



Causeway

The Electric Vehicle Transition
April 2022

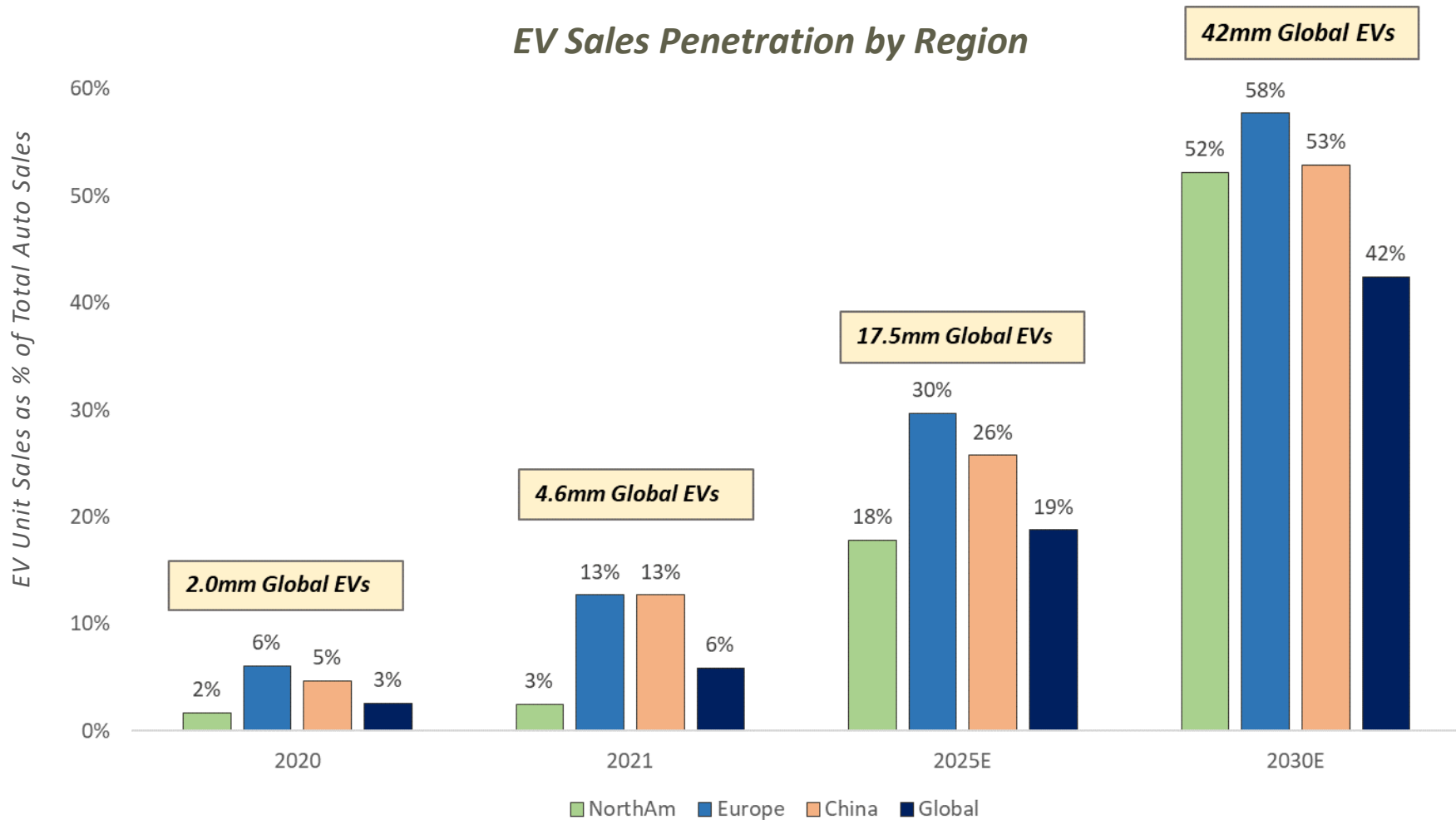
Webinar Agenda

1. EV Penetration Accelerating
2. Tesla- Understanding the Disruptor
3. Causeway's approach to investing in global Autos as the industry transitions to EVs
4. Q&A

1. EV Penetration Accelerating

Global EV Forecast: Europe and China Penetration Accelerating

- EV Sales penetration doubled from 2020 to 2021
- We expect a continued doubling of penetration approximately every four years



Source: CPCA, CleanTechnica, Wards, Wolfe, CCM estimates

Why are EVs Superior Automobiles to ICEs?

Feature	Electrical Vehicles (EVs) vs. Internal Combustion Engine Vehicles (ICEs)
Safety	EVs are safer vehicles because the battery is on the floor of the car, which leaves a large crumple zone in the front of the vehicle
Performance	EVs have no acceleration lag (peak torque at zero RPMs), unlike the traditional ICE vehicle
Handling	In an EV, the weight of the battery is spread out evenly underneath the car giving the car much better balance/handling
Maintenance	EVs offer lower cost of maintenance and greater mechanical simplicity relative to ICEs

EV Demand is Exceeding Supply

Earliest Delivery for the Model Y is now 2023, despite 26% price increase



Porsche initially planned for 20,000 Taycan units globally. It that sold that many in 1H21



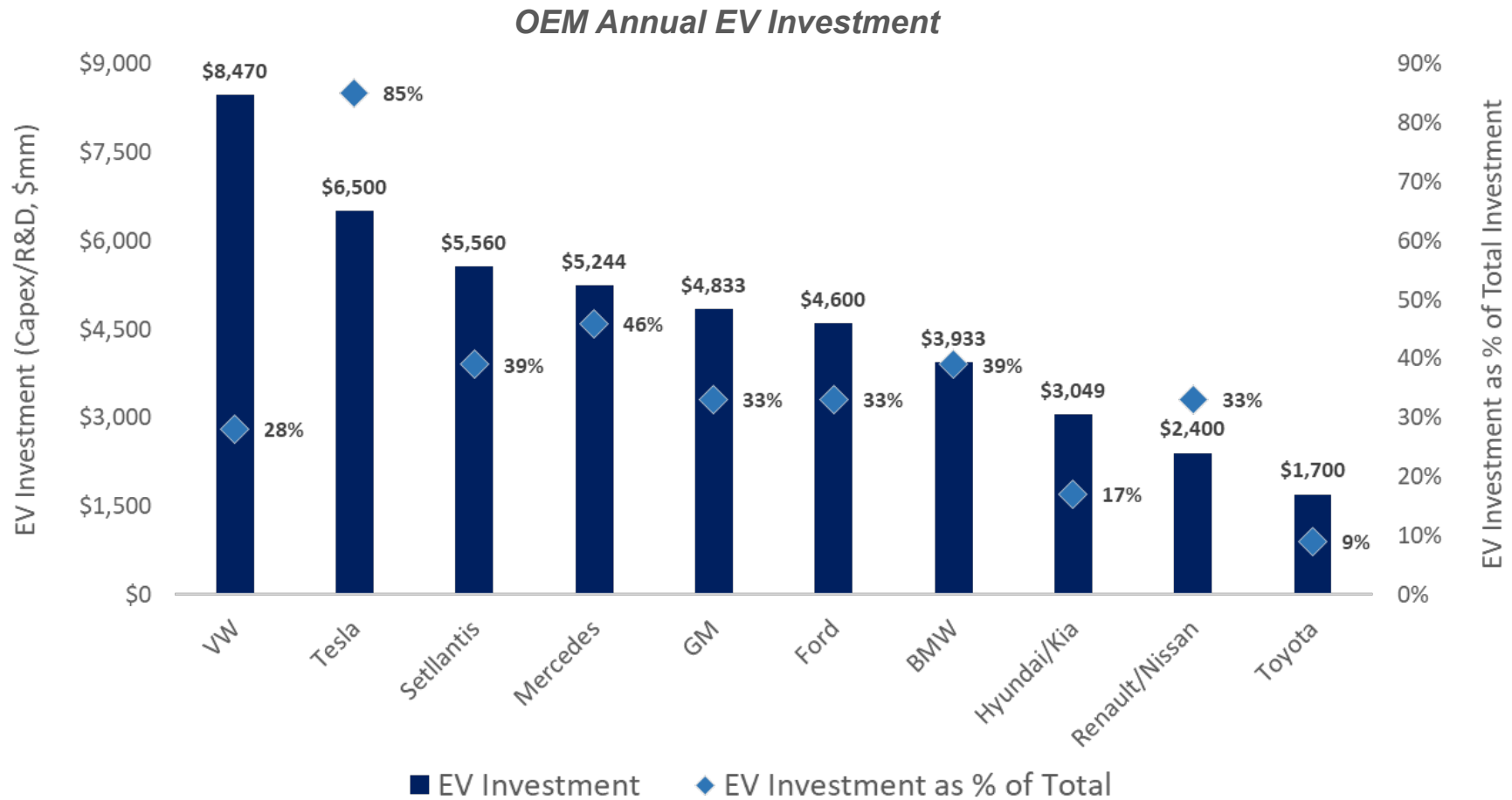
Ford says it now has nearly 200,000 reservations for F-150 Lightning, or 3 years of backlog



Source: Company data, Reuters, Electrek

Automakers have Accelerated EV Spending

Volkswagen's investment in EVs is the highest of the global original equipment manufacturers "OEMs" (~\$8.5Bn)



Sources: Wolfe, Company Data

New EVs from both Legacy and Startup OEMs

EV options for the consumer are likely to multiply, supporting EV demand



Audi Q6 e-tron

ASP: \$70,000+ (est.)
EPA range: 370+ miles (est.)



Ford Mustang Mach-E

ASP: \$42,895 (starting)
EPA range: Up to 300 miles



Porsche Macan EV

ASP: \$80,000+ (est.)
EPA range: 300+ miles (est.)



Fisker Ocean

ASP: \$37,500 (starting)
EPA range: Up to 350 miles (prelim)



Rivian R1S

ASP: \$70,000+ (starting)
EPA range: Up to 400 miles (prelim)



VW ID.3 (EU/China) & ID.4 (Global)

ASP: \$33,000-\$45,000 (est.)
WLTP range: Up to 340 miles



Ford F-150 Lightning

ASP: \$41,669 (starting)
EPA range: Up to 300 miles



Hyundai Ioniq

ASP: \$33,245 (starting)
EPA range: Up to 170 miles



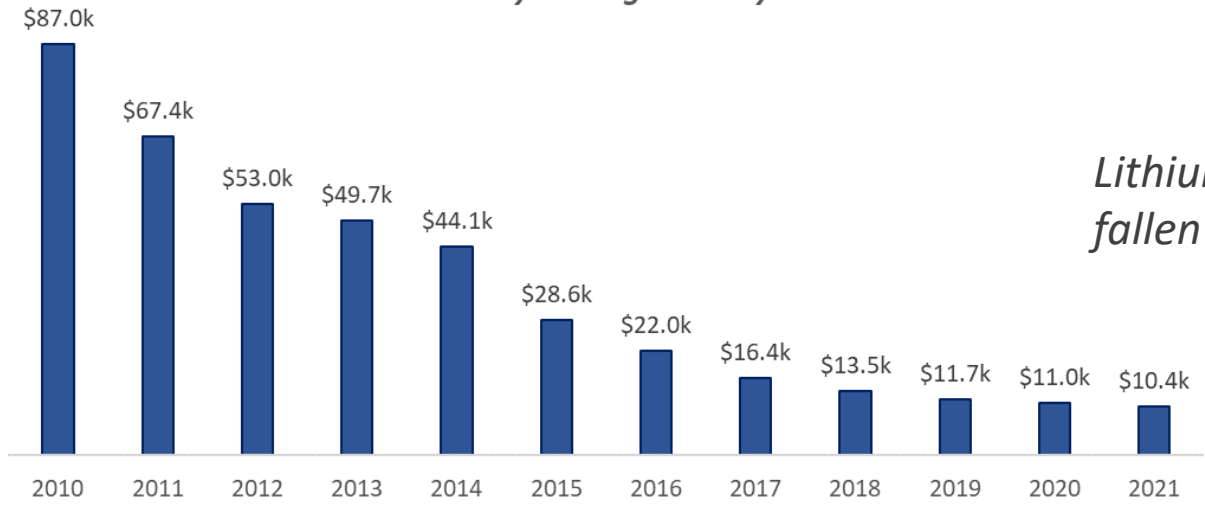
Chevy Bolt Gen 2

ASP: \$31,955 (starting)
EPA range: Up to 259 miles

Sources: Company Data, Wolfe

Battery Technology is Poised for Significant Breakthroughs

*Historical Industry Average Battery Pack Cost**



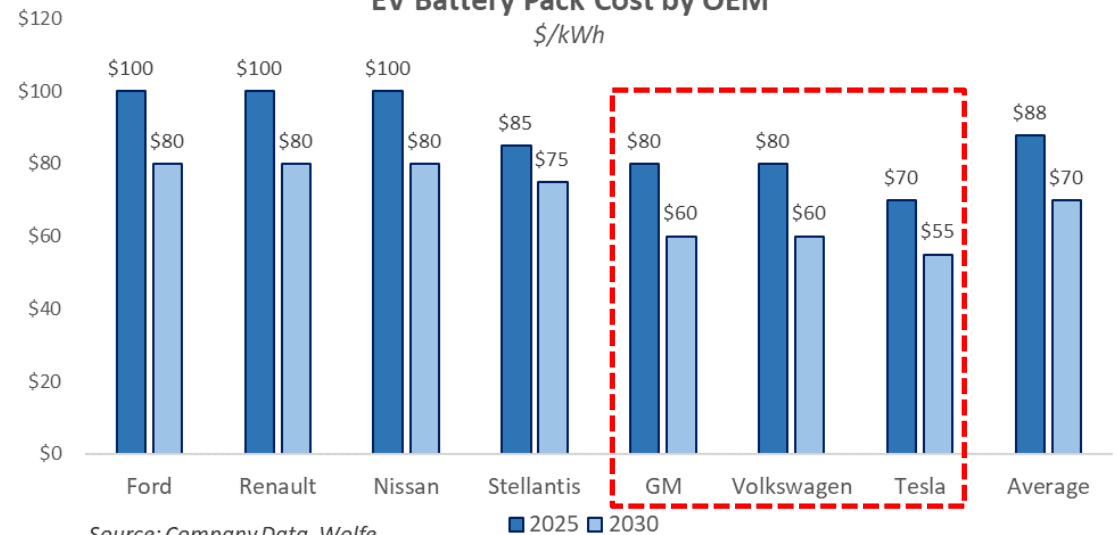
Lithium-ion battery pack prices have fallen by >85% in the past decade.

**Approx. based on 75kWh battery pack
Sources: BloombergNEF, CCM estimates*

OEMs targeting <\$90/kWh battery pack costs by 2025; <\$75 by 2030.

Tesla, VW and GM expected to be leaders in battery costs

EV Battery Pack Cost by OEM
\$/kWh



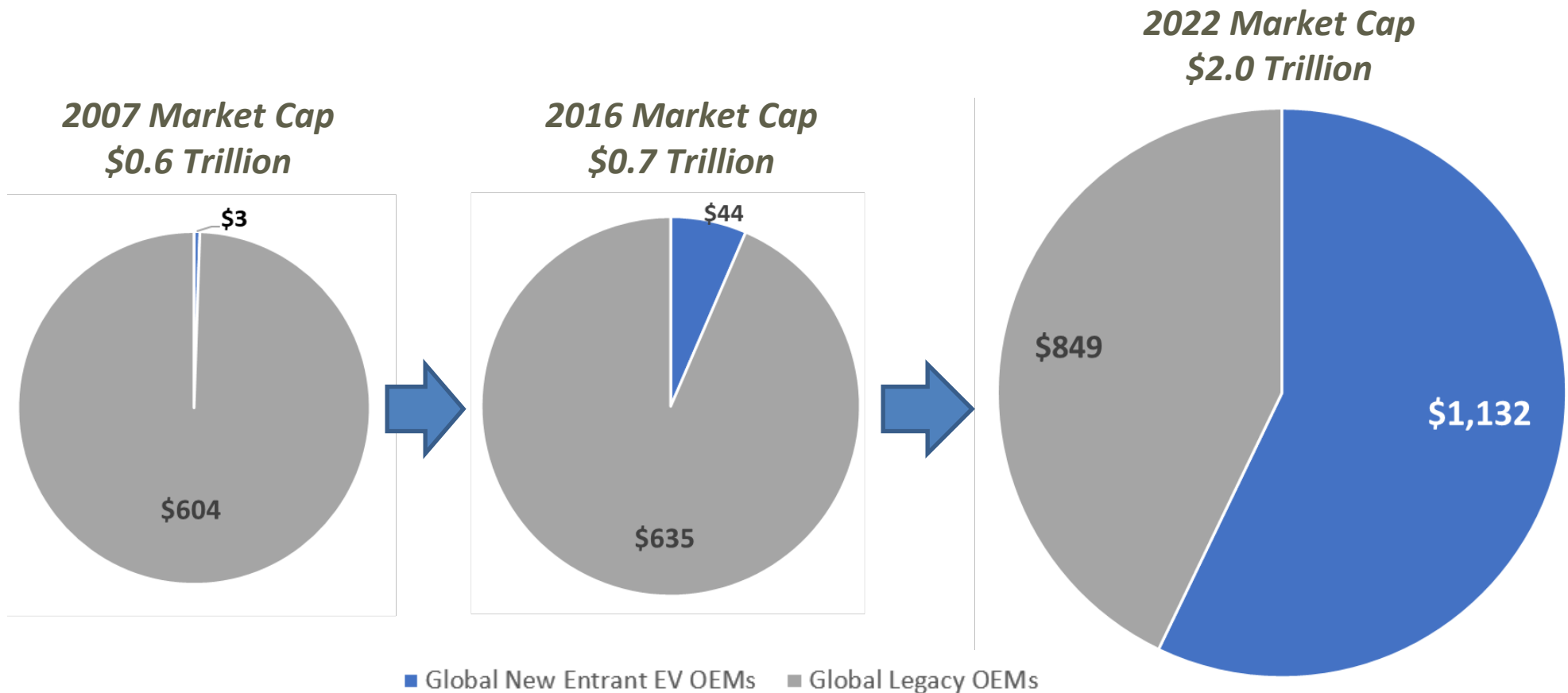
Source: CompanyData, Wolfe

2. Tesla- Understanding the Disruptor

Automotive Industry Market Capitalization Has Tripled

The automotive industry has tripled in size with the flurry of new entrants

Will the future profitability of EVs support these valuations?



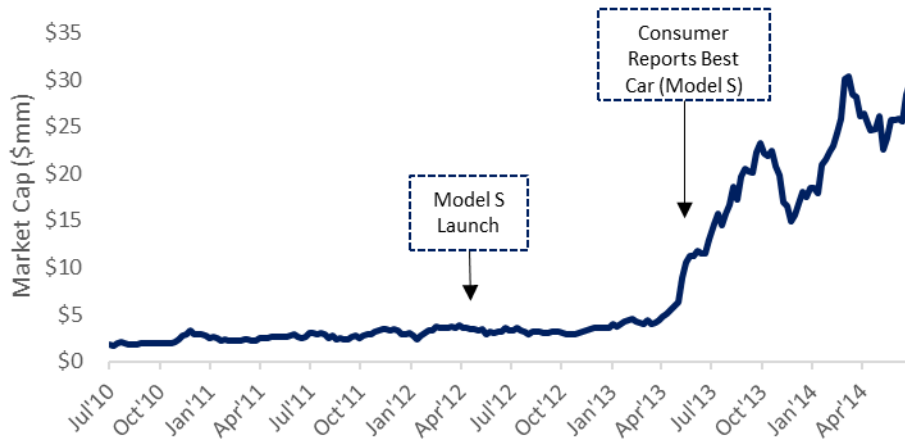
Source: Factset

Global Legacy OEMs: Ford, Stellantis, GM, VW, Mercedes, BMW, Renault, Nissan, Toyota, Honda, Mazda, Subaru

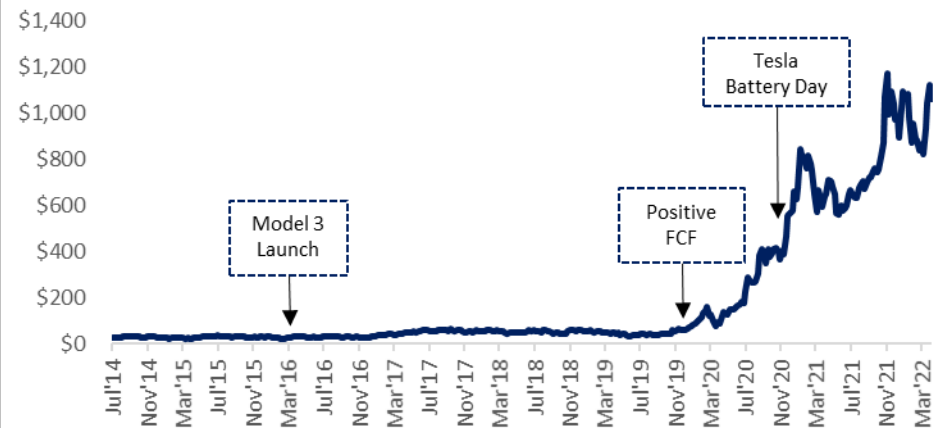
New Entrant EV OEMs: Tesla, BYD, Nio, Xpeng, Fisker, Nikola, Canoo, Lordstown

Tesla's Stock Price Explained by Two Phases of Concept to Reality

Tesla Market Cap (from \$2-30Bn)
2010-2014



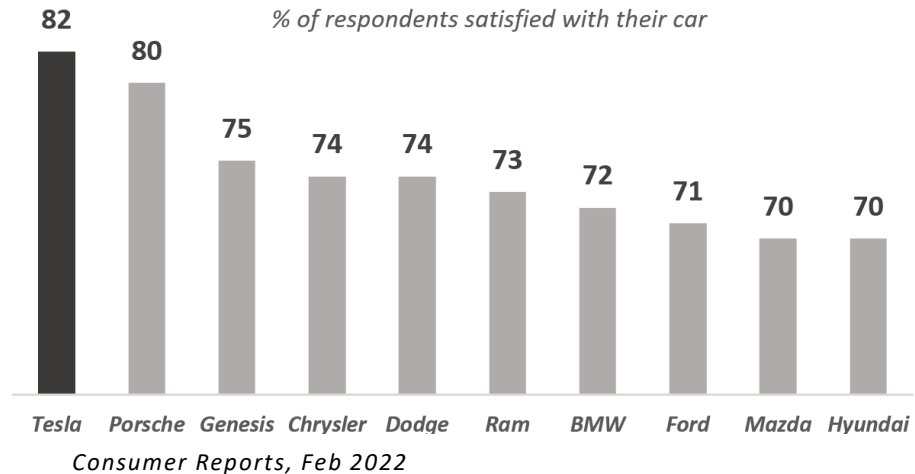
Tesla Market Cap (from \$30Bn-1Tn)
2014-Today



Source: Bloomberg, Factset, Plastics News, Wolfe Research

Tesla's success was supported by consistently having some of the highest consumer satisfaction ratings

Consumer Reports customer brand satisfaction
% of respondents satisfied with their car



Tesla has given the blueprint on how to build a successful EV business. Which OEMs can make the transition?

3. Causeway's approach to investing in global autos as the industry transitions to EVs

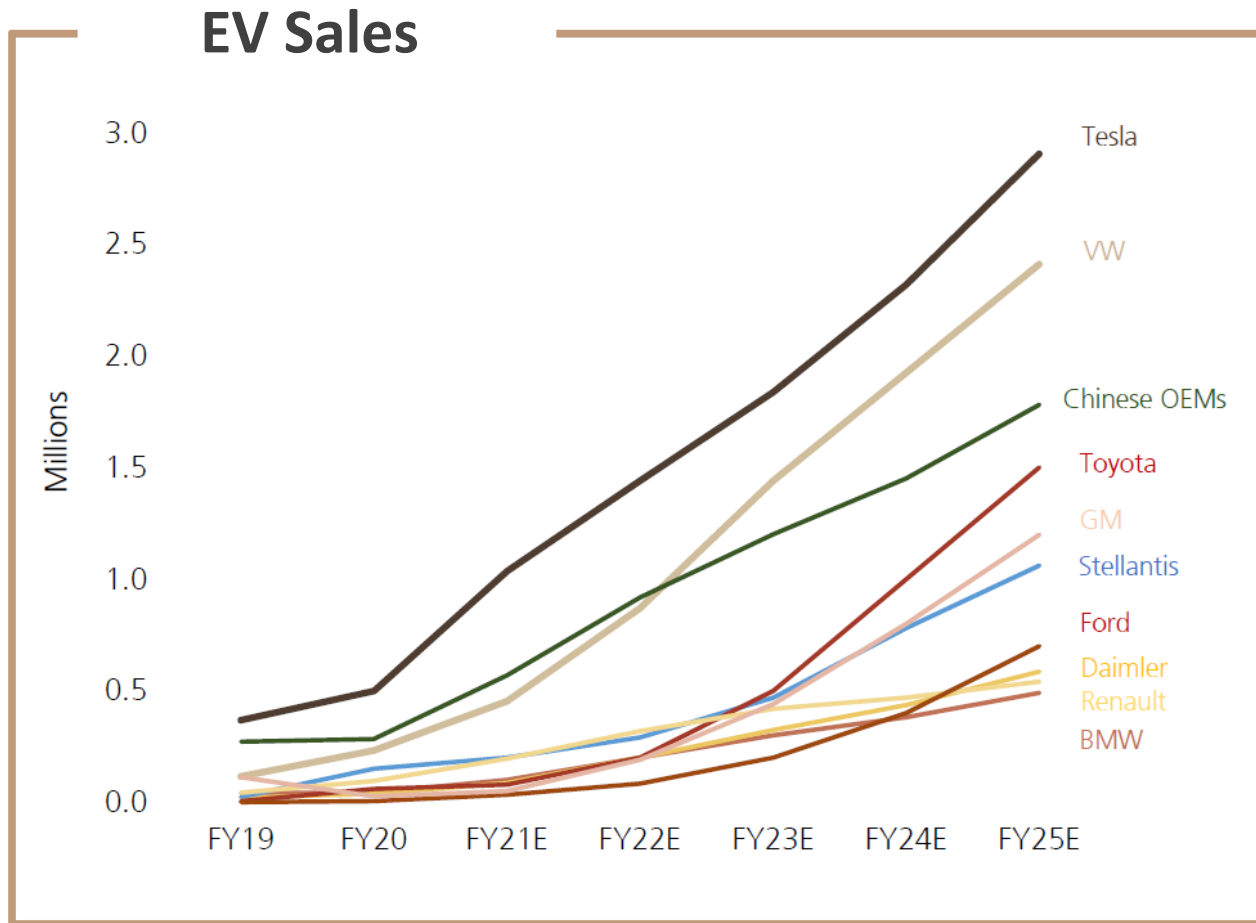
Capital Raises by New Entrants Driving Massive Increase in Investment

- *Tesla becomes self-funding (free cash flow positive) in 2019. Proves start-up EV business model can work*
- *The market perceives Tesla's business model as a terminal winner*
- *Capital markets open to new entrants and incumbents accelerate EV investments*

\$47Bn raised by new entrants from 2019-2021

Tesla	\$14.5B	Arrival	\$660m
Rivian	\$8.0B	Proterra	\$648m
Xpeng	\$5.1B	Nikola	\$616m
NIO	\$4.6B	Hyliion	\$520m
Lucid Motors	\$4.4B	Lion Electric	\$500m
Li Auto Inc	\$2.7B	REE Automotive	\$500m
Fisker	\$1.0B	Electric Last Mile	\$379m
Microvast	\$752m	Lightning eMotors	\$373m
Faraday Future	\$748m	Workhorse	\$270m
Lordstown Motors	\$675m		

Future Market Leaders in EVs



Source: Evercore ISI, UBS, CCM estimates

Conclusions

EV sales penetration is poised to accelerate in the coming decade

Tesla the Disruptor: The blueprint on how to build a successful EV business

Tesla will likely be the market leader, but this is not a winner-take-all market

Incumbent OEs, who have made the upfront investment and have scale, could make the transition

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