SJRP Sectoral Deep Dive
Petroleum-based transport: taxi industry transition study

TIPS learning event

Nokwanda Maseko

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Presentation outline

- Context
- Challenges for the industry's transition
- Enabling the transition: access to NEVs
- Enabling the transition: financing options

Context

- The taxi industry is a central part of SA public transport
- The industry is largely informal
  - More than 300 000 licenced and unlicenced vehicles
  - More than 300 000 people employed
- Accounts for less than 5% of the passenger vehicle population, but transported about two-thirds of households in 2020
- Taxi industry emissions part of road transport emissions (road transport accounts for more than 90% of transport emissions)
  - Actual share not clear
- Informality makes transitioning the industry a challenges

Challenges for the industry's transition

- **Limited availability of NEV minibus taxi models**
  - Commonly used SA minibuses carry 10-16 people, few midi-buses carrying up to 22 people
  - Few available options globally – Hyundai County electric can carry 15-33 people, Chinese Aucwell can carry up to 11
  - Local eKamva model has 15 seat capacity (still at pilot phase)
- **Upfront costs remain prohibitive**
  - eKamva estimated between R1.1 million and R1.2 million, compared to between R400 000 and R800 000 for standard ICE taxis
- **Limited availability of charging infrastructure**
  - SA has around 500 charging stations, mainly in GP, KZN, and WC
  - Mainly in urban areas and long distance routes
  - Available fast chargers can take up to 30 minutes to get to 80% charge
- **Energy source and security of supply**
  - Charging infrastructure needs to use renewable energy, otherwise its just transferring emissions from liquid fuels

Enabling the transition: access to NEVs

Local manufacturing:

- More than 15 000 ICE taxis assembled locally p.a by Toyota and BAW
- Production incentivised through the P-AIS
  - Covers 20% to 35% of the value of qualifying investment
- Existing assemblers can convert existing production lines
  - Possibility of mixed production in medium term full EV shift in long-term
- P-AIS needs amending to cater for NEVs

Conversion of existing ICE fleet:

- Could convert ICE fleet to NEVs
- Will incur costs for conversion, but lower than new NEV purchase
- Conversions need to comply with NRCS specifications for M2 and M3 vehicles
  - Key safety areas include vehicle weight, seats and restraining devices
- Battery would still be a key cost driver

Imports:

- Industry already imports some taxis
- Possibility of importing if no local production, or even if imports are cheaper than local models
- But NEV imports still carry a 25% duty, which adds to the cost

Enabling the transition: financing options

- Upfront cost of NEVs still prohibitive
- But long-term cost cheaper compared to ICE
  - Diesel operating cost estimated at over R6/km, compared to about R1.20/km for an EV
- Low energy costs and limited maintenance requirements allow for long-term NEV savings
- Need to address issue of upfront costs

Taxi recapitalisation programme:

- Introduced in 2006 to remove old taxi vehicles from public roads, with a R50 000 allowance
- Expanded in 2019 to include economic opportunity creation as part of objectives
- Few changes needed to support NEVs
  - Definition of old taxi vehicle: old taxi vehicles defined as manufactured or acquired before 4 September 2006
  - Obligation to purchase: the RTRP does not mandate purchase of new vehicle with allowance
    - Possibility of mandating those receiving the allowance to use it as deposit for NEV purchase
  - Allowance amount: current allowance of R164 600 insufficient.
    - Covers about 30% of the petrol Toyota Ses'fikile, and would cover about 15% of the eKamva

Enabling the transition: financing options

Private financing and partnerships:

- Taxi industry financing mainly done through SA Taxi
  - Sells, finances, insures and maintains taxis
  - Requires taxi association membership
  - Has received loans including from AfDB to support operations and lending
- Banks don't generally fund taxi industry
  - But recent partnership between Absa and Foton allows purchase with Foton Taxi Financing
- These options could be tailored to support NEV purchase over longer terms

Battery-related cost reduction options:

- The battery accounts for around 40% of NEV costs
- It has an average lifespan of 13 years
- Two options to explore
  - Lease to buy: aim is to allow operators to buy NEVs at ICE prices
    - Rent a battery through specialised financing
    - Once paid-off, ownership shifts to taxi operator
    - Similar model to solar energy installations
  - Straight rental with no buy option: operators can rent a battery with no buy option
    - Use a pay-as-you-drive model
    - Operators can swap the battery for a charged one whenever necessary
- These options require strong supply and charging infrastructure to be accessible

Key takeaways

- Transition made hard by the industry's informality
- Needs support to access taxi models and financing
  - Model access can be through local production, conversion of ICE fleet, and/or imports
  - RTRP and P-AIS key to financing, but necessary for private financiers to be part of the transition

Thank You