

Elon Musk - Testimony before the Senate Committee on Environment and Public Works

“Green Jobs from Action on Global Warming”

August 14, 2007

Madame Chairman (and Members of the Committee), welcome to Silicon Valley and thank you for the opportunity to testify before the Committee today on the subject the creation of so-called “green jobs” in the high tech and industry. As the Chairman of two clean tech companies that are focused on combating global warming, I enjoy a front row seat from which to view the rapid creation of new jobs and in one case - a wholly new industry.

While the number of jobs created by Tesla Motors, Solar City and other players in the Clean Tech arena is impressive, and the rate of job growth is even more so, perhaps the most striking aspect of the jobs we are creating is embodied in their diversity. As has often been the case in Silicon Valley, we have created a wealth of new jobs for holders of advanced technical and management degrees. However, the truly notable aspect of the Clean Tech revolution is its ability to create high quality “green collar” jobs in addition to those high end technical positions. Tesla Motors and Solar City are both exemplars of this phenomenon

As I believe you are aware, Tesla Motors’ initial product is a high-performance electric sports car called the Roadster. However, the intent is to build electric cars of all kinds, including low-cost family vehicles. As our unveiling of the Tesla Roadster has demonstrated, reports of the death of the electric car have been greatly exaggerated. The Roadster defies all conventions associated with environmentally friendly cars, particularly those of a purely electric nature.

My apologies for the brief commercial, but to understand what is possible, I must present the key facts of the vehicle:

- 0 to 60 mph in 3.9 seconds
- 135 MPG equivalent
- Over 200 mile driving range on a single charge
- Fully DOT-compliant: crash tested, with airbags, crash structures, etc.

The Tesla Roadster is designed to beat a gasoline sports car like a Porsche or a Ferrari in a head-to-head showdown, but it has more than twice the energy efficiency of a Prius. In other words, it is a great sports car without significant compromises. Now, some may question whether this really does any good for the world. Are we really in need of another high-performance sports car? Will it actually make a difference to global carbon emissions and our oil dependence?

Well, the answers are no and not much. However, that misses the point. Almost any new technology initially has high unit cost before it can be optimized. This is no less true for electric cars. Tesla’s strategy is to enter at the high end of the market, where customers are prepared to pay a premium, and then drive down market as fast as possible to higher unit volume and lower prices with each successive model.

Tesla’s second model will be a large four door family car starting at \$50,000 and the third model will be a smaller, more affordable four door. In keeping with a fast-growing technology company, all free cash flow is plowed back into R&D to drive down the costs and bring the follow-on products to market as quickly as possible. When someone buys the Roadster sports car, they are actually helping to pay for the development of the low cost family car.

Since the Tesla Motors’ birth in 2003, the company has grown from 2 employees to over 300, with a headquarters and R&D center here in Silicon Valley, a vehicle development center outside of Detroit and plans to break ground on a vehicle assembly plant (in New Mexico) that will employ an additional 400 employees later this year. While the early employees of the company were, not

surprisingly, engineers and technical experts, as we have move into a manufacturing phase, we will be aggressively adding high quality high paying hourly jobs. It is worth noting that every one of our employees enjoys a full benefits package, is an equity shareholder in the company and will share in the success of the enterprise.

Vehicle manufacturing is a supplier intensive business and so while the aforementioned direct employment numbers are impressive enough, it is safe to say that the indirect job creation that Tesla is and will continue to catalyze, while difficult to quantify can safely be assumed to be a significant multiple of the direct labor pool.

Our second company, SolarCity, is focused on bringing solar power to every home and business and in so doing it is measurably reducing the carbon footprint of the growing number of communities where SolarCity operates. By creating a trusted brand and bringing cost-reducing innovations to the market, SolarCity has become the largest residential solar installer in California.

In contrast to Tesla Motors, Solar City is neither a manufacturing company nor a developer of high technology. Rather, it is a service company focused on the installation of residential solar systems. Since solar installation is a labor intensive enterprise and because the number of systems installed drives the success of the enterprise as a whole, Solar City's success to date and its future prospects are fundamentally dependent on the creation of a high quality "green collar" labor pool. In other words, the more jobs that SolarCity can create, the more the company will succeed.

In less than a year of operation, SolarCity has created 160 new jobs and has plans to hire an additional 1200 well-paid "green collar" workers by the end of 2009. These "green collar" jobs are high-quality jobs that enable individuals with limited experience and limited advanced education and training to learn a skilled trade and develop valuable skills and experience. These jobs pay well (\$15-22/hour), include benefits and stock options and offer the opportunity for career advancement: from installer to senior installer to team lead to regional supervisor. As SolarCity extends its business from California across the country, the company and the industry will prosper in direct relation to the number of jobs that the company can create.

As your committee and the Congress as a whole consider legislation to address Climate Change and Global Warming in the fall, I am hopeful that you will to drive for policies and legislation that will support the continued development of promising new technologies like Tesla Motors' performance electric cars and to encourage companies that are applying new business models to expand renewable energy generation like Solar City. You can do so by encouraging incentives for consumers to adopt these technologies – in particular by creating tax policies that pull larger unit volumes into the market and help to accelerate our ability to get to economies of scale and effort on the supply side. You can also encourage job training programs that will increase the available labor pool for the green work force that our continued success will demand.

In conclusion, I believe that we are just now beginning to understand the promise of job and wealth creation that is embodied in the drive to develop the alternative technologies and business models that will address the twin crises of petroleum dependence and global warming. But I am certain beyond a shadow of a doubt that if we as a nation commit to supporting these industries we will be laying the groundwork for America's economic prosperity and competitive advantage for decades to come.

Thank you for your time. I will be happy to address your questions.