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The Energy Generation Segment

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Abstract

In this report, it was developed a scenario analysis of one issue that might impact Tesla's Valuation conclusions: the elimination of the Energy Generation Segment. Therefore, to understand the firm's performance if the segment does not end, three scenarios were conducted by changing the company's market share to 1%, 0.5% and 0.128%. Finally, the results achieved were compared with the ones in the official report. This segment represents a residual part of the company's sales and the impact has been lower year after year. This scenario analysis shows that segment elimination is the best option for the firm in the long run.

Keywords: Tesla, Inc.; Tesla Energy Generation; Tesla Energy Deployment; Tesla Solar Panels

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Tesla's revenues impact on the Energy Generation Segment

Introduction

The aim of this report is to present a deeper analysis concerning a significant topic that, according to our main report conclusion, will help Tesla to compromise its future performance: the end of the Energy Generation Segment.

According to our analysis, it is expected that Tesla's Energy Generation Segment will end by 2023. However, it might be possible and credible that Tesla overcomes the problems that is facing.

Competitors Analysis

After deeply analyzing its competitor's value proposition it is possible to conclude that currently they do not present such a higher competitive advantage by comparing the products they deliver and the Tesla's ones. As it is known from the main report, its main competitors in the solar panels segment are Vivint Solar, SunRun, Trinity Solar and SunPower. All of them produce the same type of products, almost with the same characteristics, the customer experience is about the same and the payment methods do not differentiate between them. However, they are all very mature, solid, and very customer-centric. Therefore, what makes Tesla beyond some of them is the lack of customer experience and attractiveness (in which include monitoring, fast installation, customer design, etc.) as the company is focusing its main sources in its main business segment – The Automotive Sector. Therefore, it might be possible that if Tesla develops a strategy to aggressively integrate the energy generation market having in mind in acquiring new customers in this segment, this could probably be a good source of revenue, instead of an end.

Market Size

As mentioned before, the solar PV capacity is expected to grow from 128 GW in 2018 to 322 GW in 2030, meaning a compounded annual growth rate (CAGR) of, approximately, 7.99. Almost all the growth is estimated to come from China, India and other Asia-Pacific countries. Therefore, the company should take advantage of the new Gigafactories and bet aggressively on new markets as the US is becoming very saturated and competition is very strong. In recent years, China and the US have the largest Solar PV market, with a cumulative installed capacity

of 35% and 13%, respectively¹. In the future, the path is expected to remain the same but new regions are going to be important such as India, Japan and Germany.

Indeed, one of the main reasons presented by Tesla to decrease its market share is this segment it the difficulty to capture customers as this is a process very expensive. However, this might be an effort that makes sense if it keeps the company in the market.

Scenario Analysis

Hence, having in consideration that Tesla can approach new markets and catch up new clients in the existing one, I am going to develop 3 scenarios: first I am going to assume that its market share will increase 1% a year, second 0,5% and third that it will remain the same as the percentage predicted in 2019 (0,128%). Finally, I am going to compare will the values obtained in the official equity research.

First, it is important to highlight that we obtained Tesla's market share based on the World Annual Solar PV Market in each past year and the average quarterly MW deliveries by Tesla in the same year, and obtained 0.527% in 2017, 0.318% in 2018 and 0.128% in 2019.

Scenario 1:

In order to capture the benefit of acquiring new customers and approaching new markets, I assume a 1% increase in Tesla's market share each year from 2020 to 2030. It was considered a small market share even in the best-case scenario due to the strong competition present in the new markets and having in consideration the rapid market growth in each year. Therefore, it was obtained a market share of 1.1% in 2020 and 11% in 2030. Next, in order to estimate Tesla's annual deliveries, we multiplied tesla's market share by MW generated each year in the Solar PV Market. Hence, it was possible to conclude that the company's annual deliveries would be, approximately, 1,617 MW in 2020 and 35,840 MW in 2030. In terms of units, the energy capacity of each product was considered. Therefore, in 2020 would be delivered 53,909 Solarglass roofs, 71,309 residential solar panels and 4,043 commercial solar panels, while in 2030, Tesla will deliver 1,913,482 Solarglass Roofs, 1,578,680 residential solar panels and 89,511 commercial solar panels.

When it comes to revenues, considering the forecasted prices already explained in the report, the Energy Generation Segment will be able to do approximately, \$ 3B in 2020, \$ 16B in 2023 and \$ 86B in 2030.

¹ 2019. "China to lead global growth of solar photovoltaic capacity to 2030". Power Technology

	2020	2030
MW Deliveries	1617	35840
Solarglass Roof (units)	53,909	1,913,482
Residential Solar Panel (units)	71,309	1,578,689
Commercial Solar Panel (units)	4,043	89,511
Revenues (\$B)	3	86

Exhibit 1: Scenario 1 outcome

Scenario 2:

In this scenario, Tesla's market share will increase 0,5% in each year from 2020 to 2030. Therefore, it was obtained a market share of approximately 0.63% in 2020 and 5,63% in 2030. It was possible to conclude that the company's annual deliveries would be, approximately, 900 MW in 2020 and 18,108 MW in 2030. In terms of units, the energy capacity of each product was considered. Therefore, in 2020 would be delivered 30,016 Solarglass roofs, 39,704 residential solar panels and 2,251 commercial solar panels, while in 2030, Tesla will deliver 603,612 Solarglass Roofs, 798,428 residential solar panels and 45,271 commercial solar panels. Regarding revenues, the Energy Generation Segment will be able to do approximately, \$ 2B in 2020, \$ 6B in 2023 and \$ 43B in 2030.

	2020	2030
MW Deliveries	900	18108
Solarglass Roof (units)	30,016	603,612
Residential Solar Panel (units)	39,704	798,428
Commercial Solar Panel (units)	2,251	45,271
Revenues (\$B)	2	43

Exhibit 2: Scenario 2 outcome

Scenario 3:

Now, I am going to assume that Tesla's market share will remain very low and the same as in 2019, which is 0,128%.

Hence, it was possible to conclude that the company's annual deliveries would be, approximately, 183 MW in 2020 and 412 MW in 2030. In terms of units, in 2020 Tesla would deliver 6,123 Solarglass roofs, 8,099 residential solar panels and 459 commercial solar panels, while in 2030, would be delivered 13,741 Solarglass Roofs, 18,176 residential solar panels and 1,031 commercial solar panels.

When it comes to revenues, the Energy Generation Segment will be able to do approximately, \$ 421 M in 2020, \$ 524 M in 2023 and \$ 1B in 2030.

	2020	2030
MW Deliveries	183	412
Solarglass Roof (units)	6,123	13,741
Residential Solar Panel (units)	8,099	18,176
Commercial Solar Panel (units)	459	1,031
Revenues (\$B)	0.42	1

Exhibit 3: Scenario 3 outcome

Conclusion:

When analyzing the impact in the core result of the 3 scenarios and the one presented in the official report, it is possible to conclude that as the market share increases, the revenue increases in a great portion. However, if we analyze the core result in the long run, we can conclude that the impact of each in the core result is more positive as the shares reduce. Hence, the 1% increase in the market share, able to achieve a core result of \$ (661M) in 2020 and \$ 2B in 2030. In the second case, with a market share of 0.05%, Tesla makes a core result of \$ (628M) in 2020 and \$ 3.4B in 2030. In the third case, the company can generate a core result of \$ (595M) in 2020 and \$ 4.9B in 2030. Finally, considering the official scenario used, Tesla's core result in \$ (591M) in 2020 and \$ 5B in 2030. Although the first two cases would project good results for the company in the short run, in the long run, this segment is damaging the company's performance due to the high risks associated. Taking the latest 2 cases mentioned, it is feasible to conclude that this segment does not have a relevant impact in the company's long-term results and therefore the option to end the segment was the best one.

Core Result (\$B)	2020	2030
Scenario 1	-0.66	2
Scenario 2	-0.62	3.4
Scenario 3	-9.95	4.9
Official Report	-5.91	5

Exhibit 4: Core Result Effect