

EI NEW ENERGY

Vol. 7, No. 47

www.energyintel.com

November 22, 2018

Special Reprint from *EI New Energy* for Inter-American Dialogue. Copyright © 2018 Energy Intelligence Group. Unauthorized copying, reproducing or disseminating in any manner, in whole or in part, including through intranet or internet posting, or electronic forwarding even for internal use, is prohibited.

Sao Paulo: Gridlock Nightmare and EVs Out of Reach

If you've ever been stuck in rush-hour traffic in Brazil's business capital Sao Paulo, the sprawling megacity of over 21 million people, you never quite forget the experience. Supposedly, German Formula 1 racing legend Michael Schumacher once claimed Sao Paulo was the most difficult city where he ever had to drive. Cars grind to a near halt, turning commutes into endeavors lasting hours. Motorcycles, in numbers rarely seen in more developed countries, weave in and out of the spaces between vehicles, often at reckless speeds, complicating navigation.



Want to roll your window down for some fresh air while waiting for gridlock to ease up? Think again. With over six million cars on the road, "SP," as locals call their city, also has major pollution. One University of Sao Paulo study even stipulated that the city's smog is so bad that sitting in traffic for two hours is equivalent to smoking a cigarette (NE Jan.14'16). On the surface, electric vehicles might seem the perfect vehicle, pun intended, to ease Sao Paulo's pollution, especially considering Brazil's electricity matrix is almost entirely derived from carbon-neutral hydro. But if every driver had one, road congestion would still be miserable, and EVs seem stuck at the starting gate due to affordability and availability problems. Mass transit options like electric buses have been able to permeate Sao Paulo's roads to a degree that EVs probably won't achieve anytime soon.

Electric cars have been a tough sell in Brazil, especially as it still battles recession. A recent report entitled *Charging Ahead: The Growth of Electric Car and Bus Markets in Latin American Cities* from the US-based Inter-American Dialogue (IAD) highlights the slow progress. While accounting for over half of all vehicles sold in Latin America, in 2017 there were just 680 electric cars on Brazilian roads, a 0.02% market share. Brazil's status as the world's largest sugarcane grower, sporting the world's largest fleet of flex-fuel cars that can run on gasoline or ethanol made from the sweet crop, also impedes EV entry (NE Sep.17'15). With agriculture still the bulk of GDP, Brazil's ethanol lobby is working to avoid a day when its product takes a back-seat role (NE May12'16).

Another major obstacle remains the prohibitive price point of EVs in Brazil. For instance, Tesla's Model S, retailing in the US for around \$75,000, sells in Brazil at the low end for around 745,000 Brazilian reals, or nearly \$200,000 at current exchange rates. That is some chunk of change in a still relatively poor country, despite Brazil being the globe's eighth-largest economy. Motorists might also admonish you to be vigilant while driving as carjackings are unfortunately common in Latin America's largest city, meaning safety also factors into purchases, with imported EVs considered luxury goods. Even Tesla's Model 3, priced in the US at \$35,000-\$46,000, would still be out of reach for most middle-class Brazilians.

Availability is another issue: One of the only EV buying options in Sao Paulo is Elektra Motors, Tesla's first authorized dealer in Brazil.

Tax incentives that could ease the consumer burden are also largely absent, with Brazil's bloated government running persistent deficits. "Fiscal considerations are important in Brazil," says Lisa Viscidi, Director of the IAD's Energy, Climate Change and Extractive Industries Program and who co-authored the report, "and EV incentives are a tough sell in an austerity environment." Back in 2014, Viscidi notes Sao Paulo's then-Mayor Fernando Haddad of the progressive PT Worker's Party vetoed a bill to give tax breaks to drivers going electric, even after initially supporting it, ultimately needing to balance budgets. On Nov. 1, a break for EVs on one of Brazil's myriad taxes did kick in, lowering an industrialized goods tax by up to two-thirds of what buyers might otherwise pay, depending on the vehicle. However, after conservative President-elect Jair Bolsonaro, who swore budget cuts, takes office on Jan. 1, more perks are likely not in store (NE Nov.8'18). However, Bolsonaro did promise to attract foreign investment and would likely be in favor of EV manufacturers opening factories in Brazil, as it would create jobs and, just like in the oil sector, boost local content.

Sometimes traffic is so heavy that Sao Paulo's business elite commute via helicopter, with office buildings capped with landing pads common. Perhaps it is no surprise then that EVs for mass transit have gained some traction. Regional transportation authority SPTrans now lets operators bid on electric buses from firms like Chinese photovoltaic company BYD — unlike New York City where the state essentially owns buses, Sao Paulo grants licenses to private consortiums (NE Nov.8'18). With most of Brazil's electricity generated from hydro, BYD says its GreenCity buses cost roughly a third of what it might cost to fuel a diesel bus on a per-kilometer basis there. The IAD report notes BYD made a deal this year to deliver 60 buses to one SPTrans consortium. The city's total bus fleet is 16,000 strong.

As Brazilian cities were some of the first to adopt dedicated bus lanes like those found in Bogota, Colombia and Mexico City, interestingly, EV infrastructure might be getting ahead of the vehicles themselves. In July, a 430 kilometer (267 mile) EV corridor was inaugurated between Sao Paulo and Rio de Janeiro, Latin America's longest, under a partnership between BMW and Portuguese utility EDP. Six rapid-charge hubs tied to gas stations run by local retail chain Ipiranga lie along the route. Around a dozen such stations are in Sao Paulo. Old players also seem to be girding themselves for change (NE Oct.25'18). For instance, several of the EV hubs are run by Royal Dutch Shell. On Sao Paulo's outskirts, one charging point even appears to be operated by Petrobras, Brazil's state-owned oil company. ■

Anthony Venezia, New York