

Low margins, high stakes: The Tata Power foundation to Tata Group's electric empire

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Late last month, when Tata Power Company announced its financials for the three months ended September, it revealed a key milestone.

It had nothing to do with the company's mainstay—thermal power generation and electricity distribution—or even its renewables business. Instead, it had to do with its fledgling electric vehicle (EV) charging venture. In that quarter, the company had crossed 1,000 public charging points (PCPs) across 180 cities.

Within four years of diversifying into charging, Tata Power has consolidated its position at the top of the sector, accounting for over 50% of PCPs in the country. Even in the home charging and fleet charging verticals, Tata Power's market share is at ~40%, according to an August report by the brokerage Edelweiss Securities.

Tata Power is central to the EV ecosystem ambitions of the 153-year-old conglomerate Tata Group. While Tata Motors rolls out EVs, Tata Chemicals makes lithium-ion cells, and Tata AutoComp assembles battery packs, Tata Power has been tasked with beefing up the charging infrastructure. Without this, all the other puzzle pieces don't quite come together. But as much as the Tata Group needs Tata Power, it works the other way, too.

Tata Power is the exclusive charging partner to Tata Motors, which accounted for over 70% of India's electric car sales in the three months ended September. In October, Tata Motors raised \$1 billion from TPG Rise Climate—the first climate fund of the global private equity major—and Abu Dhabi's state holding company ADQ for its newly formed EV subsidiary. The deal values the unit at \$9.1 billion.

“Even if Tata Power sets up one charging station at every Tata Motors dealership and service centre, it's huge. That has a network effect,” says a senior executive with a rival charge point operator. They requested anonymity since they did not want to be seen

talking about a competitor. Tata Power can also tap Tata Group-owned retail outlets, including Westside (apparel) and Croma (electronics), besides its Taj and Ginger hotel chains.

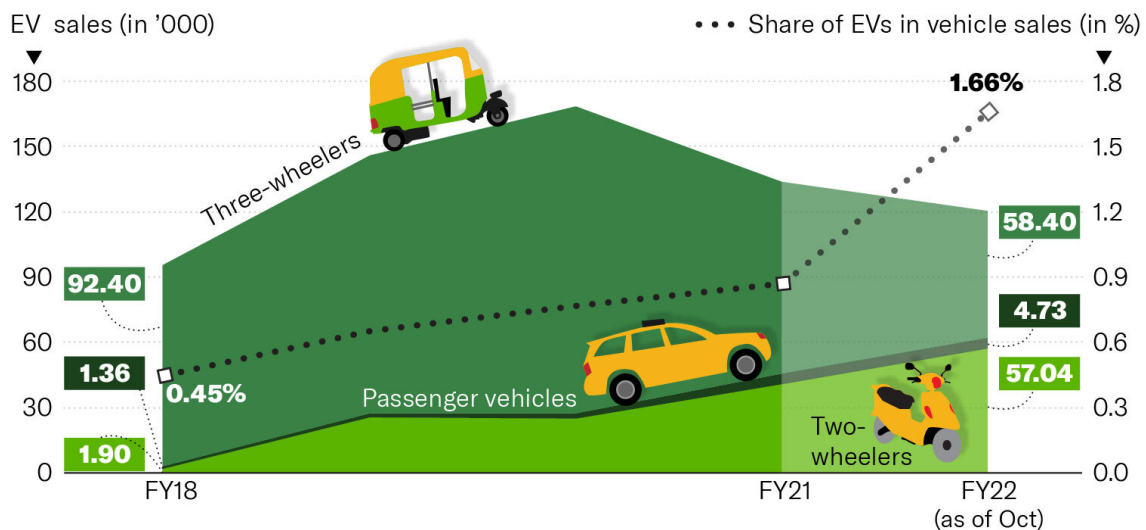
Tata Power is targeting 10,000 PCPs in five years. Its partnerships with fuel retailers such as Indian Oil Corporation (IOC) and Hindustan Petroleum Corporation (HPCL), besides Tata Motors and other automakers such as MG Motor India and TVS Motor Company, will play a key role in reaching that milestone. Tata Power’s other ambitious goal is to have 100,000 installed chargers—including PCPs and home and fleet chargers—by March 2026. That’s a 15X jump from its current charger count of over 6,500.

But even as Tata works towards realising its grand ambitions, it’s faced with an undeniable fact: not all kinds of charging infrastructure are created equal. “Fleet charging and home charging are fixed customer businesses, whereas public charging depends upon vehicle density,” Sandeep Bangia, business head for EV charging at Tata Power, tells *The Ken* over a video call on a recent Saturday morning.

Even so, Tata Power intends to be prepared. “India is clearly and rapidly moving towards EVs. It’s a matter of when, not if,” adds Bangia.

Picking up speed

Electric vehicle (EV) sales have doubled in relation to total vehicle sales this year



Electric commercial vehicles are not included here since their sales are insignificant with just over 900 units between March-October 2021; Only registered sales are reflected here. There is a time lag between sale and registration of vehicles

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Graphic by Prajakta Patil, 26 Nov,'21

Source: Centre for Energy Finance, Council on Energy, Environment and Water

But to many, PCPs are only meant to play second fiddle to home charging. The infra needed for 80% of EV users is already at home, according to Akhil Krishnan, a Bengaluru-based owner of two electric cars—a Mahindra e2o and a Hyundai Kona—as well as an Ather 450 scooter. “When people take road trips, they need public charging, but it’s for a specific purpose.”

That’s why Tata Power wants to be the one installing the charger at a customer’s home when they buy an EV as well. As of September, it had installed close to 5,500 home chargers, up from 3,000 in March.

But there are still questions about EV charging as a business. “At the unit economics level, EV charging is not working out anywhere yet,” says Vishnu Rajeev, mobility and climate tech lead at Axilor Ventures, an early-stage venture capital firm. “Because of the very nature of this industry, it’s not meant to make a lot of money. Charging is a supplementary service.”

Green gains

BlackRock, the world's largest asset manager, is reportedly in talks to invest \$500-750 million in the renewables unit of Tata Power at a valuation of \$5 billion—half the current market cap of Tata Power.

Can public charging be more than a public good?

There is an interesting paradox in public charging that strikes at the heart of its commercial viability.

Unless people can see enough PCPs, they remain unsure about buying EVs. “Without these optics, customers’ range anxiety is not addressed,” says Rajeev. Once they buy an EV, however, they are way more likely to charge it at home or at work.

Tata Power is choosing the best locations for PCPs, says Bangia, drawing parallels with the common Indian practice of calling dibs on an unreserved bus or train seat by putting a handkerchief on it.

PCPs have a bigger role to play on highways than within cities. Bangia believes its partnerships with IOC and HPCL will come in handy on this front. “We normally choose locations where the fuel outlets are co-located with food courts.”

But Krishnan, who frequently travels between Bengaluru, Chennai, and Kochi, says the Tata Power PCPs he has used have mostly been at Tata Motors dealerships and service centres. And he prefers charging stations operated by Tata Power rival Zeon Charging, which are usually at hotels and restaurant chains such as Adyar Ananda Bhavan. PCPs on highways are usually fitted with fast chargers that have a capacity of 50 kilowatt (kW).

The Hyundai Kona can be charged from 20% to 80% in 35 minutes using a 50 kW charger, and in 1 hour and 15 minutes through a 25 kW public charger found in cities. With the 7.2 kW home charger provided by the company, it could take 3-4 hours for the

same.

Charge point operators (CPO) such as Tata Power, Zeon, Fortum, and Magenta allow vehicle owners to locate their public chargers through their respective mobile apps based on the charging standard of the EV. *The Ken* used Tata Power's EZ Charge app to identify a Tata Power charging station at an IOC fuel pump located in one of suburban Mumbai's commercial hubs. It has a 25 kilowatt (kW) connector each for two charging standards—CHAdemo and Combined Charging System (CCS-2). But the former, championed by Japanese automakers, is of little use since there is no compatible EV yet in India.

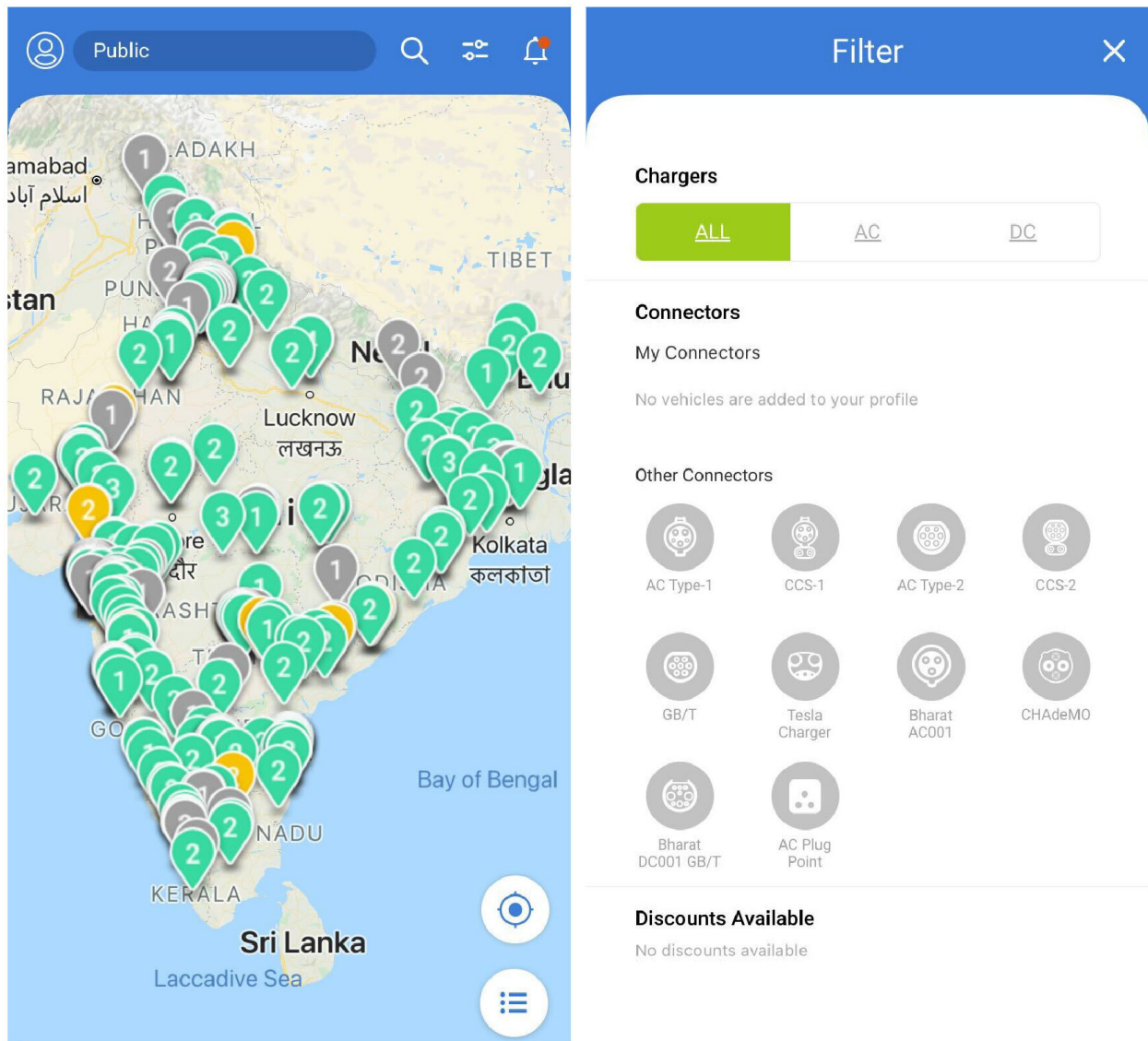
Given the limitations of public charging, does it even have a viable use case within cities?

Awadhesh Jha, executive director of Fortum Charge & Drive India, thinks so. "People assume home and office charging are a fait accompli. But 70% of Indian cars do not have dedicated parking." Fortum, a Finnish state-owned company, operates 115 charging points in 10 Indian cities.

Jha adds that as EV adoption becomes more mainstream, community charging, including in residential colonies, will become essential. Roughly 134,000 EVs were sold in India in the year ended March 2021. That's less than 1% of all vehicle sales in the country. But by 2030, EV sales could account for as much as 10%, according to the ratings agency Crisil. The Indian government is even more bullish, expecting that EVs will account for 30% of private car sales and 70% of commercial vehicle sales by 2030.

EV charging is a miniscule business for Tata Power, whose topline was Rs ~33,000 crore (\$4.4 billion) in the year ended March 2021. While the company did not disclose the size of the vertical, Swarnim Maheshwari, an analyst at Edelweiss, pegged its sales at just Rs 5-10 crore (\$0.7-1.3 million) in that period. But he adds that it could grow to a Rs 500-600 crore (\$67-80 million) business in the year ending March 2025, provided, among other things, EV penetration rises to 5-7% of new vehicle sales and charging infrastructure utilisation to 5%.

But, despite all the noise around PCPs, Tata Power's real opportunity lies elsewhere in the near term.



Screenshots of Tata Power's EZ Charge app showing its network of public chargers and their different standards

Charging's home truth

“Unlike delivery personnel, we have our bikes parked for 20 hours every day,” says Rajeev. “So more than 80% of two-wheelers will be charged at home or at work.” You could make a similar comparison between ride-hailing cabs and personal cars.

So, hitching its wagon to automakers to set up home chargers is a no-brainer for companies like Tata Power. Especially considering it's an asset-light model, where Tata Power does not have to spend on setting up the charger and is instead paid by the auto company. Tata Power gets between Rs 5,000 (\$67) and Rs 15,000 (\$200) per installation, according to Edelweiss.

The biggest weapon in Tata Power's home charging arsenal is its exclusive tie-up with Tata Motors, the country's largest maker of electric cars. Between April and September, Tata Motors sold over 4,400 units of its Nexon EV and Tigor EV—well over two-thirds of

the total electric passenger vehicle sales in the country. Nexon EV alone had a nearly 60% market share, so it's hardly a surprise that the model is also Bangia's official car. Tata Motors plans to invest \$2 billion to launch 10 new EVs over the next five years.

As much as Tata Power is doubling down on home charging, it's just as keen on another target segment: fleets. Among its customers is Lithium Urban Technologies, an all-electric cab fleet operator. As Pawan Mulukutla points out, fleets have the advantage of daily utilisation (of chargers) in fleets and fixed time slots for charging. Mulukutla is director of the electric mobility program at the World Resources Institute India, a think-tank.

Tata Power has also installed around 160 charging points for public buses in cities such as Mumbai, Ahmedabad, and Jaipur. Among Tata Power's suppliers of 200 kW chargers for e-buses is Tata AutoComp, which joined hands with American charger manufacturer Tellus Power Green last year. (Tata Power also works with group companies Tata Consultancy Services and Tata Elxsi on the charging platform and its design.)

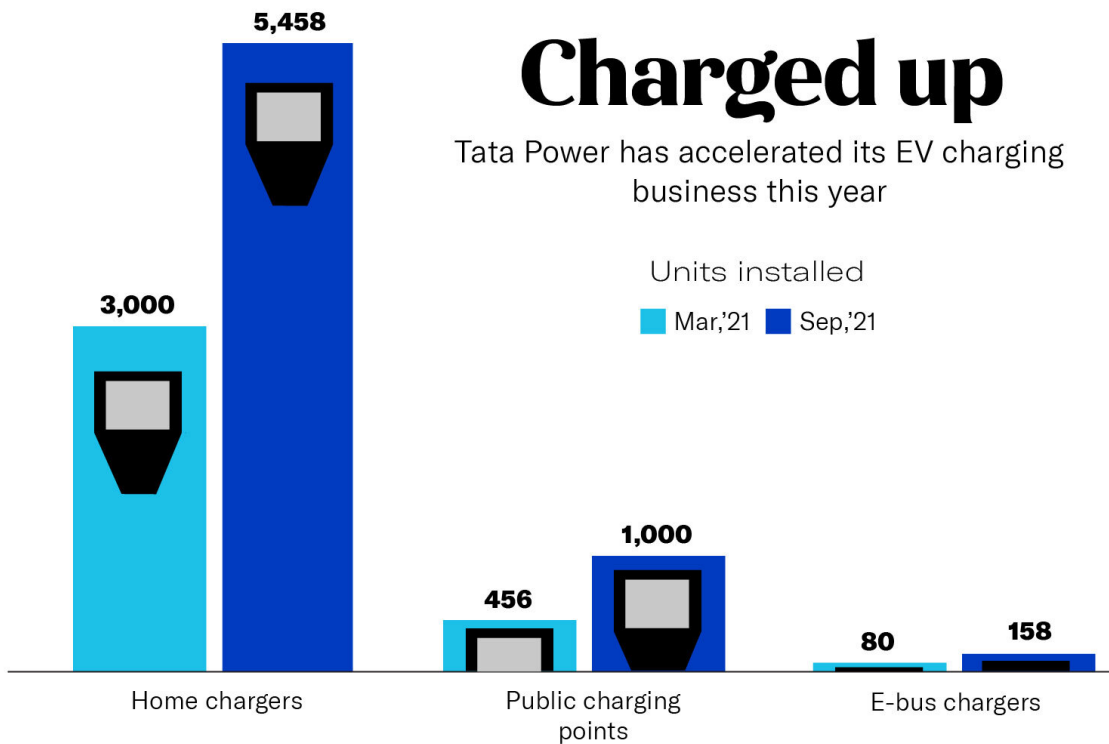
Tata Power's approach to charging has so far been focussed on four-wheelers when two-wheelers and three-wheelers accounted for 97% of India's EV sales in the year ended March 2021. And Tata Power is not unique in that sense among CPOs. "Our charging infra is exclusively for cars," says Fortum's Jha. "Two-wheelers necessarily have slow charging." The lack of charging standards for two-wheelers further complicates matters. "If I have to invest in different chargers, it's not efficient. I'll be stretched thin," adds Jha.

Electric scooters and rickshaws are also form factors where battery-swapping is being considered as a viable alternative to charging. In August 2020, the government allowed the sale of such vehicles without batteries.

Tata Power has decided it wants a piece of the charging action in these categories, too. Last month, it signed an agreement with Chennai-based TVS Motor Company, a major manufacturer of two-wheelers and three-wheelers, to set up charging stations.

Charged up

Tata Power has accelerated its EV charging business this year



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Graphic by Prajakta Patil, 26 Nov,'21

Source: Tata Power

One of Tata Power's key advantages over its peers is the fact the EV charging business can lean on its larger divisions. "Our field teams across verticals are common, and EV charging is one of them," says Bangia. "In cities like Mumbai, Delhi, Ajmer, and the entire state of Odisha, we have an advantage because we run the (power) distribution. We can give connections to ourselves."

Tata Power's all-encompassing charging dreams notwithstanding, there is still a fundamental question to which CPOs still don't have a definitive answer: is there money to be made in charging?

Whither the bottom line?

"New technologies should be looked at through scalability rather than profitability," says Maheshwari. "Even if you look at the Tata Motors-TPG deal, it's based on revenue for the year ended March 2027." TPG and ADQ's 11-15% stake in Tata Motors' EV subsidiary is through convertible preference shares whose conversion to equity will happen by March 2027. This is subject to the company meeting certain revenue targets.

The US is further along the EV adoption curve than India, and the Joe Biden administration wants to spend \$7.5 billion on charging infra over five years. And CPOs such as the market leader ChargePoint Holdings, EVgo, and Volta have ridden the SPAC wave to go public this year. But none of these companies are profitable yet. Nor is their

peer Blink Charging, which went public in 2018. However, the rise of competition in the charging space and subsidies for brand-agnostic chargers have forced the EV giant Tesla to open its network of superchargers to other cars as well.

Just as in the US, the scope for CPOs' expansion is immense in India. The government wants at least one charging station in each of the 70,000 fuel outlets in the country. IOC, India's largest fuel retailer, has said it will set up 10,000 charging stations in three years. And sweetening this are the subsidies available under the Centre's FAME policy and those offered by states. The western state of Maharashtra, for instance, offers a Rs 10,000 (\$135) incentive for a slow charger, up to 15,000 units, and Rs 5 lakh (\$6,700) for a fast charger, up to 500 units.

Tata Power is "very prudent" in setting up PCPs, according to Bangia. But assuming that Tata Power sets up half its planned 10,000 PCPs on its own (with the rest through franchisees) and at an investment of Rs 10 lakh (\$13,400) per PCP, Tata Power is looking at a capex of Rs 500 crore (\$67 million), according to Edelweiss. That is less than half of Tata Power's profits in the year ended March 2021.

Even as Tata Power fends off independent CPOs on the one hand, it has to now contend with a formidable duo on the other. Reliance BP Mobility, a joint venture between refining and petrochemicals behemoth Reliance Industries and global oil major BP, plans to expand its fuel retail network from 1,400 to 5,500 by March 2025. And it reportedly plans to have charging stations at all these outlets.

Reliance BP is also looking beyond fuel pumps and targeting standalone PCPs. In September, it joined hands with EV ride-hailing company BluSmart to set up charging infrastructure. Weeks later, BP invested \$13 million in BluSmart as part of a \$25 million Series A round. BP also brings with it the expertise of Chargemaster, the UK's largest CPO, which BP bought in 2018.

Even if competition intensifies, as it will, in India, and the economics of charging don't improve in the near future, Tata Power may not break a sweat. There are two plausible reasons for that. One, as large as Tata Power looms over the EV charging market, the business will continue to be a footnote for the company in terms of its size. Two, at stake here is the EV fortress the Tata Group wants to build.

And Tata Power has to lay the foundation.

Lead image credit: Seetharaman G