

# WILL TESLA'S 2016 SALES TO SOLARCITY EXCEED THE ENTIRE 2015 BEHIND-THE-METER ENERGY STORAGE MARKET?

A GTM RESEARCH BRIEF

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On April 15, Tesla Motors (Tesla) filed its 14A (definitive proxy statement) document. While most of the document is about mundane, but necessary, business matters, the document sheds light on Tesla's energy storage business, particularly its partnership with SolarCity.

In the section on 'Certain Relationships and Related Party Transactions — Related Party Transactions — SolarCity Agreements,' Tesla provides details on recognized revenues from previous-generation and second-generation energy storage products to SolarCity.

Pertinent details on agreements with SolarCity that resulted in revenues recognized are as follows:

- *During fiscal year 2015, we recognized approximately **\$2.4 million** in revenue for sales of previous-generation energy storage products to SolarCity pursuant to such purchase orders.*
- *In April 2013, we entered into a supply agreement with SolarCity under which we supplied SolarCity with previous-generation energy storage products. We recognized approximately **\$0.7 million** in revenue from SolarCity during fiscal year 2015 for energy storage products we supplied to SolarCity pursuant to this supply agreement.*
- *In December 2015, we entered into a master supply agreement with SolarCity that governs SolarCity's purchase of second-generation energy storage systems from us pursuant to purchase orders issued during 2015 []. We recognized approximately **\$4.9 million** in revenue from SolarCity during fiscal year 2015 for sales of energy storage products governed by this master supply agreement, ...*

Now there are of course, uncertainties on actual contractual prices, and what exactly is meant by "sales of ... energy storage products." If we assume that the recognized revenues only include Powerwall and Powerpack sales, we can estimate the megawatt-hours Tesla sold to SolarCity in 2015. So let's dig into these numbers. The previous-generation systems were likely pricier, as those systems were earlier on the cost trajectory, while the second-generation systems are likely to be priced similar to the Powerwall (\$430/kWh for 6.4 kWh system) and Powerpack (\$250/kWh) prices. In order to compute megawatt-hours of sales, we assume about 5% discount that such higher-volume, long-term agreements enable.

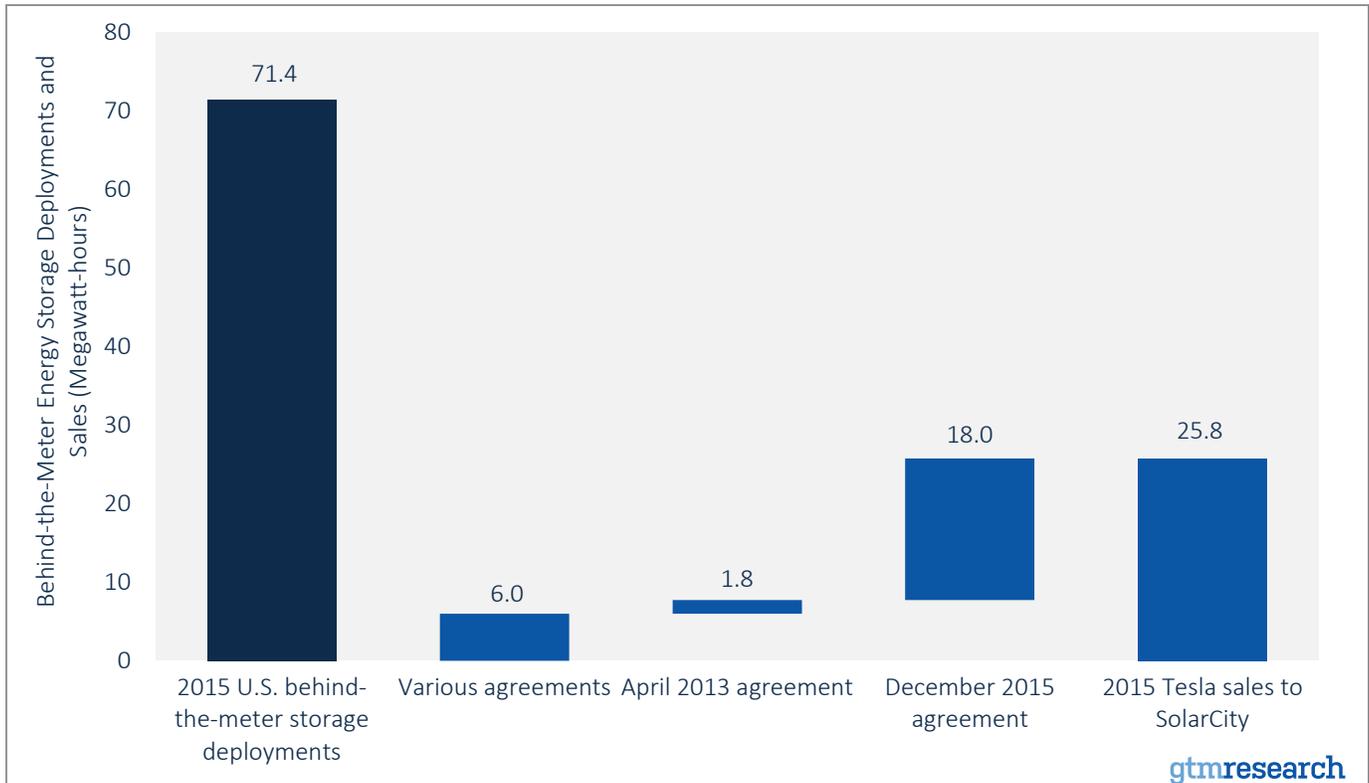
\$2.4 million revenue → \$2.4 million/[\$400/kWh] for previous-generation storage → 6 MWh

\$0.7 million revenue → \$0.7 million/[\$400/kWh] for previous-generation storage → 1.8 MWh

\$4.9 million revenue → \$4.9 million/[\$270/kWh] weighted average for second-generation storage → 18 MWh

For the second-generation storage products, GTM Research assumed a conservative 80%-20% split between the non-residential and residential segments. As a result, we estimate roughly **26 MWh of storage sales to SolarCity in 2015.**

Figure 1.1 2015 U.S. Behind-the-Meter Storage Deployments and Tesla 2015 Sales to SolarCity



Source: GTM Research Based on Recognized Revenues Disclosed by Tesla Motors

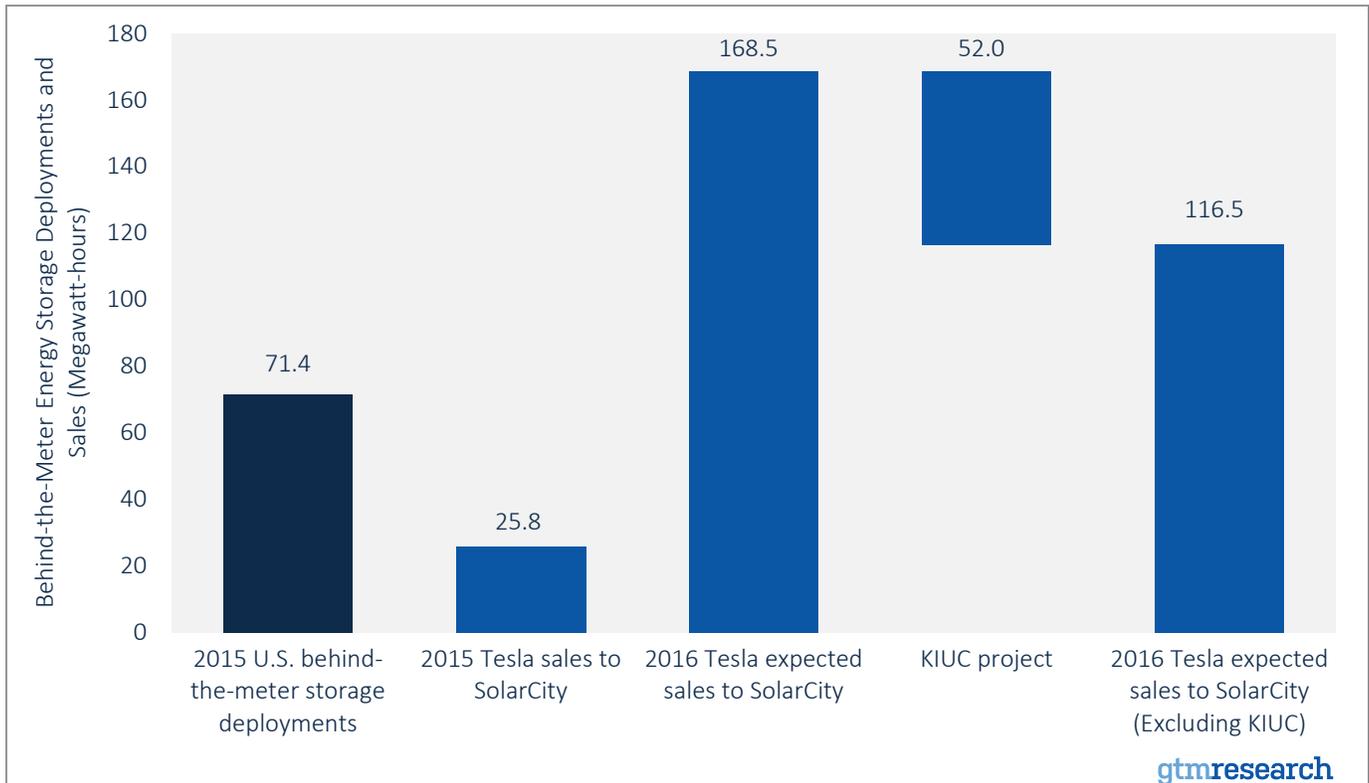
It’s no surprise that Tesla’s recognized revenues from SolarCity are 36% of the total behind-the-meter storage deployments in 2015. This is evident just by examining Tesla’s share of SGIP deployments in California. But here comes the kicker. In the same 14A filing, Tesla states:

- *In December 2015, we entered into a master supply agreement with SolarCity that governs SolarCity’s purchase of second-generation energy storage systems from us pursuant to purchase orders issued during 2015, and creates a framework under which SolarCity may purchase further Tesla energy storage products in 2016. [] and anticipate recognizing approximately **\$44.0 million** in such revenues during fiscal year 2016.*

Tesla expects recognized revenues from SolarCity in 2016 to increase from a total of \$8.0 million to \$44.0 million - 450% annual growth. The numbers are all the more astonishing if we factor potentially lower unit prices (in \$/kWh).

Importantly, SolarCity announced earlier this year that it selected Tesla to provide batteries for its 13 MW solar PV plus 13 MW/52 MWh storage project in KIUC territory in Hawaii. In our analysis, GTM Research excluded the KIUC project, and only considered expected revenues from the remaining, likely behind-the-meter, projects with a similar 80%-20% split of non-residential and residential segments. SolarCity may have some other large front-of-meter project that is yet to be announced, but for this analysis we assume that the rest of Tesla’s energy storage sales to SolarCity will be deployed for behind-the-meter applications.

Figure 1.2 2015 U.S. Behind-the-Meter Storage Deployments and Tesla Expected 2016 Sales to SolarCity



Source: GTM Research Based on Recognized Revenues Disclosed by Tesla Motors

Based on this estimate, Tesla’s expected 2016 sales to SolarCity, (just one of its energy storage customers, albeit likely the largest one) to be for 116 MWh. That’s 60% larger than the entire 2015 U.S. behind-the-meter energy storage market.

**Figure 1.3 Recognized Revenues and Estimated Energy Storage Sales to SolarCity**

Recognized Revenues	Year Recognized	Est. Average Price (\$/kWh)	Est. Sales (Megawatt-hours)
\$2.4 Million	2015	\$400	6 (Previous-Gen)
\$0.7 Million	2015	\$400	1.8 (Previous-Gen)
\$4.9 Million	2015	\$272	18.0 (Second-Gen)
\$44.0 Million	2016E	\$261	168.5 E (Second-Gen Total)
\$31.6 Million	2016E	\$272	116.5 E (Second-Gen BTM)

Source: GTM Research Based on Recognized Revenues Disclosed by Tesla Motors

These are, of course, just estimates based on projected revenue. Regardless, they indicate a behind-the-meter energy storage market poised for major growth in the U.S.

*The U.S. energy storage deployments are based on [GTM Research/ESA U.S. Energy Storage Monitor](#). Delivered quarterly, the U.S. Energy Storage Monitor provides the industry's only comprehensive research on energy storage markets, deployments, policies, regulations and financing in the U.S. Contact [sales@gtmresearch.com](mailto:sales@gtmresearch.com) for details.*

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