



Tesla (TSLA.O/TSLA US)

Mid- to long-term competitiveness & outlook unchanged

Outperform · Maintained

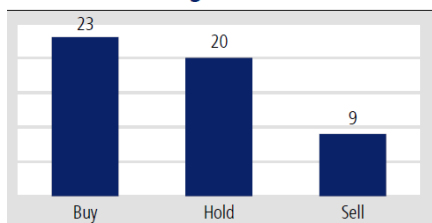
Price as of October 2 (US\$)	242.9
3M target price (US\$)	259
12M target price (US\$)	309
Previous target price (US\$)	309
Unchanged (%)	0
Upside (%)	27.3

Trading data

Mkt cap (US\$bn)	770.3
Outstanding shares (mn)	3,174
Institutional ownership (%)	47.3
3M avg. daily trading (mn)	115.5
52-week trading range (US\$)	101.8-299.3

Performance	3M	6M	12M
Absolute (%)	-16.7	34.4	9.3
Relative (%)	-11.2	30.5	-7.5

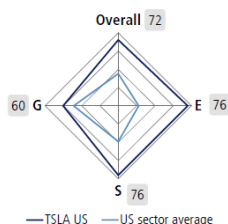
Consensus rating



12M street target price	Low	Average	High
Target price (US\$)	24	259	400
Return potential (%)	(90.0)	6.6	64.8

Source: Bloomberg

ESG score card



Source: Refinitiv, KGI securities

Event

Tesla reported 3Q23 non-GAAP EPS of US\$0.66, down 27% QoQ and 37% YoY. Shares fell 4% in after-market trading.

Impact

3Q23 EPS missed, but we believe this will be near-term bottom. 3Q23 revenue arrived down 6% QoQ at US\$23.4bn, of which non-automotive revenue grew 2% QoQ to 16% of total revenue. Automotive sales dropped 8% QoQ to US\$19.6bn, reflecting a 7% QoQ decline in EV deliveries and a 3% QoQ drop in vehicle ASP to US\$43.8k. All of this contributed to an automotive gross margin decline of 0.5ppts QoQ to 18.7% in 3Q23, despite production cost per vehicle further falling to US\$37,500. Record-high energy storage deployment and a greater sales weighting of Megapack helped boost energy generation and storage business gross margin by 6.0ppts QoQ to 24.4%. As operating expenses surged 13% QoQ to US\$2.41bn on Cybertruck production ramp-up and AI investment, operating margin dropped 2.1ppts QoQ to 7.6%. The firm continued to generate positive free cash flow of US\$0.8bn, with cash-on-hand of US\$26.1bn at end-3Q23.

2023 vehicle delivery target of 1.8mn units unchanged; cost reduction & AI investment are top priorities amid macro uncertainties. Tesla reiterates 2023 vehicle delivery target of 1.8mn units, suggesting production and deliveries will recover in 4Q23. Management notes challenges amid macro uncertainties and a high interest rate environment, hinting capacity expansion will not be a top priority. Instead, the firm will continue to focus on cost reduction, AI investment, Cybertruck production ramp-up, and next generation platform development. Management guides Cybertruck delivery will begin in 4Q23, but notes it could take 18 months for Cybertruck to reach mass production scale, for possible volume production of 250k units in 2025, versus 1mn-plus orders.

Revise down 2023-24 EPS to respective US\$3.15 & US\$4.00, on higher R&D expenses, but maintain 2025-26 EPS at US\$6.76 & US\$8.69. We maintain our 2024 EV delivery forecast of 2.24mn units, up 24%, with delivery of less than 50k Cybertruck units. We decrease 2024 sales of US\$117.1bn, up 22% YoY, and trim operating margin by 1.8ppts to 11.6%, primarily on higher R&D expenses, resulting in EPS cut to US\$4.00, up 27% YoY from US\$3.15 in 2023. We reiterate our positive mid- to long-term business outlook as we believe the firm's ongoing cost reduction efforts, investment in AI, and next-generation platform will sustain its leadership in EV and autonomous driving. With Cybertruck set to reach mass production and next-generation EV models likely to launch in 2025, as well as advancements in the FSD system, we project strong financial growth from 2025 onward. Thus, we maintain respective 2025-26 EPS of US\$6.76 and US\$8.69.

Valuation & Action

We maintain Outperform and our 12M target price of US\$309, based on 40x 2025-26 average EPS. We reiterate our positive outlook on Tesla's long-term growth and recommend accumulating shares on near-term headwinds.

Risks

Aggressive pricing strategy weighs on near-term profitability.

Key financials

	Dec-22A	Dec-23F	Dec-24F	Dec-25F	Dec-26F
Revenue (US\$mn)	81,462	96,217	117,079	154,255	185,833
Gross profit (US\$mn)	20,853	17,808	23,530	35,563	45,338
Operating profit (US\$mn)	13,656	9,075	13,613	25,081	32,330
EBITDA (US\$mn)	17,403	13,795	13,961	57,305	63,041
Net profit (US\$mn)	14,116	10,983	13,982	23,604	30,358
EPS (US\$)	4.07	3.15	4.00	6.76	8.69
Revenue growth (%)	51.4	18.1	21.7	31.8	20.5
EPS growth (%)	(40.0)	(22.5)	26.9	68.8	28.6
Gross margin (%)	25.6	18.5	20.1	23.1	24.4
Operating margin (%)	16.8	9.4	11.6	16.3	17.4
EBITDA margin (%)	21.4	14.3	11.9	37.1	33.9
Net debt to equity (%)	Net cash	Net cash	Net cash	Net cash	Net cash
Return on average equity (%)	27.4	16.2	18.0	23.7	23.3

Source: Company data, KGI Research estimates

Earnings call – Key takeaways**3Q23 results**

- Revenue arrived at US\$23.4bn, down 6 % QoQ, but up 9% YoY.
- Gross margin arrived at 17.9%, down 0.3ppt QoQ and 7.2ppts YoY.
- GAAP operating margin fell 2.1ppts QoQ and 9.6ppts YoY to 7.6%.
- SBC was US\$465mn.
- Non-GAAP diluted EPS arrived at US\$0.66, while GAAP basic EPS was US\$0.58.
- 3Q23 operational and financial performance was impacted by planned factory upgrades.
- Cost per vehicle fell to approximately US\$37,500, partially due to falling material and freight costs.
- Vehicle cost reduction is the firm's top priority.
- The firm will continue to make vehicles more affordable.

Outlook

- Reiterated target of 1.8mn deliveries in 2023.
- R&D expenses continue to rise due to Cybertruck prototype fabrication and pilot production testing, as well as AI technology, such as full-time driving, Optimus, and Dojo.
- Capex and R&D expenses will continue to grow in the near-term for AI development.

Automotive

- 3Q23 deliveries: 419,074 units of Model 3 and Model Y, and 15,985 units of Model S and Model X; 17,423 units were subject to leasing.
- 3Q23 production: 416,800 units for Model 3 and Model Y, and 13,688 units of Model S and Model X.
- Announced a partner vehicle leasing program in the US. Buyers can get a standard range Model Y for \$399 a month.
- Tesla-designed radar experiment is in the Model S and Model X, but more time will be needed to see if the radar is useful.
- There is no plan to integrate radar into Model 3 and Model Y.
- As interest rates in the US have risen substantially, Tesla has had to adjust vehicle prices to maintain monthly cost parity.

Cybertruck

- It has been difficult to achieve volume production, positive cash flow, and make prices affordable near-term.
- Will need 12-18 months to achieve mass production and become a significant positive cash flow contributor.
- Deliveries to reach 250k units per year by 2025.
- Demand is strong, with over 1.0mn Cybertruck pre-orders.

AI software & hardware

- Vehicles driven over 0.5bn miles with FSD beta, and the number is growing rapidly.
- Even though the firm has lowered the price of FSD, the price will increase proportionate to its value over time.
- Need more time to make FSD available outside the US.
- Completed a 10,000 GPU cluster of H100s for faster operation.

- Training is the fundamental limiting factor on progress of FSD and vehicle autonomy.
- Will continue to invest significantly in AI development.

Energy storage

- Energy and service business contributed over US\$0.5bn to 3Q23 profit.
- Deployed a record 4GWh of energy storage products in 3Q23.
- Business keeps growing and has become the highest margin business.

Batteries

- 4680 cell production in Texas increased 40% QoQ.
- 4680 cell quality is high and scrap is down 40% QoQ.
- With increased production volume and yield improvement, cell costs have fallen MoM in 3Q23.
- Production of Cybertruck cells, which have 10% higher energy density than those of the Model Y, has begun on line two in Texas.
- In 4Q23, the Texas 4680 facility will be entirely converted to build Cybertruck cells, and the firm will focus on ramping-up all four lines in Phase 1 over the next three quarters, aiming to start production in late 2024.
- Phase 2 of the Texas 4680 facility is currently under construction.

Expansion

- Expects production volume to increase and costs to decrease due to factory upgrades, but will also ramp-up new products, such as the Cybertruck.
- Will build a factory in Mexico, but the timeline depends on the macro environment. Expects Phase 1 of construction to start in 2024.

Figure 1: Breakdown of 3Q23 results and 4Q23 forecast revisions vs. consensus

US\$m	3Q23						4Q23F							
	Actual	KGI	Diff. (%)	QoQ (%)	YoY (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	QoQ (%)	YoY (%)	Consensus	Diff. (%)
Revenue	23,350	23,235	0.5	(6.3)	8.8	24,057	(2.9)	24,611	25,138	(2.1)	5.4	1.2	26,193	(6.0)
Gross profit	4,178	4,026	3.8	(7.8)	(22.4)	4,339	(3.7)	4,586	4,559	0.6	9.8	(20.6)	5,063	(9.4)
Operating profit	1,764	1,982	(11.0)	(26.5)	(52.2)	2,157	(18.2)	2,248	2,448	(8.2)	27.4	(42.4)	2,765	(18.7)
Net income	2,318	2,418	(4.2)	(26.4)	(36.6)	2,563	(9.6)	2,586	2,809	(7.9)	11.5	(37.6)	3,032	(14.7)
EPS (US\$)	0.66	0.70	(4.6)	(26.7)	(37.0)	0.74	(9.7)	0.74	0.81	(8.3)	11.5	(38.0)	0.87	(14.5)
Gross margin (%)	17.9	17.3	0.6 ppts	(0.3) ppts	(7.2) ppts	18.0	(0.1) ppts	18.6	18.1	0.5 ppts	0.7 ppts	(5.1) ppts	19.3	(0.7) ppts
Op. margin (%)	7.6	8.5	(1.0) ppts	(2.1) ppts	(9.6) ppts	9.0	(1.4) ppts	9.1	9.7	(0.6) ppts	1.6 ppts	(6.9) ppts	10.6	(1.4) ppts
Net margin (%)	9.9	10.4	(0.5) ppts	(2.7) ppts	(7.1) ppts	10.7	(0.7) ppts	10.5	11.2	(0.7) ppts	0.6 ppts	(6.5) ppts	11.6	(1.1) ppts

Source: Bloomberg; KGI Research

Figure 2: Breakdown of 2023-25 forecast revisions vs. consensus

US\$m	2023F						2024F						2025F					
	Revision	Previous	Chg. (%)	YoY (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	YoY (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	YoY (%)	Consensus	Diff. (%)
Revenue	96,217	96,629	(0.4)	18.1	99,158	(3.0)	117,079	119,360	(1.9)	21.7	124,530	(6.0)	154,255	155,781	(1.0)	31.8	154,735	(0.3)
Gross profit	17,808	17,629	1.0	(14.6)	18,545	(4.0)	23,530	25,388	(7.3)	32.1	25,729	(8.5)	35,563	35,585	(0.1)	51.1	33,438	6.4
Operating profit	9,075	9,492	(4.4)	(33.5)	10,206	(11.1)	13,613	16,075	(15.3)	50.0	16,209	(16.0)	25,081	24,680	1.6	84.2	22,395	12.0
Net income	10,988	11,311	(2.9)	(22.3)	11,537	(4.8)	13,982	16,276	(14.1)	27.3	15,746	(11.2)	23,604	23,513	0.4	68.8	21,136	11.7
EPS (US\$)	3.15	3.25	(3.1)	(22.5)	3.33	(5.3)	4.00	4.68	(14.5)	26.9	4.56	(12.3)	6.76	6.76	(0.0)	68.8	5.87	15.0
Gross margin (%)	18.5	18.2	0.3 ppts	(7.1) ppts	18.7	(0.2) ppts	20.1	21.3	(1.2) ppts	1.6 ppts	20.7	(0.6) ppts	23.1	22.8	0.2 ppts	3.0 ppts	21.6	1.4 ppts
Op. margin (%)	9.4	9.8	(0.4) ppts	(7.3) ppts	10.3	(0.9) ppts	11.6	13.5	(1.8) ppts	2.2 ppts	13.0	(1.4) ppts	16.3	15.8	0.4 ppts	4.6 ppts	14.5	1.8 ppts
Net margin (%)	11.4	11.7	(0.3) ppts	(5.9) ppts	11.6	(0.2) ppts	11.9	13.6	(1.7) ppts	0.5 ppts	12.6	(0.7) ppts	15.3	15.1	0.2 ppts	3.4 ppts	13.7	1.6 ppts

Source: Bloomberg; KGI Research

Figure 3: Breakdown of 2023-25 delivery forecast revisions

Unit	2023F				2024F				2025F			
	Revision	Previous	Chg. (%)	YoY (%)	Revision	Previous	Chg. (%)	YoY (%)	Revision	Previous	Chg. (%)	YoY (%)
Total	1,797,774	1,830,465	(1.8)	36.8	2,235,300	2,336,300	(4.3)	24.3	2,953,000	3,073,160	(3.9)	32.1
Model S/X	64,405	67,820	(5.0)	(3.4)	74,500	75,500	(1.3)	15.7	74,000	74,000	0.0	(0.7)
Model 3/Y	1,733,169	1,762,095	(1.6)	39.0	2,118,000	2,170,000	(2.4)	22.2	2,577,000	2,691,200	(4.2)	21.7
Cybertruck	100	350	(71.4)	-	42,000	73,000	(42.5)	41900.0	205,000	230,000	(10.9)	388.1
Semi	100	200	(50.0)	-	800	2,800	(71.4)	700.0	2,000	6,960	(71.3)	150.0

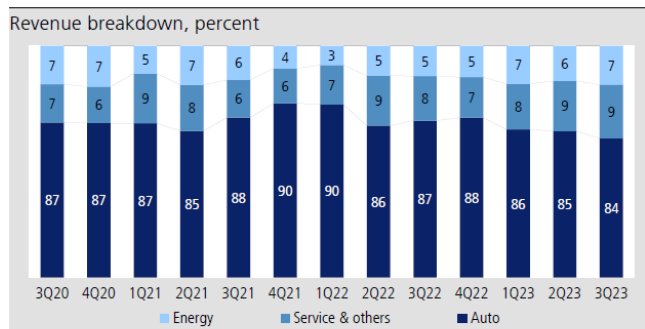
Source: KGI Research

Figure 4: Breakdown of auto business forecasts

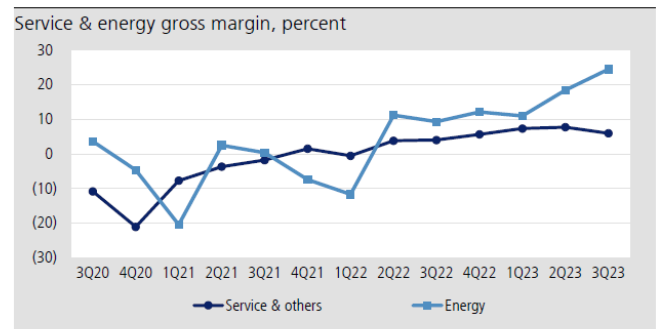
	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23F	1Q24F	2Q24F	3Q24F	4Q24F
EV shipments (k units)	184.9	201.3	241.4	308.7	310.0	254.7	343.8	405.3	423.0	466.1	435.1	473.6	492.5	544.0	584.3	614.5
Automotive revenue (US\$m)	8,484	9,854	11,778	15,653	16,182	14,258	18,406	20,840	19,442	20,986	19,071	20,276	21,199	23,491	25,477	26,899
ASP (US\$)	45.9	49.0	48.8	50.7	52.2	56.0	53.5	51.4	46.0	45.0	43.8	42.8	43.0	43.2	43.6	43.8
Cost per vehicle (US\$)	35.8	36.3	34.7	35.9	36.5	41.3	39.2	38.9	37.2	36.9	36.7	35.2	34.9	35.0	34.7	34.3
Automotive gross margin (%)	22.0	25.8	28.8	29.2	30.0	26.2	26.8	24.3	19.0	18.1	16.3	17.7	18.8	19.0	20.5	21.7

Note: All data excludes regulatory credits

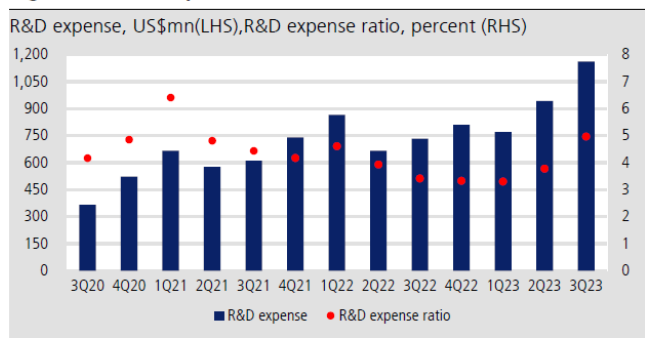
Source: Company data; KGI Research

Figure 5: Revenue breakdown


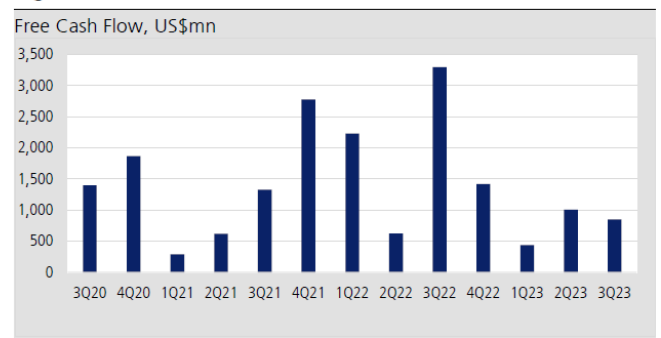
Source: Company data; KGI Research

Figure 6: Service & Energy gross margin


Source: Company data; KGI Research

Figure 7: R&D Expense


Source: Company data; KGI Research

Figure 8: Free cash flow


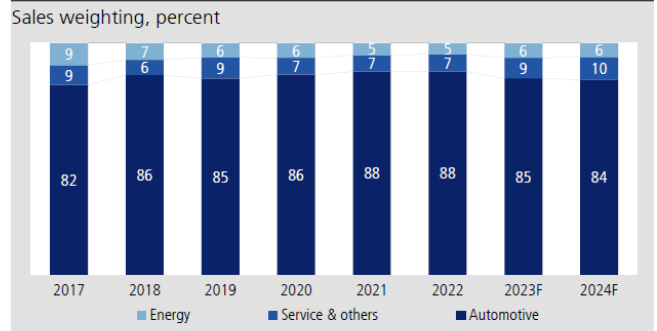
Source: Company data; KGI Research

Figure 9: Company profile

Established in 2003, Tesla was a dedicated electric vehicle maker before entering the solar business after acquiring SolarCity (US) in November 2016. As of 2022, Tesla was the second-largest EV vendor worldwide with sales of 1.31mn units, representing a 13% EV market share. Headquartered in Austin, Texas, Tesla opened its first Gigafactory in Fremont, California in 2010, and started its global expansion in 2019. Gigafactory Shanghai commenced deliveries in January 2020, while two more factories, in Berlin and Texas, started deliveries in March and April last year, respectively.

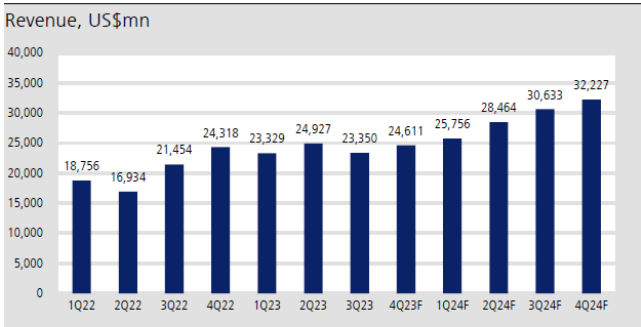
Source: Company data; KGI Research

Figure 10 Sales mix



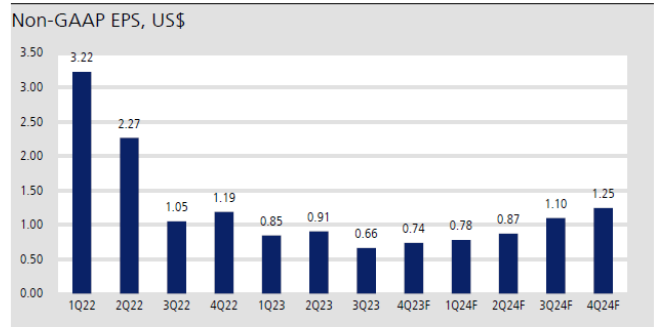
Source: Company data; KGI Research

Figure 11: Revenue



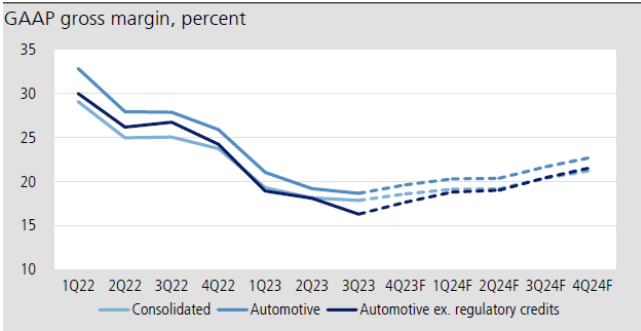
Source: Company data; KGI Research

Figure 12: Non-GAAP EPS



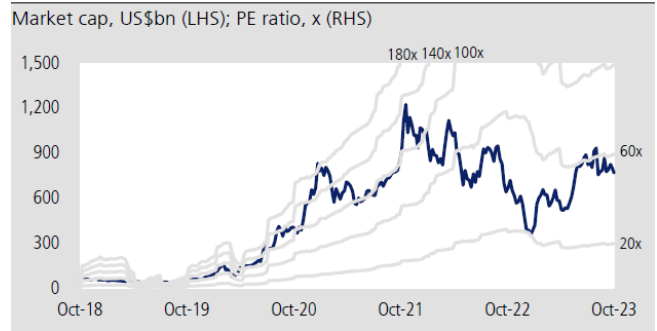
Source: Company data; KGI Research

Figure 13: GAAP gross margin



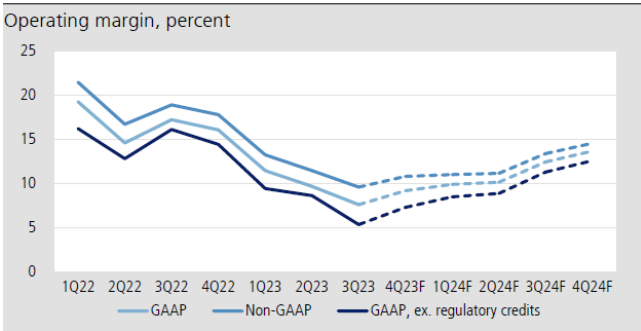
Source: Company data; KGI Research

Figure 14: 12M forward PE band



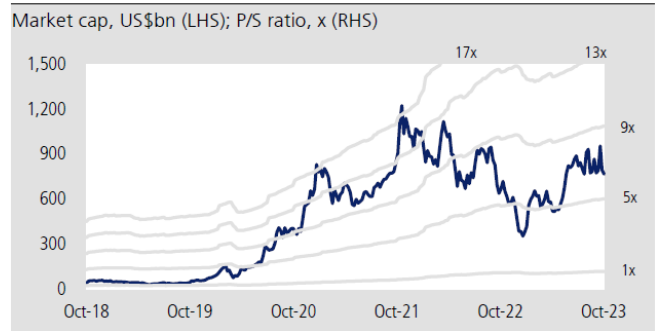
Source: Bloomberg; KGI Research

Figure 15: Operating margin



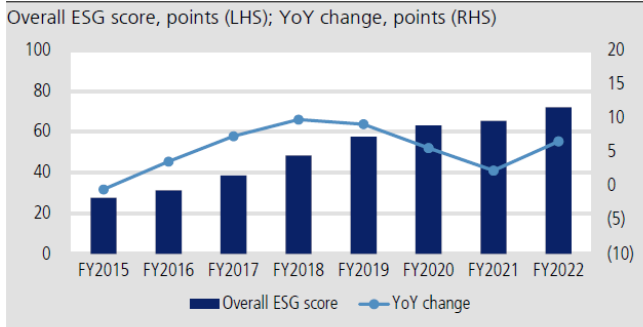
Source: Company data; KGI Research

Figure 16: 12M forward P/S band



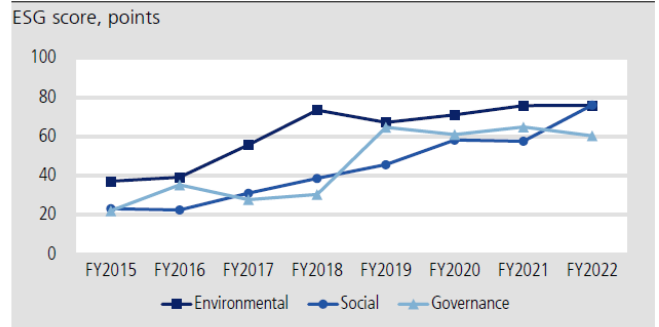
Source: Bloomberg; KGI Research

Figure 17: Overall ESG score



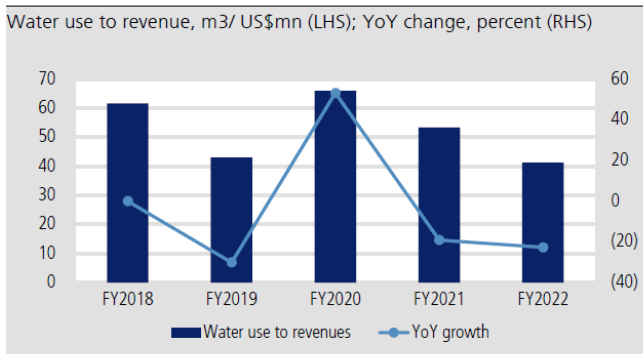
Source: Refinitiv; KGI Research; Company data

Figure 18: ESG score by category



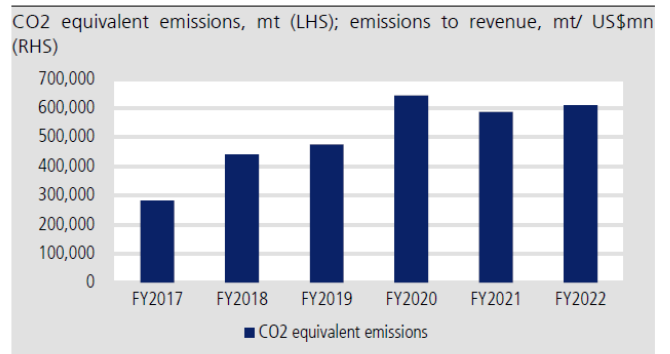
Source: Refinitiv; KGI Research; Company data

Figure 19: Water use to revenue



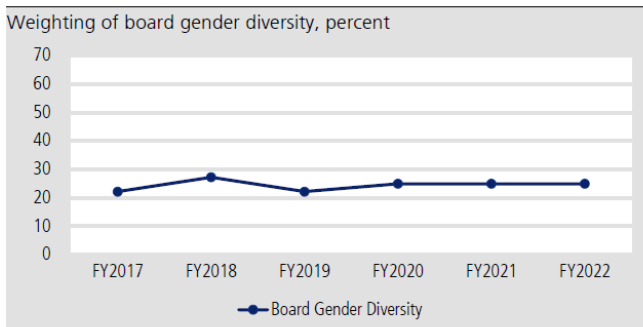
Source: Refinitiv; KGI Research; Company data

Figure 20: CO2 equivalent emissions



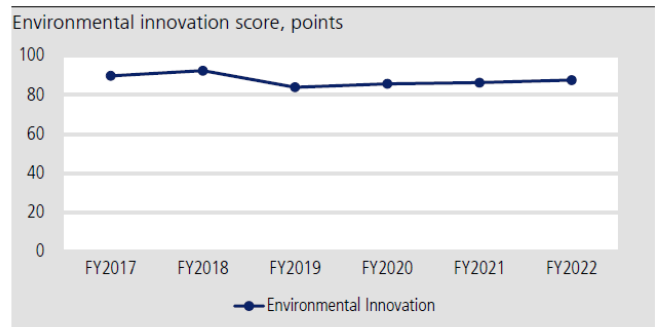
Source: Refinitiv; KGI Research; Company data

Figure 21: Board gender diversity



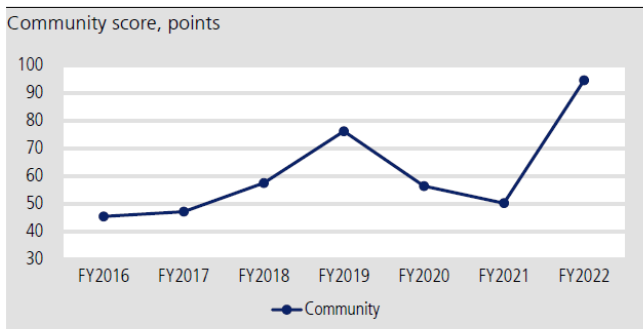
Source: Refinitiv; KGI Research; Company data

Figure 22: Environmental innovation



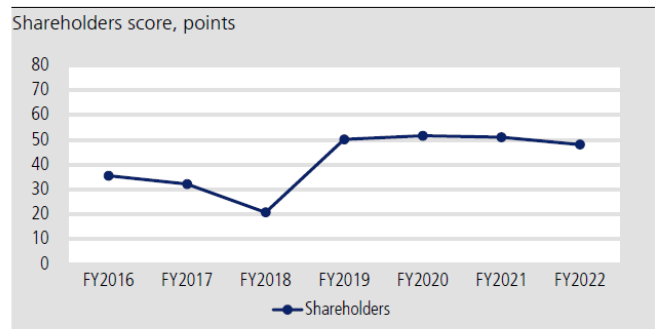
Source: Refinitiv; KGI Research; Company data

Figure 23: Community



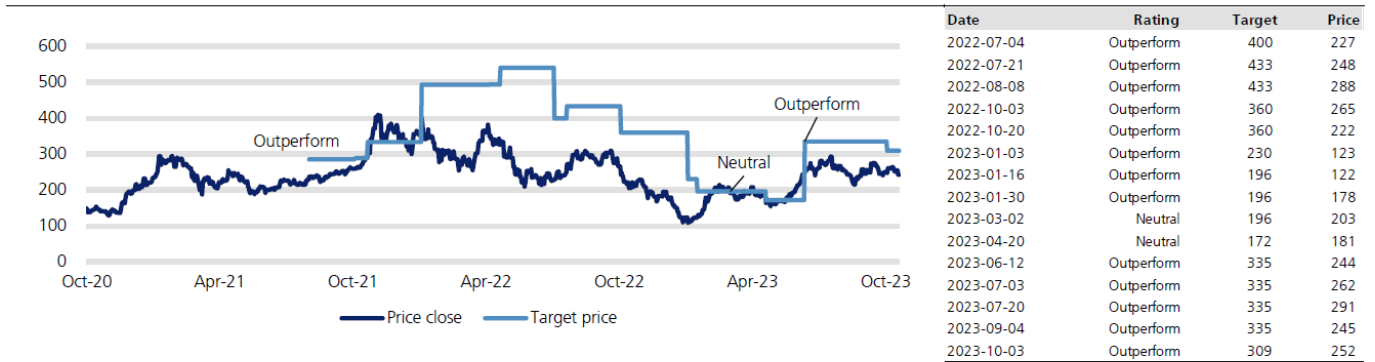
Source: Refinitiv; KGI Research; Company data

Figure 24: Shareholders



Source: Refinitiv; KGI Research; Company data

Item	Definition
Energy use	<p>Total direct and indirect energy consumption in gigajoules.</p> <ul style="list-style-type: none"> - the total amount of energy that has been consumed within the boundaries of the company's operations - total energy use = total direct energy consumption + indirect energy consumption - purchased energy and produced energy are included in total energy use - for utilities, transmission/ grid loss as part of its business activities is considered as total energy consumed and data does not consider electricity produced to answer energy use (utility company produces to sell) - for utilities, raw materials such as coal, gas or nuclear used in the production of energy are not considered under 'total energy use'
Renewable energy purchased	<p>Total primary renewable energy purchased in gigajoules.</p> <ul style="list-style-type: none"> - energy consumed by the company from various sources and among the purchased energy, how much energy is renewable in nature (solar, wind, hydro, biomass, geothermal) are in scope - if there is no evidence that renewable energy is produced by the company, then we consider the reported energy figure as renewable energy purchased
Renewable energy use ratio	Renewable energy to total energy used
CO2 equivalent emissions	<p>Direct CO2 and CO2 equivalent emissions in metric tons.</p> <ul style="list-style-type: none"> - direct emissions from sources that are owned or controlled by the company (scope 1 emissions) - following gases are relevant: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorinated compound (PFCS), sulfur hexafluoride (SF6), nitrogen trifluoride (NF3)
CO2 equivalent emissions to sales	<p>Direct CO2 and CO2 equivalent emissions (metric tons) to sales (NT\$m)</p> <ul style="list-style-type: none"> - direct emissions from sources that are owned or controlled by the company (scope 1 emissions) - following gases are relevant: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorinated compound (PFCS), sulfur hexafluoride (SF6), nitrogen trifluoride (NF3)
Waste total	<p>Total amount of waste produced in metric tons.</p> <ul style="list-style-type: none"> - total waste = non-hazardous waste + hazardous waste - only solid waste is taken into consideration, exceptionally if liquid waste is reported in metric tons, then we do the summation to derive total including liquid waste - for sectors like mining, oil & gas, waste generation like tailings, waste rock, coal and fly ash are also considered
Waste recycling ratio	<p>The waste recycling ratio as reported by the company.</p> <ul style="list-style-type: none"> - waste recycling ratio = waste recycled/total waste*100 - waste to energy or waste incinerated with energy recovery are considered as waste recycled - waste recovered via composting is considered as recycled waste
Water withdrawal total	<p>Total water withdrawal in cubic meters.</p> <ul style="list-style-type: none"> - the total volume of water withdrawn from any water source that was either withdrawn directly by the reporting organization or through intermediaries such as water utilities - different sources of water like wells, town/utility/municipal water, river water, and surface water are considered
Environmental expenditures	<p>Total amount of environmental expenditures.</p> <ul style="list-style-type: none"> - all environmental investment & expenditures for environmental protection or to prevent, reduce, control environmental aspects, impacts, and hazards. It also includes disposal, treatment, sanitation, and clean-up expenditures
Turnover of employees	<p>Percentage of employee turnover.</p> <ul style="list-style-type: none"> - includes employees who left the company for any reason (voluntary or involuntary), such as resignations, retirement, natural departure/death, medical incapacitation, redundancy, layoffs, restructuring, dismissal, retrenchment or end of a fixed-term contract - employees turnover rate = (employees leaving/average number of employees)*100 - where the average number of employees = (employees at the end of the current year + employees at the end of the previous year)/2 - employees at the end of the current fiscal year = employees at the end of the previous fiscal year + new employees - employees leaving
Women managers	<p>Percentage of women managers.</p> <ul style="list-style-type: none"> - percentage of women managers among total managers of the company - if there is a breakdown by category in percentage, such as top, senior, middle, and junior management, then we consider the percentage of middle women managers - percentage of women managers = number of women managers/total number of managers*100
Women employees	<p>Percentage of women employees.</p> <ul style="list-style-type: none"> - percentage of women employees to the total number of employees of the company - percentage of women employees = number of women/total number of employees*100
Training hours total	<p>Total training hours performed by all employees.</p> <ul style="list-style-type: none"> - consider only employee training hours - includes all types of training given to general employees (such as health & safety, environmental, emergency response, skills & career development training) - if the value is given in days, multiply by 8, assuming that 1 day = 8 hours worked
Training hours per employee	Training hours per employee per year
Shareholders score	Shareholders category score measures a company's effectiveness towards equal treatment of shareholders and the use of anti-takeover devices.
Management score	Management category score measures a company's commitment and effectiveness towards following best practice corporate governance principles.
Product responsibility score	Product responsibility category score reflects a company's capacity to produce quality goods and services integrating the customer's health and safety, integrity and data privacy.
Community score	Community category score measures the company's commitment towards being a good citizen, protecting public health and respecting business ethics.
Workforce score	Workforce category score measures a company's effectiveness towards job satisfaction, healthy and safe workplace, maintaining diversity and equal opportunities, and development opportunities for its workforce.
Resource use score	Resource use category score reflects a company's performance and capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management.

Tesla – Recommendation & target price history


Source: Bloomberg; KGI Research

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