Decarbonising SA's largely pedestrian transport sector

A lack of co-ordination and planning at government level is hobbling the changeover from road to rail

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Minibus taxis parked beneath Eskom electricity pylons at the Elias Motsoaledi informal settlement in Johannesburg. Picture: REUTERS/SIPHIWE SIBEKO

Transitioning SA's transport sector, which accounts for 11% of the country's carbon emissions, to include more low-carbon options will be necessary to reach the country's climate goals, but this transition must also extend options to the majority who still travel on foot.

In this respect the transition of the transport sector shares important similarities with the shift in the electricity sector — importantly, these transition processes must not only focus on decarbonisation, but also on rolling out these services to the share of the population that still lack access to electricity or transport.

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During a recent online panel discussion, hosted by shareholder activist group Just Share, Gaylor Montmasson-Clair, senior economist for sustainable growth at the nonprofit research institution, Trade & Industrial Policy Strategies (TIPS), said the priority should be a "people-centred transport future", because now there is disjuncture between transition planning and the "reality of most people in the country".

"If we look at the actual main travelling modes in the country walking is number one by far, followed by minibus taxis, third cars, then buses, then rail," he said.

"Most people still walk, not by choice but by default, only a third of households can afford to have a private vehicle, and you have more than two-thirds of poorest households in the country spending more than 20% of their monthly income on transport."

Additionally, according to Montmasson-Clair, people who make use of public transport experience long daily commutes of about 65 minutes, for those travelling by taxi, and about 85 minutes by bus. Another rather surprising element of SA's transport sector is that education, and not work, is the main reason people travel. Work comes in second, followed by shopping.

"What we need is a transport system that serves peoples' needs, and we must put money [for development] where it matters," he said.

A purely technology-driven approach that places too much emphasis on the rollout of electric vehicles "is doomed to fail" and risks leaving a large portion of the population behind.

"Electric-mobility should first focus on public transport — minibus taxes and then buses — and we must support the market for entry-level electric vehicles," he said.

About 50% of South Africans who can afford a private vehicle are in the market for vehicles selling under R260,000, Montmasson-Clair said. "We don't have a single EV [electric vehicle] in SA available at that price, so we need a conversation about how we bring entry-level EVs to the country."

This, he said, is "quite doable", and a good starting point will be to reduce the import tariff on EVs, which are subject to 25% import duties while internal combustion engine cars face 18%.

While the penetration rate of EVs is still low at fewer than 2,000 vehicles in a road fleet of about 12-million, load-shedding has given the country a bit of an edge for the adoption of EVs, said Hiten Parmar, director of uYilo e-Mobility.

Parmar told the webinar that load-shedding is never mentioned when we speak about EVs, but it has driven the accelerated deployment of renewable generation storage at homes. As a result, the country ranks sixth globally for residential energy storage, which creates the ideal environment for the uptake of EVs, he said.

Keeping in mind that there are still fewer than 2,000 plug-in EVs in the market, SA does have a good ratio of EVs to charging stations — eight per station compared with 20 vehicles internationally.

The country should not only focus on the mobility side, Parmar said, but also on manufacturing. "The 2035 automotive master plan aims for SA to reach 1% of global automotive production and the manufacture of EVs needs to part of that," he said.

However, SA is "still lagging at implementing the plan", especially the types of incentives that would drive growth in manufacturing.

The energy requirement to achieve a transition in the transport sector, both for mobility and manufacturing, is staggering. According to Dave Collins, independent consultant in energy, decarbonisation technology and climate change, who chaired the discussion, the transport sector will need additional renewable energy capacity of 30GW to 40GW, on top of the roughly 150GW needed to transition the electricity sector by 2050.

About 91% of SA's transport emissions can be attributed to road transport, shipping contributes less than 1%, and aviation about 8%.

The focus for decarbonising the industry should therefore be on shifting people from "cars to public transport" and while the ideal solution is to "shift from road to rail", SA's passenger rail system is in a shambles. With little attention from the government on fixing the system, it was not clear what role rail will ultimately play in the move to low-carbon transport options, Collins said.

Business Day previously reported that the number of service corridors operated by the Passenger Rail Agency of SA has declined from 40 in 2018/2019 to only 15, causing the number of passengers carried to plummet from 500-million a year to 17-million.

Dave Wright, an independent energy consultant who worked for Engen for more than two decades and now serves on the board of the SA National Energy Association, said moving the transportation of goods, if not people, from road to rail is "critical".

But the government "dithering" is holding this back. "We need a holistic approach to transitioning the [transport] system, but [at the moment] there is no co-ordinated approach at government level. Until we get clear direction and action from the government this whole transition will remain stagnant," Wright said.

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