

A photograph of a blue electric car being charged at a station. An orange charging cable is plugged into the car's port. In the background, another charging station is visible, and a person is walking. The scene is outdoors with a building in the background.

Will COVID-19 Slow Down Electric Vehicle Revolution?

Contents

01

How is the COVID-19 situation impacting the industry?

02

How are key EV players being affected?

03

Will low oil prices and high battery price dent demand?

04

What are customers and industry experts saying?

COVID-19 puts exponentially growing EV market at risk; ~30% decline likely in 2020

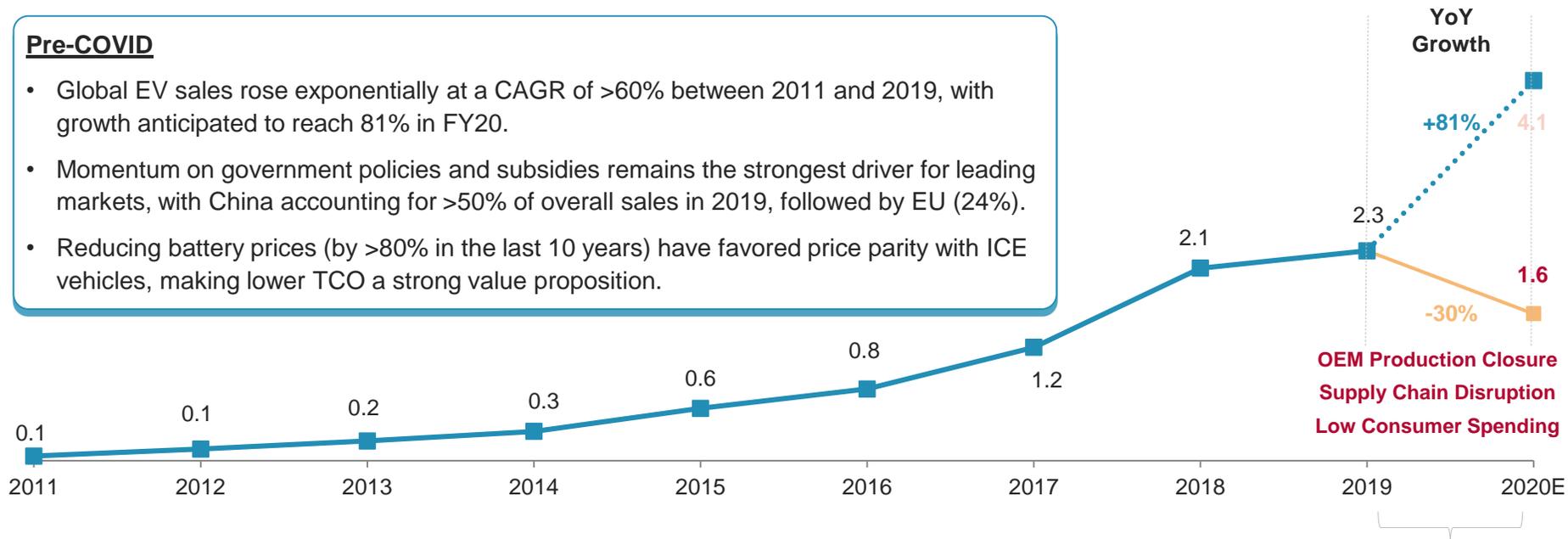
Global Electric Vehicle Sales

2011–20E | Figures in Mn Units

— Post-Covid Forecast — Pre-Covid Forecast

Pre-COVID

- Global EV sales rose exponentially at a CAGR of >60% between 2011 and 2019, with growth anticipated to reach 81% in FY20.
- Momentum on government policies and subsidies remains the strongest driver for leading markets, with China accounting for >50% of overall sales in 2019, followed by EU (24%).
- Reducing battery prices (by >80% in the last 10 years) have favored price parity with ICE vehicles, making lower TCO a strong value proposition.



Post-COVID

- Global EV sales are expected to drop 30% in 2020 as regional lockdowns cause supply shortages for production and prevent consumers from making purchase decisions.

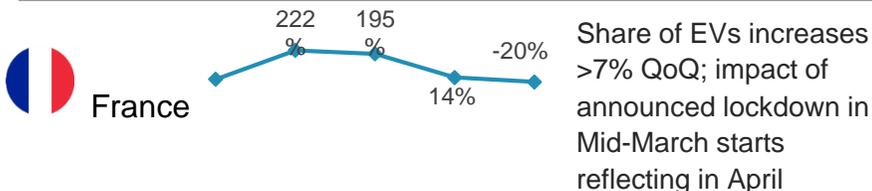
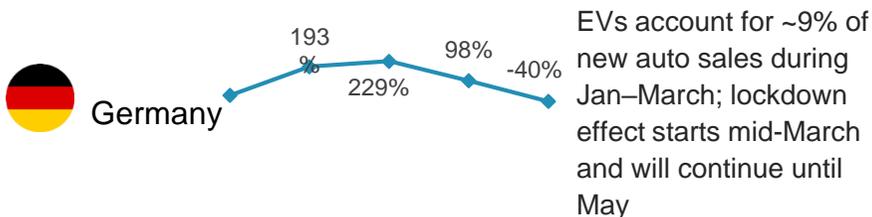
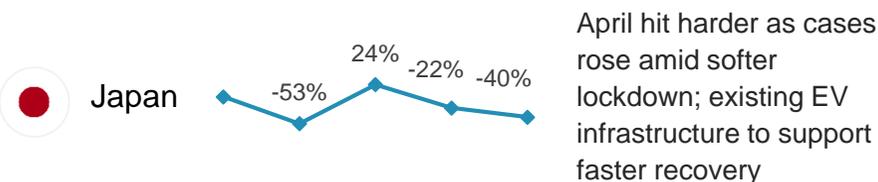
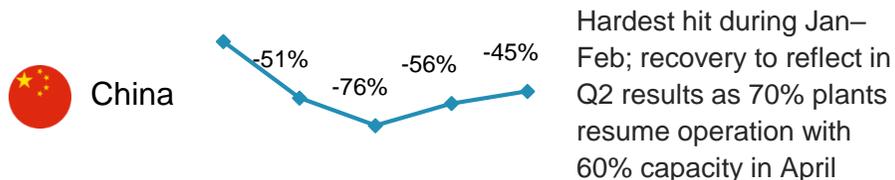
Source: IEA, News Articles, Aranca Analysis

China EV sales plummeting since January 2020; EU, US facing the heat now

Country-wise Impact of COVID-19: January–April 2020

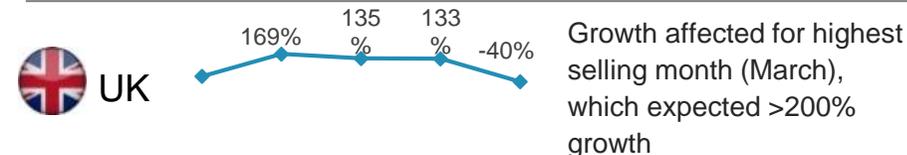
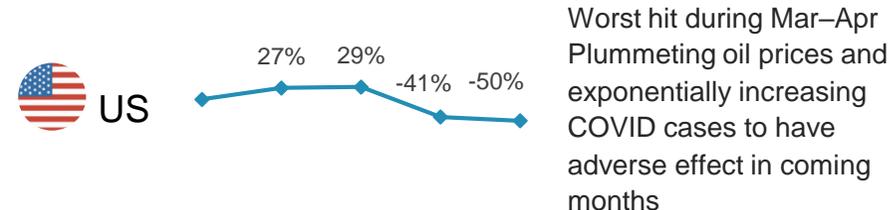
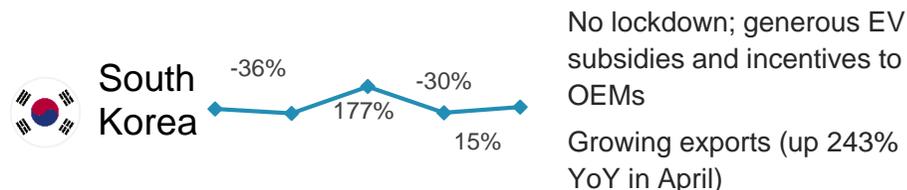
As of April 2020

Jan–April 2020 Sales Growth



Jan Feb Mar Apr

Jan–April 2020 Sales Growth



Jan Feb Mar Apr

Source: EV Volumes, News Articles, Aranca Analysis

Most OEMs adversely affected by severe supply shortages, low consumer demand

OEMs Response to COVID-19

As of April 2020

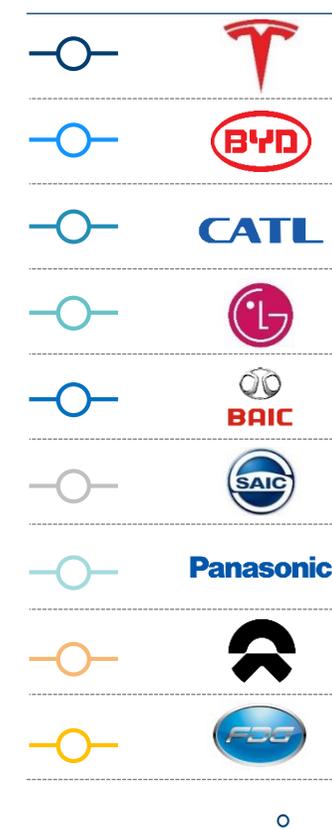
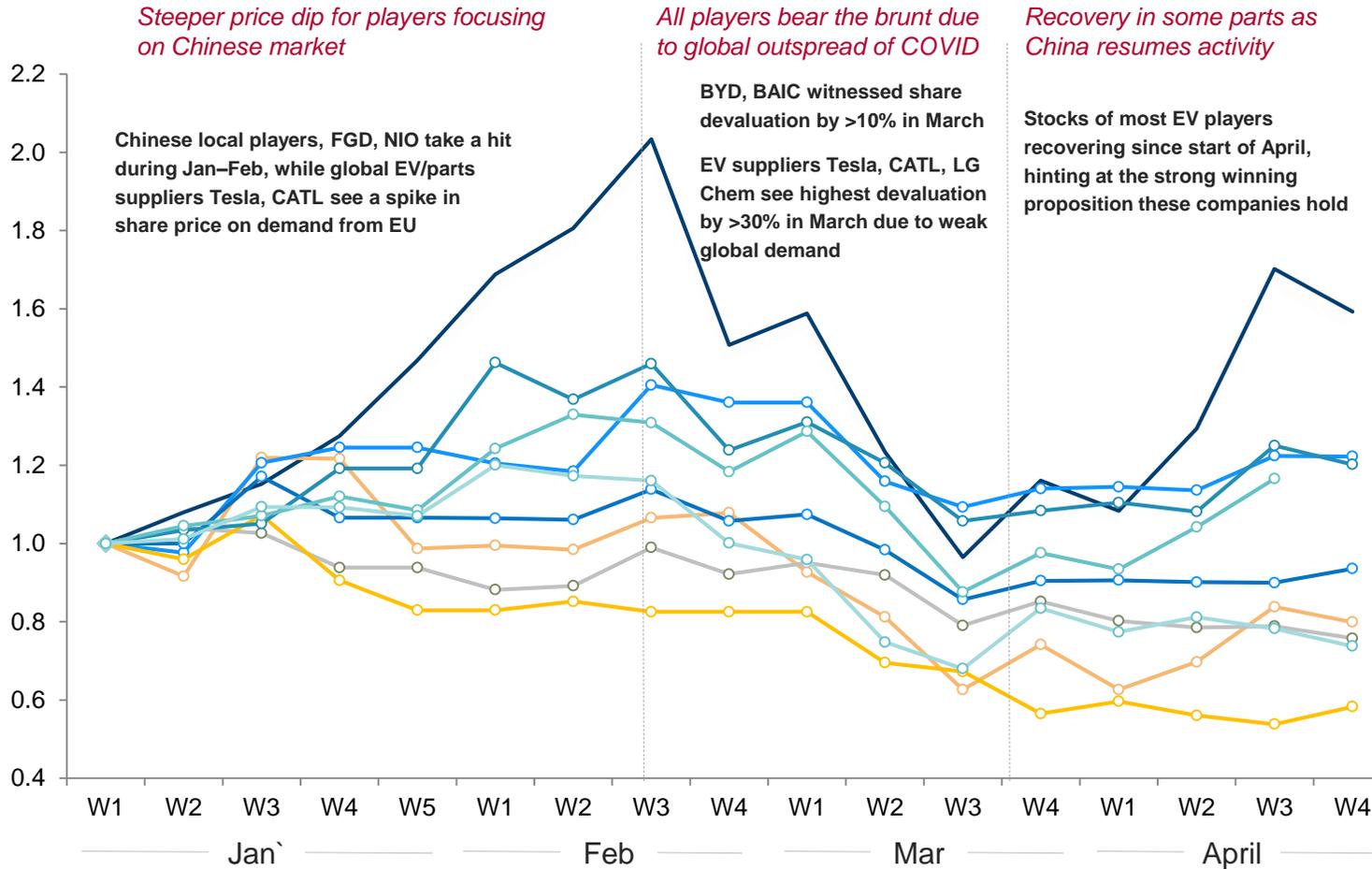
OEM	Impact / Response to COVID-19
	Excellent start in EU (>60% of total EV sales) offsets shutdown effects in China and US in Q1 (>15% QoQ revenue growth); production resumed in China with recovery in supply chain; shift from Panasonic to CATL for Model 3 batteries
	Lowest sales results since entry in 2018 from 1,598 EVs in Jan to only 707 in Feb; Model EC6 production resumed in late Feb; ongoing collaboration with GAC to raise funds
	Production halt announced in mid-March; Volvo remains optimistic on EU market and committed to begin sales by summer, followed by China, US; on track with Volvo Polestar launches
	Six future vehicle programs suspended, with 2021 models to be launched as 2022 models; discounts up to \$10,000, \$199/month lease options for new Bolt models and rebates for old ones
	Overall automotive sales down 6% QoQ in Q1'20; company committed to continue with €10 billion investment plans for EVs between 2017 and 2027
	Recent resumption of EV production with <50% utilization in all locations; collaboration with CATL for supply of batteries worth EUR7.3 billion; company expects to start Model I4 sales at 2021 end
	Launch of new models (R1T electric pickup trucks) postponed from late 2020 to 2021 as consumer sentiment weakens
	Despite factory closures, Nissan committed to launching Rogue model in Canadian showrooms by fall 2020
	Production resumed in China, currently operating at 60% capacity and expected to reach 80% by May end; announced a full-blown electric offensive with 17 plug-in models in market by 2020 end
BYD, BAIC, Renault, Fiat	Sales plunging 60–80% during lockdown; production resumed in China with up to 50% capacity

Source: News Articles, Press Releases

Stock prices reflect a similar story; optimism returns after end of China's lockdown

Weekly Stock Prices for Key EV Players

Index (Base: 100 = 1/1/20) | Stock Prices up to 24th April 2020

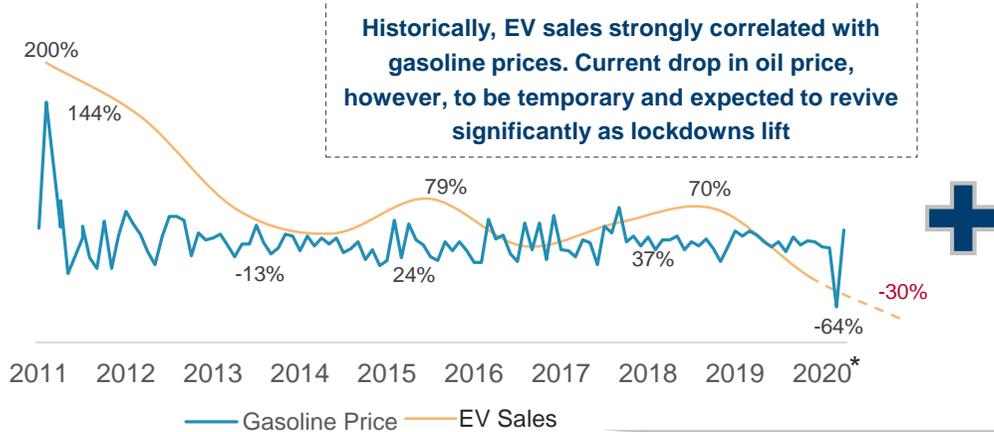


Source: Bloomberg

Low gasoline prices, modest increase in battery costs would continue to dent demand, but expected to be a short-term effect

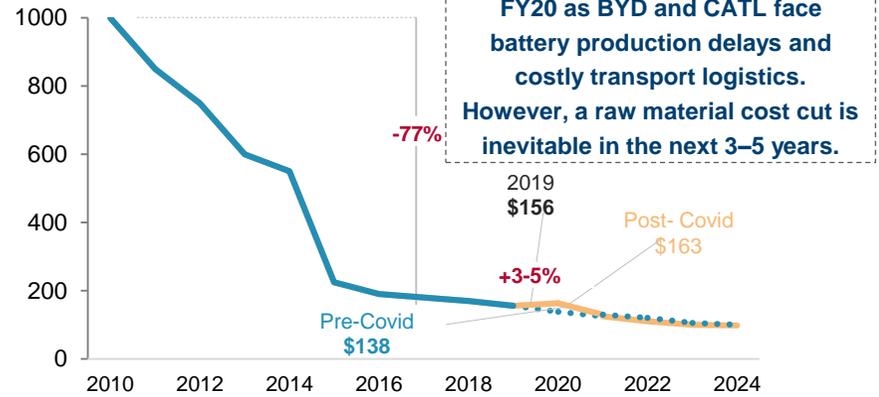
Correlation between Change in Gasoline Prices and EV Sales

2011–20 | Figures in Percentage

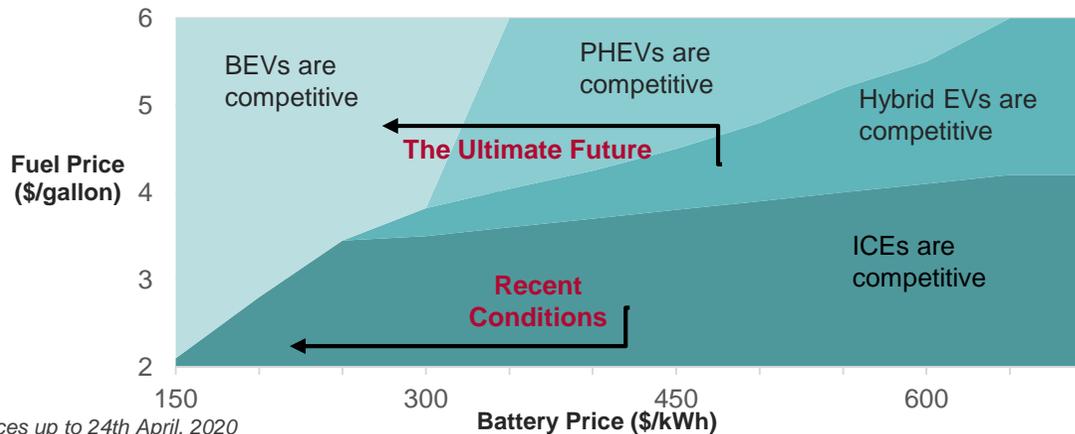


Average Price of Battery Pack

2010–24 | Figures in \$/kWh



Projected Competitiveness of EVs with ICE Vehicles Based on TCO



The precipitous fall in oil prices may widen the TCO gap between the ICE and EV platform, but only in the short term.

While COVID-19 presents risks, it would not change the long-term trajectory for vehicle electrification.

*Data for gasoline prices up to 24th April, 2020

Source: Bloomberg, Vox Analysis, Aranca Analysis

EV (potential) consumers in US to be reluctant spenders; China, Japan remain most positive about their investment, may defer but will not deter their purchase

Consumer Response to COVID-19

As of April 2020 | N=500

							
What is the likelihood of you buying an EV in the near term?	55%	65%	60%	31%	55%	62%	68%
Would you reconsider purchase if oil prices decline?	23%	49%	46%	65%	40%	45%	45%
Would you pay ~10% premium on EVs?	11%	18%	13%	17%	13%	15%	13%
Will your EV purchase defer on account of COVID-19?	30%	25%	28%	56%	44%	40%	46%
Is the battery's driving range a major concern?	40%	45%	55%	60%	39%	47%	45%
Does the country's charging infrastructure concern you?	25%	23%	28%	63%	45%	52%	56%
Comments	<i>Price-sensitive consumers; decision influenced by subsidies</i>	<i>Strong likelihood of reducing TCO; higher preference for domestic brands (Nissan, Toyota)</i>	<i>Customers positive of their EV plans, say favorable subsidies help reduce price</i>	<i>Low interest; strong sensitivity to price; high value for fuel savings</i>	<i>Consumers value benefits of BEVs, believe new models offer a good battery range</i>	<i>Growing interest, with concerns about infrastructure and battery range</i>	<i>Strong interest, with minor concerns about range and major concerns about cost</i>

Source: Alix Partners, Aranca Analysis

Most experts remain bullish on EV prospects in long term

There lies an opportunity to restructure supply chains and take more decisive steps towards embracing electric vehicles.

– Eurasian Resources Group

Weak oil prices are a nonissue for Tesla and other EV firms.

– UBS

Coronavirus is creating potential delays to fleet purchasing due to lower oil prices and a wait-and-see approach to buying new models.

– Wood Mackenzie

Automakers have invested billions of dollars in rolling out new models. We're still very bullish in the long term.

– Plug in America

EU just started phasing in new fleet-wide emissions targets for automakers. If there's economic stimulus for the car industry in Europe, it'll be all about EVs.

– George Mason University

Leading auto manufacturers are likely to put their EV plans on a backburner as they focus on restoring demand for core bread-and-butter products.

– Mint

Elon Musk may have delivered more cars than expected in Q1, but investors should expect a sharp decline in sales moving forward.

– CCN

A recovering market will be cash-sensitive and even though electric cars cost less to own in the long run, most of them come with a much steeper price tag as compared to their gasoline-powered models.

– FutureCar

When you're making financial investments on a horizon of a decade or more, you have to believe an interruption of a couple of months is not enough to really permanently change things.

– Rocky Mountain Institute

Coronavirus, cash crunch send shock wave through China's EV startups

– Wall Street Journal

Shift towards sustainability is the driving force behind electrification. Uncertainty caused by oil prices and global catastrophes will only strengthen that resolve, not deter it in the long term.

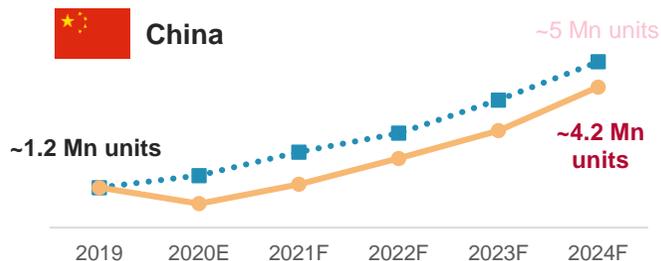
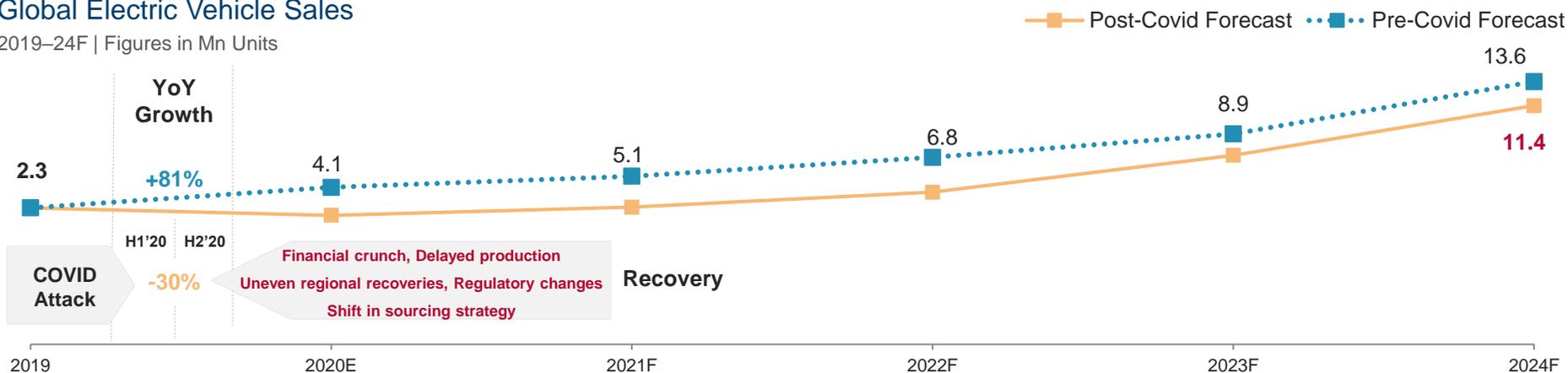
– Wood Mackenzie

Source: News Articles

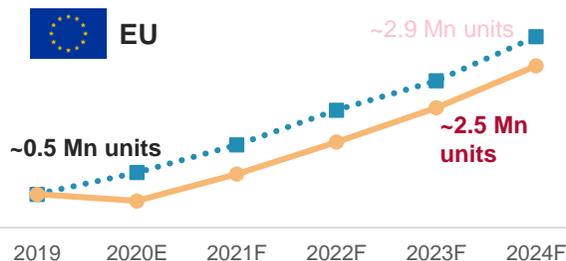
Despite bleak FY20 outlook, long-term EV demand to remain intact

Global Electric Vehicle Sales

2019–24F | Figures in Mn Units



Supportive government policies, subsidies, and investment in e-transport, coupled with new EV model launches in H2'20 (Tesla, Nio), to ensure affordability and quick recovery



With an overwhelming start, EU to remain fastest recovering market on account of stringent emission targets (-50% by 2030)

Consumer confidence still high on NEVs, especially in countries such as Norway



With increasing COVID cases, dwindling oil prices, and struggling domestic mining sectors, focus on EV regulations remains low

Consumers still cost-centric, taking a wait-and-watch approach to oil prices and EV cost

Source: IEA, News Articles, Aranca Analysis

In a nutshell...

- 1 EV sales to take a hit of ~30% in 2020; however, strong recovery expected and positive trend likely to continue until 2024**
- 2 China to witness maximum impact, but emerge resilient by H2'20; EU to fare better on annual basis on account of an exceptional start, may offset COVID impact in near term**
- 3 After robust show over last two years, EV OEMs likely to get back on track by H2'20; Tesla, CATL, BYD to emerge as winners in 2021**
- 4 Consumer sentiment damp in most price-sensitive markets, consumers may not be receptive and hold back on purchases for this year**
- 5 Government regulations, subsidies will continue playing pivotal role in influencing OEM strategies, consumer purchase decisions**

Please don't hesitate to connect with our EV specialists to discuss further

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