

BUSINESS

Elon Musk's growing empire is fueled by \$4.9 billion in government subsidies



Jerry Hirsch • Contact Reporter

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Tesla, SolarCity and SpaceX have collected or received a commitment for \$4.9 billion in government support

MAY 30, 2015, 8:00 AM

Los Angeles entrepreneur Elon Musk has built a multibillion-dollar fortune running companies that make electric cars, sell solar panels and launch rockets into space.

And he's built those companies with the help of billions in government subsidies.

Tesla Motors Inc., SolarCity Corp. and Space Exploration Technologies Corp., known as SpaceX, together have benefited from an estimated \$4.9 billion in government support, according to data compiled by The Times. The figure underscores a common theme running through his emerging empire: a public-private financing model underpinning long-shot start-ups.

"He definitely goes where there is government money," said Dan Dolev, an analyst at Jefferies Equity Research. "That's a great strategy, but the government will cut you off one day."

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The figure compiled by The Times comprises a variety of government incentives, including grants, tax breaks, factory construction, discounted loans and environmental credits that Tesla can sell. It also includes tax credits and rebates to buyers of solar panels and electric cars.

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A looming question is whether the companies are moving toward self-sufficiency — as Dolev believes — and whether they can slash development costs before the public largesse ends.

Tesla and SolarCity continue to report net losses after a decade in business, but the stocks of both

companies have soared on their potential; Musk's stake in the firms alone is worth about \$10 billion. (SpaceX, a private company, does not publicly report financial performance.)

Musk and his companies' investors enjoy most of the financial upside of the government support, while taxpayers shoulder the cost.

The payoff for the public would come in the form of major pollution reductions, but only if solar panels and electric cars break through as viable mass-market products. For now, both remain niche products for mostly well-heeled customers.

Musk declined repeated requests for an interview through Tesla spokespeople, and officials at all three companies declined to comment.

The subsidies have generally been disclosed in public records and company filings. But the full scope of the public assistance hasn't been tallied because it has been granted over time from different levels of government.

New York state is spending \$750 million to build a solar panel factory in Buffalo for SolarCity. The San Mateo, Calif.-based company will lease the plant for \$1 a year. It will not pay property taxes for a decade, which would otherwise total an estimated \$260 million.

The federal government also provides grants or tax credits to cover 30% of the cost of solar installations. SolarCity reported receiving \$497.5 million in direct grants from the Treasury Department.

That figure, however, doesn't capture the full value of the government's support.

Since 2006, SolarCity has installed systems for 217,595 customers, according to a corporate filing. If each paid the current average price for a residential system — about \$23,000, according to the Union of Concerned Scientists — the cost to the government would total about \$1.5 billion, which would include the Treasury grants paid to SolarCity.

Nevada has agreed to provide Tesla with \$1.3 billion in incentives to help build a massive battery factory near Reno.

The Palo Alto company has also collected more than \$517 million from competing automakers by selling environmental credits. In a regulatory system pioneered by California and adopted by nine other states, automakers must buy the credits if they fail to sell enough zero-emissions cars to meet mandates. The tally also includes some federal environmental credits.

On a smaller scale, SpaceX, Musk's rocket company, cut a deal for about \$20 million in economic

development subsidies from Texas to construct a launch facility there. (Separate from incentives, SpaceX has won more than \$5.5 billion in government contracts from NASA and the U.S. Air Force.)

Subsidies are handed out in all kinds of industries, with U.S. corporations collecting tens of billions of dollars each year, according to Good Jobs First, a nonprofit that tracks government subsidies. And the incentives for solar panels and electric cars are available to all companies that sell them.

Musk and his investors have also put large sums of private capital into the companies.

But public subsidies for Musk's companies stand out both for the amount, relative to the size of the companies, and for their dependence on them.

"Government support is a theme of all three of these companies, and without it none of them would be around," said Mark Spiegel, a hedge fund manager for Stanphyl Capital Partners who is shorting Tesla's stock, a bet that pays off if Tesla shares fall.

Tesla stock has risen 157%, to \$250.80 as of Friday's close, over the last two years.

Musk has proved so adept at landing incentives that states now compete to give him money, said Ashlee Vance, author of "Elon Musk: Tesla, SpaceX, and the Quest for a Fantastic Future," a recently published biography.

"As his star has risen, every state wants a piece of Elon Musk," Vance said.

Before his current ventures, he made a substantial sum from EBay Inc.'s \$1.5-billion purchase of PayPal, the electronic payment system in which Musk held an 11% stake.

Soon after, he founded SpaceX in 2002 with money from that sale, and he made major investments and took leadership posts at Tesla and Solar City.

Musk is now the chief executive of both Tesla and SpaceX and the chairman of SolarCity, and holds big stakes in all three, including 27% of Tesla and 23% of SolarCity, according to recent regulatory filings. The ventures employ about 23,000 people nationwide, and they operate or are building factories and facilities in California, Michigan, New York, Nevada and Texas.

Tense talks

The \$1.3 billion in benefits for Tesla's Nevada battery factory resulted from a year of hardball negotiations.

Late in 2013, Tesla summoned economic development officials from seven states to its auto factory in Fremont, Calif. After a tour, they gathered in a conference room, where Tesla executives explained their plan to build the biggest lithium-ion battery factory in the world — then asked the states to bid for the project.

Nevada at first offered its standard package of incentives, in this case worth \$600 million to \$700 million, said Steve Hill, Nevada's executive director of the Governor's Office of Economic Development.

Tesla negotiators wanted far more. The automaker at first sought a \$500-million upfront payment, among other enticements, Hill said. Nevada pushed back, in sometimes tense talks punctuated by raised voices.

"It would have amounted to Nevada writing a series of checks during the first couple of years," said Hill, calling it an unacceptable risk.

With the deal imperiled, Hill flew to Palo Alto in August to meet with Tesla's business development chief, Diarmuid O'Connell, a former State Department official who is the automaker's lead negotiator.

They shored up the deal with an agreement to give Tesla \$195 million in transferable tax credits, which the automaker could sell for upfront cash. To make room in its budget, Nevada reduced incentives for filming in the state and killed a tax break for insurance companies.

Nevada Gov. Brian Sandoval and Musk sealed the agreement in a Labor Day phone conversation. Hill said it was worth it, pointing to the 6,000 jobs he expects the factory to eventually create.

The state commissioned an analysis estimating the economic impact from the project at \$100 billion over two decades, but some economists called that figure deeply flawed. It counted every Tesla employee as if they would otherwise have been unemployed, for instance, and it made no allowance for increased government spending to serve the influx of thousands of local residents.

A \$750-million factory

Musk has similar success with getting subsidies for a SolarCity plant in Buffalo, N.Y. The company currently buys many of its solar panels from China, but it will soon become its own supplier with a new and heavily subsidized factory.

An affiliate of New York's College of Nanoscale Science and Engineering in Albany will spend \$750 million to build a solar panel factory on state land. SolarCity estimated in a corporate filing that it

will spend an additional \$150 million to get the factory operating.

When finished in 2017, the 1.2-million-square-foot facility will be the largest solar panel factory in the Western Hemisphere. New York officials see the subsidy as a worthy investment because they expect that it will create 3,000 jobs. The plant will replace a long-closed steel factory.

"The SolarCity facility will bring extensive benefits and value to this formerly dormant brownfield that provided zero benefit to the city and region," said Peter Cutler, spokesman for Empire State Development, New York's economic development agency.

SpaceX, though it depends far more on government contracts than subsidies, received an incentive package in Texas for a commercial rocket launch facility. The state put up more than \$15 million in subsidies and infrastructure spending to help SpaceX build a launch pad in rural Cameron County at the southern tip of Texas. Local governments contributed an additional \$5 million.

Included in the local subsidies is a 15-year property tax break from the local school district worth \$3.1 million to SpaceX. Officials say the development still will bring in about \$5 million more over that period than the local school district otherwise would have collected.

"That's \$5 million more than we have ever seen from that property," said Dr. Lisa Garcia, superintendent of the Point Isabel Independent School District. "It is remote.... It is just sand dunes."

Crucial aid

The public money for Tesla and SolarCity factories is crucial to both companies' efforts to lower development and manufacturing costs.

The task is made more urgent by the impending expiration of some of their biggest subsidies. The federal government's 30% tax credit for solar installations gets slashed to 10% in 2017 for commercial customers and ends completely for homeowners.

Tesla buyers also get a \$7,500 federal income tax credit and a \$2,500 rebate from the state of California. The federal government has capped the \$7,500 credit at a total of 200,000 vehicles per manufacturer; Tesla is about a quarter of the way to that limit. In all, Tesla buyers have qualified for an estimated \$284 million in federal tax incentives and collected more than \$38 million in California rebates.

California legislators recently passed a law, which has not yet taken effect, calling for income limits on electric car buyers seeking the state's \$2,500 subsidy. Tesla owners have an average household

income of about \$320,000, according to Strategic Visions, an auto industry research firm.

Competition could also eat into Tesla's public support. If major automakers build more zero-emission cars, they won't have to buy as many government-awarded environmental credits from Tesla.

In the big picture, the government supports electric cars and solar panels in the hope of promoting widespread adoption and, ultimately, slashing carbon emissions. In the early days at Tesla — when the company first produced an expensive electric sports car, which it no longer sells — Musk promised more rapid development of electric cars for the masses.

In a 2008 blog post, Musk laid out a plan: After the sports car, Tesla would produce a sedan costing "half the \$89k price point of the Tesla Roadster and the third model will be even more affordable."

In fact, the second model now typically sells for \$100,000, and the much-delayed third model, the Model X sport utility, is expected to sell for a similar price. Timing on a less expensive model — maybe \$35,000 or \$40,000, after subsidies — remains uncertain.

"Some may question whether this actually does any good for the world," Musk wrote in 2008. "Are we really in need of another high-performance sports car? Will it actually make a difference to global carbon emissions? Well, the answers are no and not much.... When someone buys the Tesla Roadster sports car, they are actually helping to pay for the development of the low-cost family car."

Next: Battery subsidies

Now Musk is moving into a new industry: energy storage. Last month, he starred in a typically dramatic announcement of Tesla Energy-branded batteries for homes and businesses. On a concert-like stage, backed by pulsating music, Musk declared that the batteries would someday render the world's energy grid obsolete.

"We are talking about trying to change the fundamental energy infrastructure of the world," he said.

Musk laid out a vision of affordable clean energy in the remote villages of underdeveloped countries and homeowners in industrial nations severing themselves from utility grids. The Nevada factory will churn out the batteries alongside those for Tesla cars.

What he didn't say: Tesla has already secured a commitment of \$126 million in California subsidies

to companies developing energy storage technology.

jerry.hirsch@latimes.com

Twitter: @latimesjerry

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