

Research Brief

BYD Co Ltd (002594.SZ)

Is it Build Your Dreams, or Buy Your Dip?

Dec. 6, 2019

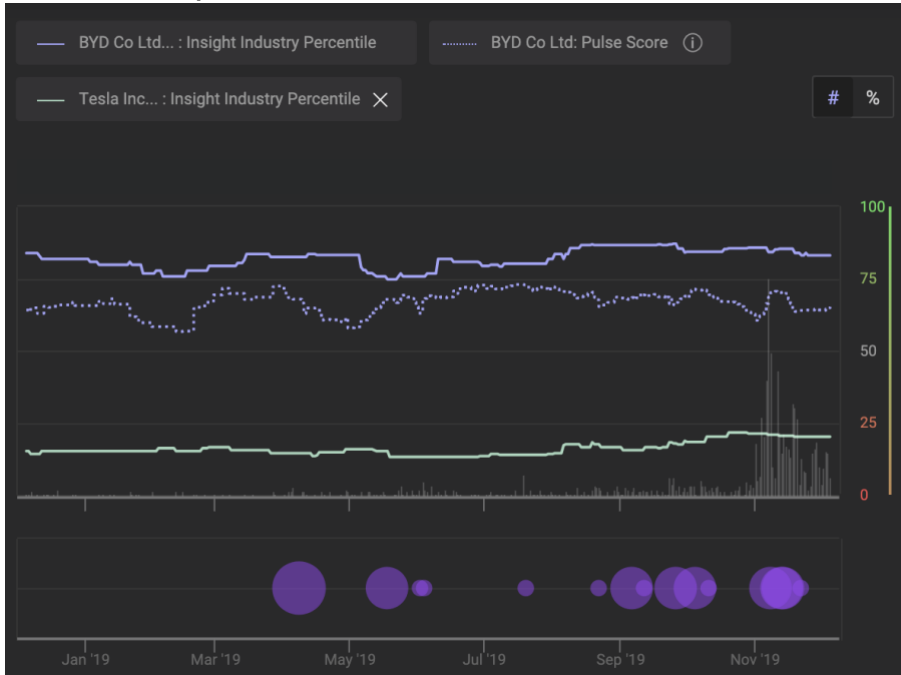
Leading electric vehicle firm represents a legitimate non-Tesla EV growth play

For years, BYD (Build Your Dreams) has been one of the world’s top electric vehicle (EV) manufacturers, competing for the role of world leader with Detroit stalwart GM and media darling Tesla, which has ramped up production of its mass-market Model 3. Currently BYD’s valuation is expensive compared with established automakers as it is priced for growth. With that said, its valuation lags Tesla’s, despite a more mature status as a manufacturer and a diversified business, which includes not only consumer EVs but a leading competitive position in the global mass-transit EV bus market, and a significant battery business. EV headwinds in China due to cuts in subsidies may mean further declines in expectations—and shares—that could offer an extended window of buying opportunity.

Electric focus energizes performance in numerous ESG categories

BYD is an 83rd percentile performer in the Automobiles industry, according to Truvalue Labs’ long-term ESG Insight score. The majority of BYD data lies within the category of Product Design and Lifecycle Management, which has contributed 58% of the company’s performance in the past year. That intense concentration is unusual for companies with high data volume in Truvalue Labs’ system and reflects the importance of the category for this innovative automaker. Beyond that core area of ESG focus, the company remains an outperformer versus the industry and peers including, notably, Tesla, a similar EV story stock.

Enduring edge: long-term Insight score Industry percentiles shows vast BYD advantage over Tesla in TTM period



Source: Truvalue Platform

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Research Briefs highlight material events that move Truvalue Labs scores and may shape future company valuation.

AT A GLANCE

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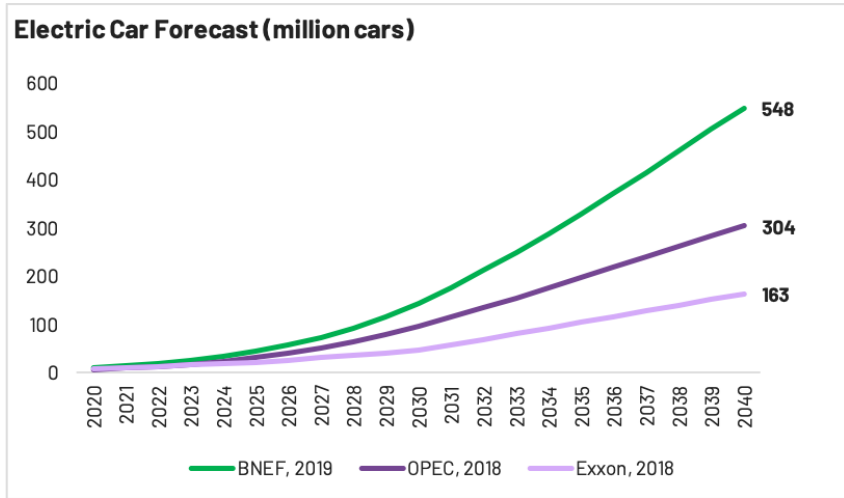
Insight Score	67
Industry Percentile	83 rd
Momentum Score	44
Industry Percentile	30 th
NTM P/E	42.4x
Peers	21.4x
NTM EV/EBITDA	12.2x
Peers	13.6x

Top Score Drivers- TTM	Impact
Product Design and Lifecycle Management	58%
Energy Management	13%
Materials Sourcing and Efficiency	9%

For all scores in this section, SASB’s Materiality Lens is turned off. Valuation as of December 2019. Valuation Source: Refinitiv

Evidence

Bumpy road ahead: Globally, no consensus on pace of transition from ICE vehicles to EVs, and estimates are incompatible with growing climate urgency



Sources: Exxon, OPEC, Bloomberg NEF

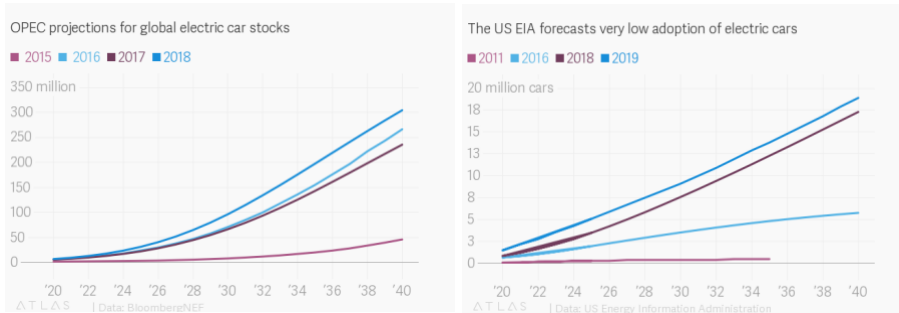
Given a lack of consensus, upside scenarios around EV adoption are likely not priced into the stock, as the market been focused on recent subsidy reductions.

As shown in the chart above, there is a huge range in estimates for speed of EV adoption globally between Exxon, OPEC and Bloomberg NEF estimates for electric car stocks by 2040.

Despite the unknowns, and substantial costs to develop electric vehicles, major automakers around the world are moving ahead with EV technology: As Quartz reported in May, “Volkswagen has committed \$50 billion. Daimler placed a \$23 billion order for EV batteries last year. GM and Ford are restructuring their business around electric cars.”²

In recent years, forward projections have been too low for EV adoption. While the climate crisis grows in importance and urgency, analysts will likely need to continue to revise long-term estimates higher, particularly as current capital investments (charging stations, battery plants, etc.) facilitate scale.

Historically, estimates for EV stocks have been low and revised higher



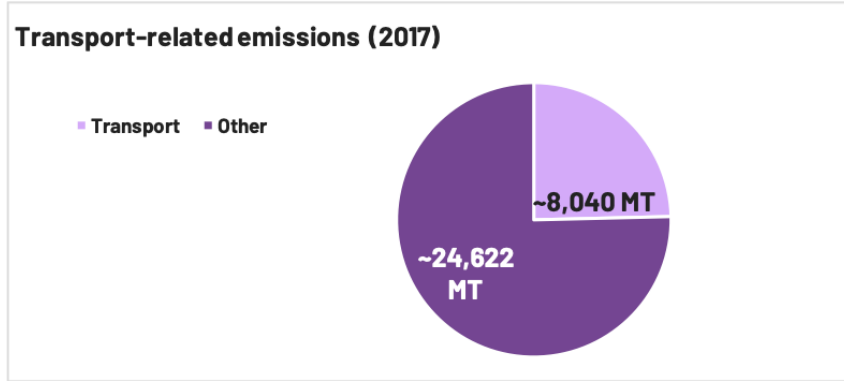
Sources: Quartz, Bloomberg NEF

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The EV forecasts above also don't allow for a significant improvement in total CO2 emissions reduction through 2040. That belies a shifting landscape in today's politics marked by a groundswell of public awareness of climate change and accompanying demands for action.

² “Researchers have no idea when electric cars are going to take over,” Quartz, May 19, 2019.

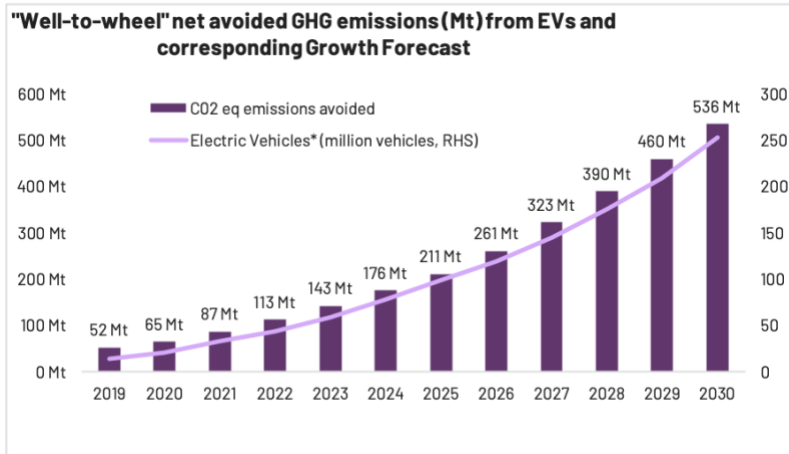
Transport-related emissions a huge chunk of global total



Source: IEA

The transportation sector is a critical battlefield in the fight against Climate Change.

EV emissions savings offer a concrete path to global reductions

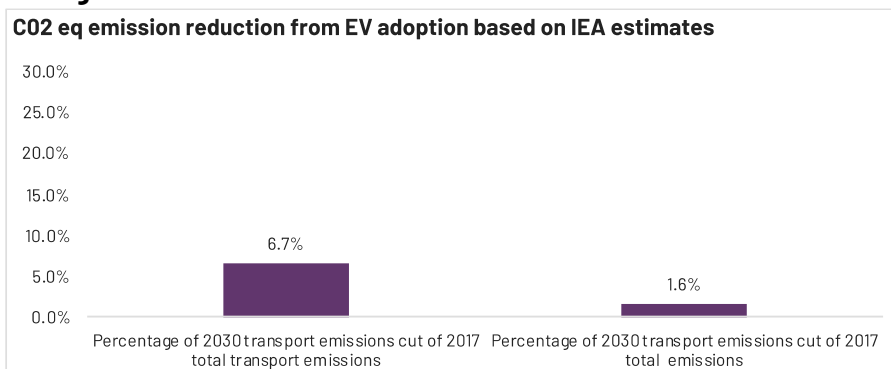


Source: IEA

The IEA estimates that EV adoption by 2030 will help avoid half a billion tons of CO2 eq emissions.

The IEA's latest estimate of 250m EVs in 2030 (charted above) dwarf projections from BNEF, OPEC, and Exxon (of 144m, 96m, and 46m respectively). Nevertheless, the 2030 emissions avoided in this aggressive scenario total just 1.6% of 2017 emission. In other words, even a strong implies modest carbon savings—signaling plenty of room for upside to the current range of estimates.

The most aggressive EV adoption estimates only create modest carbon savings



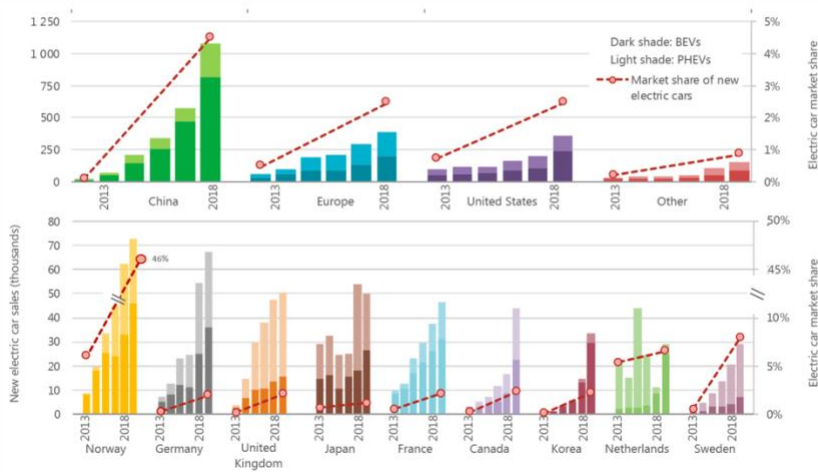
Source: IEA

However, that aggressive scenario only represents less than ~2% of 2017 emissions—implying plenty of room for upside to the growth curve as the pressure for countries to curb emissions through policy measures intensifies.

Another bullish data point for conviction in a long-term buy signal for EV makers is an investment in BYD by Warren Buffett, which gives the company the halo of a legendary investor known for thorough due diligence and a laser focus on investments with the potential for enduring competitive advantage. As *Fortune* reported in September 2019, Buffett invested in BYD more than a decade ago in 2008, and since then his \$232 million stake has grown to be worth \$1.6 billion late last year.

While EV future is uncertain, China is the clear world leader

Global electric car sales and market share, 2013-18



Source: International Energy Agency

As shown above, China's fleet of vehicles leads the world in adoption of EVs. While the government may be ramping back subsidies and revising its support for the industry, there's no evidence that the government will reverse its broad-strokes policy of supporting EV adoption.

Truvalue Labs captures a broader view of Chinese firms than other ESG data providers because data is sourced from Chinese-language mainland publications; that data is only applied to China-based firms, not the entire Truvalue universe of companies covered.

High-profile partnerships may help build competitive advantage



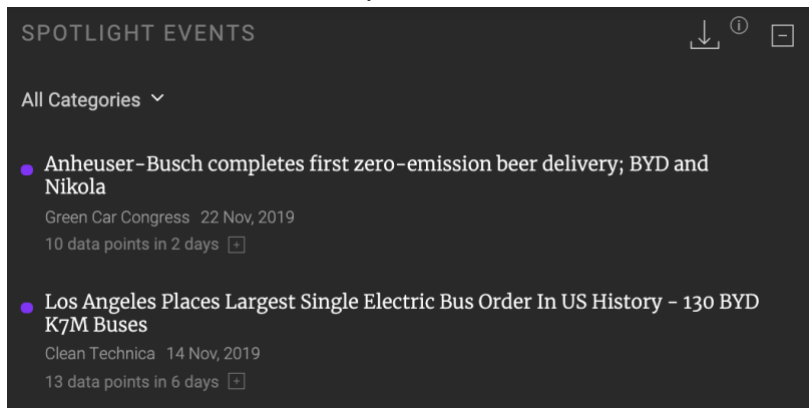
Source: Anheuser-Busch

BYD has amassed a string of high-profile partnerships in recent months, as captured in Truvalue Labs' data. As reported in November by *Green Car Congress*, BYD sold Anheuser-Busch a fleet of 21 electric trucks that will start deliveries this year, which is "the largest Class 8 electric truck deployment in North America."

BYD also agreed on a joint EV research program with Toyota in November, marking a partnership with an automaker that regularly vies for the title of world's largest with its competitors Volkswagen and Renault Nissan. Another key announcement came in November as Los Angeles agreed to buy 130 BYD electric buses, the largest electric bus order in US history, according to *Clean Technica*. These events were highlighted as Spotlight Events™ they unfolded within Truvalue Platform, meaning they earned significant notice from a range of news sources, advocates, and consumers, and represent important events for analysts to consider.

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As companies and municipal governments and transit authorities implement carbon reduction initiatives, BYD benefits



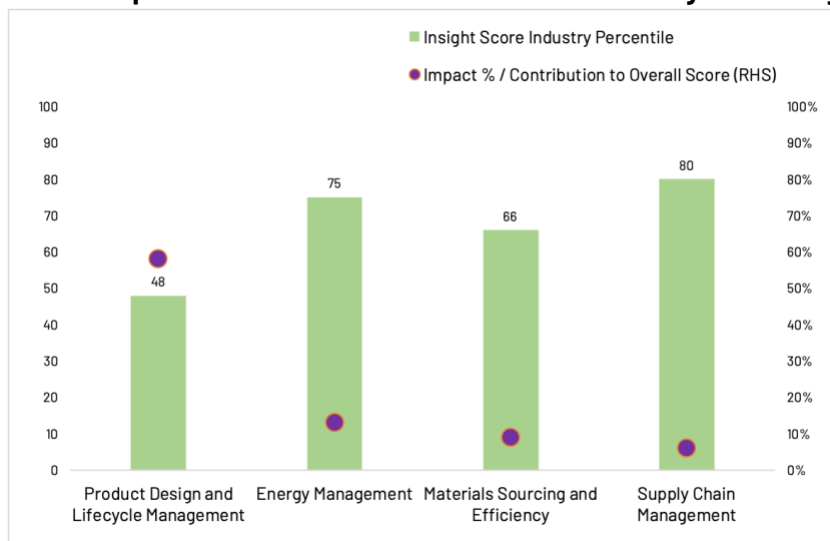
Source: Truvalue Platform

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Bus business a buffer against EV car sales buffeted by shifting subsidies

BYD has sold 50,000 electric buses worldwide, the company [disclosed](#) in October 2019. *Just Auto* reported that BYD claims “a 20% share of the European electric bus market with its vehicles operating in 90 cities” as well as a 50% share of the Asia-Pacific market. Beyond the Los Angeles order, BYD has sold orders to governments and transit providers in Glasgow, Birmingham, Bogotá, Norway, Australia, and Chile. The business represents a significant separate revenue opportunity beyond passenger EVs that can’t yet be claimed by global electric competitors like Tesla, which hasn’t yet proved its Semi truck’s value with actual adoption.

BYD’s outperformance distributed across several key ESG categories



Source: Truvalue platform

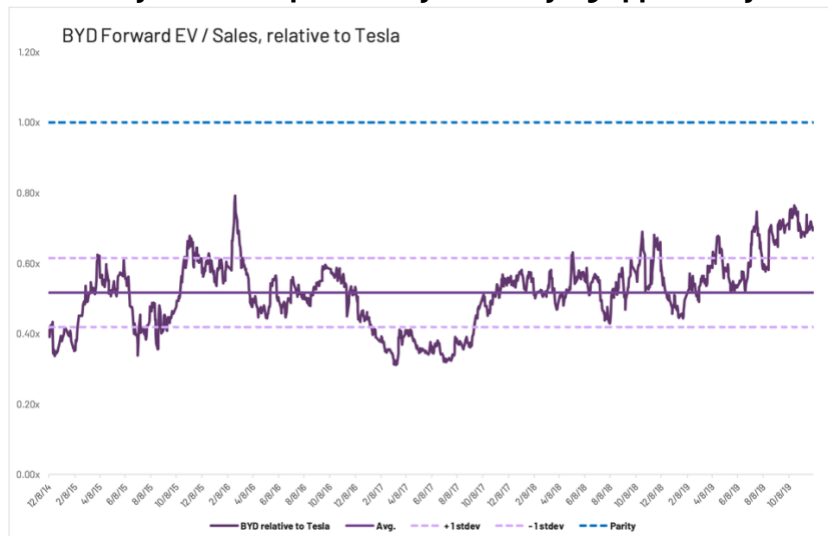
BYD’s highest-volume category in the TTM period is Product Design and Lifecycle Management, which represents 58% of the data affecting its score in that timeframe. For that category, BYD has a pedestrian 48th percentile ranking.

But across its next three highest-impact categories, Energy Management, Materials Sourcing and Efficiency, and Supply Chain Management, its percentile performance exceeds the industry average for Automobiles, ranking 75th, 66th, and 80th percentile, respectively.

Positive performance extends to other categories including Labor Practices (91st percentile), which is driven in part by inclusion in Bloomberg LP’s Gender-Equality Index. BYD was included in the index because of its high levels of representation for women on its executive team, and for policies and benefits that support gender equality, as reported by *Mass Transit*

Outlook

BYD valuation lags Tesla's, with gains driven by falling stock price; EV subsidy transition period may mark buying opportunity



Source: Refinitiv

BYD's Forward EV/Sales multiple has increased as its stock price has dropped, in large part as it and fellow Chinese automakers have seen pullbacks as the government said in March it would cut subsidies that boosted sales of EVs, called "New Energy Vehicles" or NEVs in China.

As the *South China Morning Post* reported:

"Subsidies on NEVs with a driving range of 250-300 kilometres have been reduced to 18,000 yuan (US\$2,686) from 34,000 yuan. For cars with a range of between 300-400km, the subsidy has been cut by a much sharper 60 per cent to 18,000 yuan, from 45,000 yuan earlier and cars with a driving range of more than 400km, the subsidy has been cut by 50 per cent to 25,000 yuan."

It should be noted that while the Chinese government also instructed local government bodies to reduce subsidies for official purchases of electric vehicles, it exempted buses from that directive. Electric buses are a mainstay for BYD and provide some revenue diversity.

Then there is the fact that BYD employs 220,152 workers and has a market cap of \$15.6 billion, according to Refinitiv. Just as the US government guaranteed Ford, GM, and Chrysler would survive during the 2008 financial crisis, considering them as too big to fail, it's reasonable to expect that barring conspicuous mismanagement or a sea change in economic policy, China will not disassemble the business model of its homegrown world leader in the EV space.

Buy Your Dip? A DCA opportunity for BYD

The long-term outlook for EVs should include potential stepped-up moves to curb warming. That supports elevated long-term growth assumptions for the global EV industry that boost the outlook for BYD. Investors looking for an EV growth play outside of legacy automakers should consider BYD in place of Tesla, with a potential multi-year buying opportunity for lower share prices as China balances its subsidy pullback with its commitments to curbing warming and support for domestic manufacturing.

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3 *South China Morning Post*, [March 2019](#).

About Truvalue Labs

Truvalue Labs is the first company to apply AI to uncover timely ESG data on a variety of asset classes. The company's mission is to deliver increased transparency to investment professionals by providing data and analytics that go beyond traditional fundamentals.

Visit www.truvaluelabs.com to learn more about the SaaS and API products.

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