DOE Section 136 includes thorough study, quantification and documentation of these impacts and benefits. As illustrated in our delineation of current studies and permits, we expect to complete the analysis eminently.





### **K. List of Collateral Assets**

As security for the Direct Loan to finance the Powertrain Factory, Tesla Motors, Inc. will assign as security all assets purchased for the total projects.





## **B. DESCRIPTION OF PROPOSED PROJECT ADVANCED TECHNOLOGY VEHICLE & MANUFACTURING PROJECT**

The Tesla Model S Project scope includes the development of the Tesla Model S and an integrated manufacturing facility for 100% electric vehicles and their accompanying powertrains.

The Tesla Model S, a fully electric, four door, five passenger sedan, will bring Tesla's technology to a wider audience at a more attractive price point. While the base model of the Tesla Model S will be priced below \$60,000, the price to the consumer will be less than \$40,000 after given federal tax credits and the lower cost of ownership when compared to a conventional internal-combustion engine vehicle (\$10,000 over 5 years). As such, Tesla Motors expects the Model S to vastly broaden the marketability of the pure electric powertrain. Moreover, the Model S platform will be sufficiently flexible to allow Tesla to offer variants on its base model electric sedan. Those variants may include different top hats such as a pure electric SUV, cargo van, or coupe. The Model S will be the first in a line of more affordable and practical electric vehicles offered by Tesla Motors.

The manufacturing facility for the Tesla Model S will be only the third built by a domestic automotive company in the US in more than 20 years. It will provide over 1,000 manufacturing jobs. The integrated facility will include body, paint, and final assembly plants. The plant will initially produce 20,000 vehicles per year, and provide the capacity for future product offerings. A location in California is currently identified as the site for this facility.

Development of the Tesla Model S and has been underway for almost three years. Tesla now looks to accelerate final development work and begin production in 2011. Engineering design and development work will take place primarily in San Carlos, CA. The total cost of the project is approximately \$435 million.





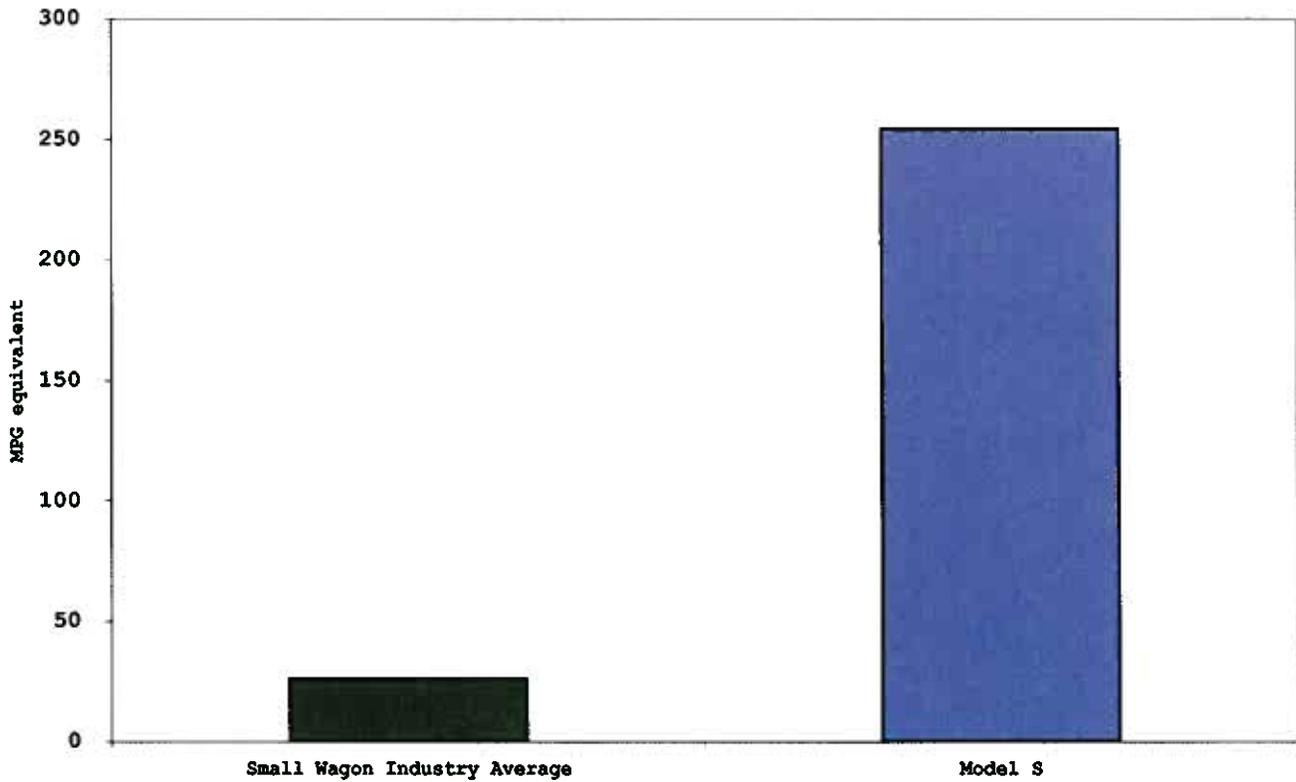
### C. QUALIFICATIONS OF PROJECT

**Product:** Tesla Model S  
**Volume:** 20,000 per year  
**Model S Fuel Economy:** 255 mpg equivalent  
**MPG % Improvement over Industry Avg:** 871%

*"The electrification of the automobile is inevitable."*  
-Bob Lutz, Vice Chairman of GM

The Tesla Model S will expand the electric vehicle offerings available to American consumers. Giving vehicle buyers both a practical and attractive solution to their dependence on gasoline, the Model S will ameliorate greenhouse emissions and America's addiction to oil.

**Model S vs. Industry Average**







## D. DETAILED COST ESTIMATES

The total Model S project cost is \$435 million. This cost is composed of the Company's to-date investments in the development of an advanced technology vehicle (\$57 million) and incremental investments to complete engineering integration, purchase tooling, and establish a manufacturing facility for final vehicle production (\$378 million).

Since early 2006, Tesla has spent \$57 million on the development of the Model S. These costs include engineering integration specifically related to the development of the Model S including preliminary vehicle design, vehicle packaging, manufacturing process design, and electric vehicle system integration work. In addition, a portion of the Company's spending since inception has been included that Tesla believes has been integral in the development of the Model S. These costs include vehicle testing, electric vehicle & powertrain integration, and validation of electric vehicle manufacturing.

The incremental investment required is divided into several major categories including Engineering Integration, Facility Upgrades & Construction, Manufacturing Capital Equipment, Prototype & Production Tooling, and Plant Launch Costs.

### *Engineering*

Engineering integration costs include expenses required to develop an all-electric powertrain for the Model S and adapt it for use in the Model S sedan. This includes the development of a light-weight body to deliver maximum efficiency and fuel economy, the creation of an electrical and thermal management system designed for a high voltage application, investments in supplier capabilities to meet the unique demands of an electric vehicle, and final integration and testing required to meet applicable regulations and consumer quality expectations. Engineering cost projections include input from key suppliers where applicable.

### *Tooling*

Tesla plans to spend funds on supplier tooling to produce components for the Model S. Supplier tooling costs have been established by means of supplier quotations or surrogate pricing based on known cost. Currently all high-value parts and associated tooling have been quoted through the supply base. The quoted part content represents 95% of the vehicle's total material cost from outside suppliers (excluding Tesla's proprietary powertrain). The remaining 5% of part material cost and associated tooling have yet to be quoted and have been included in cost based on surrogate pricing from either the Tesla Roadster or other known benchmarks. The total vehicle tooling costs have been benchmarked against other automotive OEMs. Quotations received to date are based on responses from suppliers to a solicited market test of current program design assumptions. Final target pricing has not been established and is subject to changes resulting from final design, unforeseen economic factors such as raw material cost changes, shipping and handling requirements, and other special factors.

Powertrain tooling estimates have been developed internally based on Tesla's experience engineering and manufacturing the world's first commercial lithium-ion vehicle battery pack, motor, and power electronics. Currently, the Company owns and operates the production of the battery pack for the Tesla Roadster program in San Carlos, CA.

### *Manufacturing Plant Facilities Improvements and Construction*

Construction of the new paint facility will accommodate an industry-first powder color coat, powder clear coat, resulting in a zero-emission operation. Facility costs were developed through estimates from multiple construction companies with experience building automotive factories.

### *Manufacturing Equipment and Tooling*

Tesla will invest in tooling and processing machinery for a body assembly shop, paint shop, final assembly line, and motor and battery pack production. Body, Paint, and Final equipment and tooling costs, and the associated operating patterns, were quoted and/or developed by automotive manufacturing engineering consultants and in-house experts. The final assembly process has also been reviewed by third party automotive manufacturing experts. As with supplier tooling, powertrain manufacturing equipment and tooling has been developed internally based on Tesla's experience with current production of these components for the Tesla Roadster.

### *Cost of Goods Sold*

Tesla Motors has solicited supplier quotes and input to develop assumptions for material cost for the Model S (see "Tooling" section above). Logistics costs have been studied in detail for low density components and warranty costs are





based on publicly-available market data. Manufacturing labor costs are based on studied operating patterns for the manufacturing process and publicly-available wage data.





### E. FINANCIAL PLAN

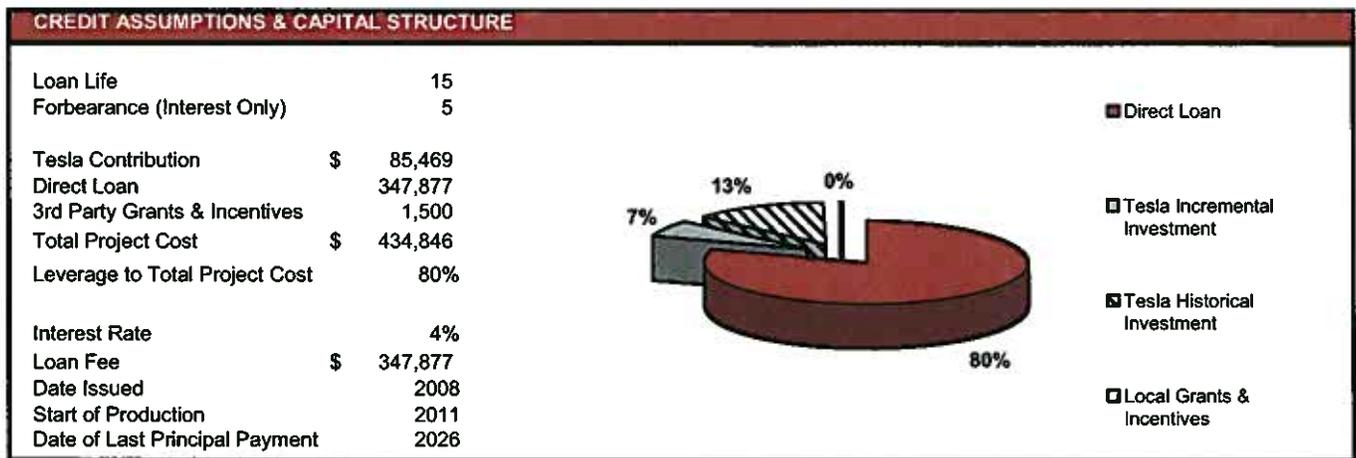
The Model S project will be financed by Tesla equity, 3<sup>rd</sup> party grants & incentives, and DOE debt financing. Tesla Motors' intended borrowing of \$348 million under Section 136 represents 80% of total project costs & 78% of total costs including financing costs.

#### Sources of Funds

The Company will use three sources of capital to finance the Model S project:

- 1.) Equity Contribution – Tesla Motors will contribute a total of \$98 million of equity towards this project. Of this amount, \$57 million has been contributed prior to this application, which was raised in five private financings and through the ongoing operations of the Company. The remaining \$41 million will cover future project and financing costs.
- 2.) DOE Direct Loan – Under Section 136, Tesla Motors is seeking \$348 million of 15 year notes. The notes will be interest only until the project begins operations in 2011. Upon commencement of operations, the notes will allow for a five year forbearance of principal payments and will remain interest only until 2016, at which point principal payments will be made annually.
- 3.) Grants & Incentives – The State of California will provide direct assistance to Tesla Motors under the State's Clean-Technology Workforce Development Funds.

The assumed credit assumptions and capital structure are as follows:







## F. BUSINESS PLAN

### *Results*

The Model S Advanced Technology Vehicle and Manufacturing project requires \$378 million of incremental funding to reach full scale production by 2011. The sleek and sporty design, coupled with an industry leading all-electric powertrain and a low lifetime cost of ownership should generate sales volumes of approximately 20,000 cars per year. At this point, the Model S project becomes profitable and cash flow positive, allowing debt service to begin. The project has a Net Present Value of \$1.035B.

### *Assumptions*

Many of the assumptions in the financial model directly result from the unique experiences and skill sets of Tesla Motors. The Company has already developed and commercialized an automobile that shares many of the same technologies, development tasks, and suppliers as Model S. Many of the lessons from the development of the Tesla Roadster support these assumptions. Furthermore, Tesla Motors employs a world-class automotive development team, with deep experience at many automotive manufacturers. Finally, Tesla Motors has obtained third party bids for almost all the sub-systems of the car and most of the material activities to be performed by third parties.





## G. MARKET ANALYSIS

Tesla Motors is addressing and solving some of the most fundamental challenges facing automakers today:

- **Energy efficiency.** We dramatically reduce the total energy consumed to drive a given distance. It follows that total vehicle emissions (including greenhouse gases) are also significantly reduced.
- **Performance.** This makes our technology disruptive: with each Tesla model, we have the ability to achieve among the highest acceleration and best handling of any car in its class, in the same vehicle that has the highest energy efficiency in its class – all without sacrificing range or handling.
- **Energy source.** We enable the efficient use of whatever fuel source is strategically attractive: oil, natural gas, nuclear, even coal; as well as renewables such as solar or wind power. Battery electric vehicles are the ultimate multi-fuel vehicle. We take advantage of the nation's existing and robust distribution grid.
- **Economics.** We are building a business by solving these problems at prices that are attractive to customers and profitable for us.

Gasoline cars – including hybrids – impose a tradeoff between performance and efficiency: choose one or compromise both. Tesla's performance electric cars offer the opportunity to eliminate the tradeoff.

### Tesla's Difference

Electric cars of yesterday had all been designed and marketed as low-priced commuter cars or as practical, utilitarian vehicles. Such cars failed to compete successfully against the highly optimized, high volume gasoline cars already on the market. The problem was that with the low sales volumes of a new-technology car, there was no way they could compete on price or performance.

Tesla Motors has chosen to enter the market in a different way. Tesla's cars compete on outright performance, demonstrating that a well designed car with a purpose-built electric power train can deliver astonishing acceleration and unbeatable performance without compromising the inherent efficiency of electric cars.

### *Economic and Demographic Trends*

Tesla appeals to a broad range of customers due to a unique convergence of desirable product characteristics. Conventional wisdom holds that Electric Vehicles are a niche market, appealing only to buyers interested in making a political statement by driving a car with zero emissions and willing to compromise the styling, performance, and convenience they would normally expect in a high quality vehicle.

With the development of the Tesla Roadster, Tesla Motors changed the rules of the game and rendered the conventional wisdom obsolete. The Roadster represents a zero emissions vehicle without compromise in those characteristics that people who love to drive have come to expect. As a result, the Roadster appeals to a broader set of customers who may have different motivations:

- Those who want to drive a sexy, high performance car
- Those who care about the impact of energy consumption on the environment
- Those who care about the country's dependence on foreign oil and the corresponding implications for national security
- Those who are attracted to the use of advanced technology in an automobile

Each one of these motivations is powerful enough on its own to drive a customer to purchase a Tesla, but we have found that more often than not a potential customer is defined by a combination of several of these motivations, and therefore the Tesla Roadster represents an entirely unique and attractive offering that has the potential to capture market share from existing "green car" markets (such as hybrids), as well as the potential to capture market share from standard gasoline powered cars.

Take, for example, the success of the Toyota Prius, which retails for only \$22,175. The key motivating factors for the purchase of the Prius are concern for the impact of energy consumption on the environment and/or the concern over oil dependence. A Prius is not usually purchased for its beautiful design, performance or exclusivity. Contrast that with the fact that the average household income of a Prius driver is over \$100K and the household income of a GM EV1 "owner" was over \$200K, indicating that the average buyer could afford a much more expensive car and is not likely to be





constrained by the cost of gasoline at the pump. (Hybrid cars are also popular with Hollywood stars, many of whom have traded in their exotic sports cars for these low-impact vehicles).

This indicates that the market demand for cars that make moral or political statements about growing concerns about the environment and oil dependence is strong enough that many buyers are willing to compromise stylish design and performance. These buyers accept these compromises today because the market has not afforded them an alternative. When provided with an alternative that offers great design, performance, and efficiency with no compromise, many of these buyers will become Tesla customers.

In addition, today's consumer is shifting away from a pure economic "total cost of ownership" perspective as they make choices about automobiles (and other products they consume.) Today's consumer knows the environmental impact of automobiles and fossil fuels in general, and understands the implications of the country's dependence on fossil fuels as they watch the evening news. They are redefining "cost of ownership" to include the broader costs of the environmental and political impacts of the choices they make.

#### Convergence of Right and Left

We at Tesla have observed another interesting trend among the public and political dialogue. In the past, proponents of EVs have been stereotyped as left-leaning, environmentalist and typically aligned with the Democratic Party. However, the impact of 9/11 and the ongoing war in Iraq, together with political problems in the oil producing nations of Iran, Venezuela, and Nigeria, have aligned the political interests of the Right with the success of alternative fuel vehicles. While this has spurred interest in a broad range of alternatives, such as fuel-cell technology and corn-based Ethanol, there is increasing acknowledgement on the part of the Bush administration that electric vehicles play an important role in reducing the country's dependence on foreign oil and improving national security. This political trend and messaging is changing the mindset of the right-leaning, typically Republican citizen toward the acceptance of EVs as a patriotic endeavor.

#### The Evolution of the Tesla Customer

The public discussion about Tesla has thus far been focused on the Tesla Roadster, as it has received extraordinary publicity since its debut in July 2006. The obvious counterpoint to the "no compromises" proposition of the Tesla Roadster is that it is positioned at the high end of the market, and therefore the size of the market will be limited to those able to afford a \$109,000 car.

While this is a fair point, it is important to understand how the Tesla marketing and brand strategy is positioned to stimulate to the maximum demand for future models of cars which will be offered at price points more appropriate to larger segments of the marketplace, with each successive product building on the last and not conflicting with the overall brand strategy.

Tesla believes that the most logical and viable approach to building an electric car company that leverages all new powertrain technology is to enter the market at the top and work your way down. That is in part because the significant R&D spending required to develop the powertrain and other proprietary technology necessitates that the cost of the first vehicle offered will be high enough to earn a profit at low unit volumes. The company can then utilize this proprietary technology in future models at a lower overall cost and offer models at lower price points.

Consumer perceptions of Electric Vehicles have been shaped by past efforts that were typified by slow, short range, unattractive (even comical) designs. These perceptions can be difficult to change, and require such a powerful proof point that is that it completely challenges previously held beliefs. Based on the extraordinary public and media response to the Tesla Roadster, we believe we have already accomplished that goal.

Public perception of Tesla is decidedly different from that of other electric vehicles (or even hybrids). The immediate brand positioning is that of a "zero emissions and zero oil car without compromising style and performance". In addition, the Roadster's 244 mile driving range effectively challenges the public preconception that EVs do not offer a practically useful range.

This unique positioning forms the foundation of Tesla's brand and should support the successful introduction of new models such as the Model S, which appeal to a broader range of customers and represent a lucrative market opportunity. Like the Roadster, the Model S will appeal to the following customers:





- Those who want to drive a sexy, high performance car
- Those who care about the impact of energy consumption on the environment
- Those who care about the country's dependence on foreign oil and the corresponding implications for national security
- Those who are attracted to the use of advanced technology in an automobile

Additionally, Model S will appeal to an important new motivation:

- Those who desire the convenience of a four door, five passenger sedan with ample carrying capacity

This additional element, combined with a price positioning of between \$50K and \$70K depending on options, opens up a huge market opportunity for Tesla Motors. In the time leading up to the introduction of the Model S, the Tesla brand will be firmly established in the minds of consumers by the success of the Roadster and the attendant branding activities. The additional convenience elements offered by the Model S will be immediately apparent and, when combined with the established elements of the Tesla brand, represent a very attractive offering for a broad range of customers.

### *Market Potential*

#### *Traditional Approach*

The U.S. market for automobiles is mature and cyclical, with growth or decline in total unit sales tied primarily to economic factors. As a result, major automobile manufacturers are in a constant battle for market share. Indeed, market share is the statistic that dominates the dialogue around the relative success or failure of manufacturers, makes and models.

Given this mentality, it is not surprising that the traditional approach to forecasting the success of a new model entrant into the marketplace is to determine the share of the segment that the new entrant will capture (e.g., compact, luxury sedan, full size SUV). This is because in order to buy the new car, the customer will by definition be foregoing the purchase of a competitor's car in that same segment. From a marketing perspective, the implication is that a particular customer will be in the market for a particular type of car and will choose from what the marketplace has to offer within that segment.

In determining the market potential for Tesla cars, it is important to note that they do not conform neatly to traditionally defined segments. Therefore, establishing market potential by forecasting share of a particular market segment is not accurate or meaningful in and of itself. As a result, one must take an alternative approach to understanding the market potential of Tesla Motors.

#### *Tesla Motors' Approach*

In order to estimate the market potential of Tesla's offerings relative to existing data on car sales in traditionally defined segments, reasonable proxies need to be established and understood. Due to the unique appeal of the Tesla as a stylish, high performance, zero-emissions brand, customers from a broad range of segments are likely to be drawn to purchase a Tesla car. This crossover from a variety of segments is further encouraged because Tesla will only have an offering in one segment through 2008 (The Roadster) and then two segments starting in 2011, with the introduction of the Model S. Furthermore, because Tesla customers are likely to exhibit significantly different motivations for purchase (from the environmentalist to the auto enthusiast to those concerned about national security) there is no one proxy that alone would serve as a good approximation of the total market potential.

#### *The Expanding Market for Hybrids as a Proxy for Tesla Motors*

While the market potential for Tesla Motors is not limited to projections for hybrid vehicle sales, an analysis of the growth of this market segment and the customer motivations behind the purchase of hybrid vehicles serves as an informative proxy for analysis. This is because it is becoming broadly accepted that the primary reason for purchase of hybrid vehicles like the Prius has been driven by consumers' attitudes about the environment and politics, and not by the reduced costs of fuel consumption.

From its introduction up to its cumulative sales of more than 1,000,000 vehicles, the Toyota Prius has stolen market share from a broad range of categories, not just the 4 door compact category that it occupies. The customer attitude that drives the purchase and growth of hybrid vehicles like the Prius is not technology-specific. Rather, it is the political statement of ownership of an alternative fuel vehicle. In the case of the Prius, its unusual looks serve to emphasize the point. In today's market, the options for people who want to make such a statement are limited to cars that compromise style and/or





performance. With the introduction of the Tesla Roadster and Model S, we feel that there will be a significant shift from customers in this category to Tesla Motors.

This point is an important one. Tesla believes that the current trend in consumer behaviors toward the adoption of “green” values and the consideration in environmental and political factors in purchases is not a temporary fad but rather an accelerating long-term trend. This is largely due to the unavoidable depletion of finite fossil fuel resources and the increasing awareness and acceptance of the long-term consequences of global warming.

#### *Conclusion*

While traditional approaches to estimating market potential for new entrants in the automobile market may not be appropriate for Tesla Motors, analysis of various market segment proxies illustrates the fact that Tesla’s Model S sales projections should be achievable or even conservative. Many factors are converging that would indicate that the social and psychological drivers of sales for alternative fuel vehicles will increase demand in the future. Model S is likely to attract buyers from a broad range of traditional market segments that desire a guilt-free or morally superior vehicle without the tradeoff of carrying capacity and size that is a constraint with the Roadster. Achieving the sales target for Model S will require only a small share of each of these traditional market segments, including current buyers of Hybrid vehicles. Ultimately, the true size of the market potential will only become known once the public becomes more aware and educated about the advantages of electric vehicles and the breakthroughs in technology that Tesla Motors brings to the marketplace.

#### *Sales Strategy*

##### *Sales Results to Date*

Since our public launch of the company on July 19, 2006 in Santa Monica, Tesla Motors has been very successful in capitalizing on the public’s enormous interest by immediately taking reservations for the Tesla Roadster well in advance of production and the opening of retail sales outlets. As of November, 2008, we have accepted reservations for over 1,200 Tesla Roadsters and delivered over 70 to our customers.

##### *Direct Distribution*

Tesla Motors has determined that a direct sales and service model is best suited for our business. There are several reasons for this:

- Managing the customer relationship directly, from sales to service, will allow Tesla Motors to maintain better customer service. The existing automotive dealership networks, with few exceptions, are well known for poor customer service and for delivering a poor customer experience from the sales process to service.
- Our unique brand positioning as a stylish, high performance, zero-emissions car enables a direct sales model. The existing automotive industry is suffering from increasing commoditization as dealers for each brand demand offerings to meet all segments of the marketplace. With manufacturers seeking to reduce costs by sharing parts across platforms and platforms across brands, this results in a proliferation of vehicle choices for consumers that are largely the same cars with different skin. Worse, it is sometimes the identical car with a different badge. In contrast, for the next few years there will be no substitute for the Tesla lineup of electric vehicles. This makes us less dependent on the selling power of dealers to sell commoditized car inventory through to the public.
- Servicing a new EV is entirely different from existing automotive technology and processes and requires us to maintain control of the service process to ensure quality and safety. While third party service providers will be able to service the brakes and tires, there will be no one other than Tesla Motors who will be able to diagnose and service components of the power train such as the battery pack, power electronics module, and motor.
- The automotive franchise laws (unique to each state) all create perpetual territorial monopolies that neither serve the customer nor the manufacturer. As a manufacturer, once you have bought in to this distribution system, it is virtually impossible change direction and sell through alternative channels, as Ford learned when they attempted to open factory-owned dealerships in Texas. These franchise laws have served to entrench and insulate dealers from competition and have stifled customer-oriented innovation on the part of manufacturers. One artifact of these protections is the “Additional Dealer Mark-Up” that dealers place on hot cars, which takes advantage of market demand to charge customers on top of MSRP, with none of the markup going to the manufacturer.

##### *The Tesla Sales Approach*

Tesla will establish Tesla Customer Centers as company-owned retail sales and service facilities. Retail sales locations are operating today in Los Angeles and Menlo Park. In 2009, the Company plans to open six service centers in areas where we expect a high concentration of customers. These branded stores will offer the opportunity for customers to talk





to a sales consultant, view the car, and take a test drive. Tesla will focus on making the “in-store” customer experience exceptional, in contrast to what customer expectations are for traditional car dealerships. If the customer chooses to buy a Tesla, the sales consultant will complete the transaction for them and arrange whatever products and services (e.g. financing, insurance, home charging station or solar panel installation) the customer desires.

Customers can also purchase a Tesla car online if they choose. After researching the car online and/or in person, all a customer has to do is click on the “BUY” tab on the Tesla website and they can easily configure and purchase the Tesla of their choice. (More and more, traditional car manufacturers, such as Mini, have invested a great deal in developing sophisticated websites to help customers make their buying decision. It’s unfortunate that they are missing the one essential piece of the online sales equation – a “BUY” button.)

#### *Tesla Retail Pricing and Sales Force Compensation*

To provide an easy, consumer-friendly sales experience, Tesla will forego the painful, arbitrary, and unfair negotiation process experienced in most dealerships today. Tesla has a “hassle-free” pricing philosophy that offers cars to all customers at the same price. The price of cars and options may be subject to change over time, and such changes will be communicated clearly and transparently. In order to support this type of customer strategy but still provide an incentive to our sales force to drive higher unit sales, we will compensate the sales staff on a flat rate per vehicle sold and not a commission based on extracting the maximum margin from the customer (the traditional approach in today’s dealerships), which creates an adversarial relationship between sales consultant and customer.





## I. LIST OF REQUIRED PERMITS

A detailed update on permitting progress will be furnished upon request to Tesla Motors, Inc.





## J. NEPA INFORMATION

Tesla Motors, Inc. has substantially completed detailed analyses in compliance with the California Environmental Quality Act (CEQA) as well as NEPA for the development of a factory to manufacture drivetrains and full vehicle assembly for a "Greenfield" undeveloped land parcel in California. These studies are at an advanced level of completion ready for submission to regulatory agencies for approvals, and included all of the key elements of manufacturing including vehicle body, battery and drivetrain assembly, paint operations, and final assembly and testing.

The requirements of CEQA largely embrace the standards and criteria of NEPA, providing a strong foundation to complete all NEPA required analysis in this expedited manner. We have completed much of the CEQA analysis for the manufacturing and assembly of drivetrains, product painting and full auto assembly. As we commence CEQA submissions, we expect to simultaneously complete the further analyses in compliance with NEPA.

In compliance with the DOE Section 136 requirements, we are proceeding to further detail the environmental reviews to more extensively investigate and report on:

- A) Analysis of cumulative effects, existing or reasonably foreseeable.
- B) Socio-economic effects on local infrastructure, construction manpower, transportation patterns (worker commute, materials supply, product distribution)
- C) Fiscal impact analysis for local government including analysis of additional revenues as well as increased expenditures by local government for roads, services, utilities, schools and other provided services.
- D) Alternatives analysis, delineated costs and benefits of project implementation.

Tesla's intention to establish an all-electric alternative fuel vehicle production facility is seen by the state & local governments as a strong benefit to the economic and social needs of the community while being an environmentally conscientious manufacturer that will stimulate further re-use of its existing industrial infrastructure and assets.

Compliance with DOE Section 136 includes thorough study, quantification and documentation of these impacts and benefits. As illustrated in our delineation of current studies and permits, we expect to complete the analysis eminently.





## **K. LIST OF COLLATERAL ASSETS**

As security for the Direct Loan to finance the Advanced Technology Vehicle & Manufacturing Project, Tesla Motors, Inc. will assign as security all assets purchased for the project.

