Challenges for the tendering and acquisition of e-buses in LATAM and India

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Support 20 deep dive cities
Establish a mentee city network until 2022
Inspire 500+ cities until 2025
Ensure the ‘readiness’ of 100,000 e-buses by 2025
TUMI E-Bus Mission Deep Dive Cities

Monterrey, Mexico
Guadalajara, Mexico
Mexico City, Mexico

Barranquilla, Colombia
Bogotá, Colombia
Valledupar, Colombia

Campinas, Brazil
Salvador, Brazil
Rio de Janeiro, Brazil
São Paulo, Brazil
Curitiba, Brazil

Ahmedabad, India
Bangalore, India
Chennai, India
Delhi, India
Mumbai, India

Jakarta, Indonesia
Durban, South Africa
Kampala, Uganda
Nairobi, Kenya
Idealized steps towards e-bus deployment in cities

1. **Political Commitment**: Set targets
2. **Fleet-Wide Strategy**: Define technology, infrastructure, operational strategy and cost
3. **Public Tendering**: Procure vehicles and infrastructure in line with the target
4. **Vehicle Deployment**: Put vehicles and infrastructure into service
Short and long-term e-bus targets in LATAM (selected cities)

**TUMI E-Bus Mission – short term e-bus targets in Latin America**

- **Mexico City**
  - Diesel bus ban by 2025
  - **Bogotá**
    - 1,485 e-buses by 2022
  - **Barranquilla**
    - 300 e-buses by 2023
  - **Valledupar**
    - 22 e-buses by 2023
  - **Campinas**
    - 143 e-buses by 2024
  - **São Paulo**
    - At least 2,600 e-buses by 2024
  - **Curitiba**
    - 30% of the bus fleet of Lines Inter 2 and BRT East/West operating with e-buses
  - **Rio de Janeiro**
    - Replace 20% of the public transport fleet with zero-emission buses, reducing air pollution and urban noise by 2030

**TUMI E-Bus Mission – full electrification targets in Latin America**

- **Guadalajara**
  - Full electrification by 2050
    - (Carbon neutrality)
  - **Salvador**
    - Full electrification by 2049
  - **Mexico City**
    - Full electrification by 2035 (metrobus)
  - **Curitiba**
    - Full electrification by 2050
  - **São Paulo**
    - Full electrification by 2038
Short and long-term e-bus targets in SE-Asia (selected cities)

TUMI E-Bus Mission – short term e-bus targets in Asia

- Ahmedabad: 300 e-buses by 2023
- Mumbai: 1500-3000 e-buses by 2023
- Bangalore: 1500 e-buses by 2023
- Jakarta: 500 e-buses by 2025

TUMI E-Bus Mission – full electrification targets in Asia

- Ahmedabad: Full electrification by 2024
- Mumbai: Full electrification by 2025
- Bangalore: Full electrification by 2030
- Jakarta: Full electrification by 2030
Tumi ebus mission - technical assistance

Deployment of ~3600 e-buses

Visioning for electric bus adoption
- Development of Decarbonization Strategy
- E-bus Technology Support
- 2035 Business Scenarios
- Strategize Organization Restructuring

Electric Bus Deployment Support
- Depot Prioritization Plan
- Route Prioritization Plan
- Future Procurement Support
- Replacement Strategy for ICE Buses

5 Deep-dive cities
Grand challenge – lowest bid rates ever

- Demand aggregation across 5 cities – a total demand of 5450 e-buses across various 9m and 12m segments

- Homogenizing design, Terms & Conditions - Revising the terms of contract, which led to a devolution of project risks.
  - **assured kms**, opportunity charging time during day
  - Contract period – 12 years
  - Electricity cost with authority
  - project termination directives, subsidy determination formulae, fee revision modalities

- Record low prices – setting the lowest benchmark for e-bus operations in India

Source: WRI India
TCOs for E-buses in LATAM

TCO comparativo para buses eléctricos y diésel con diferentes kms anuales recorridos

<table>
<thead>
<tr>
<th>Ciudad</th>
<th>Rendimiento</th>
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<tbody>
<tr>
<td>Lima</td>
<td>0,78km/kWh</td>
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<tr>
<td>Montevideo</td>
<td>1,09 km/kWh</td>
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<tr>
<td>Montevideo</td>
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<td>Bogotá</td>
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<tr>
<td>Buenos Aires</td>
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</tr>
</tbody>
</table>

Fuente: Bloomberg New Energy Finance 2020
Copied from India Blooms News Service: Tata Motors wins largest govt e-bus tender worth Rs 5,000 cr

New Delhi: Tata Motors has emerged as the least cost bidder across all five categories of electric buses contained in the Grand Challenge tender process under the remodeled FAME II scheme for electric buses.

The tender notification was issued by the Ministry of Heavy Industries on June 11, 2021. The tender was opened on Tuesday, April 26, 2022.

"The rates seen in this tender are the lowest ever – with Tata Motors coming across as the least cost bidder across all five categories of electric buses contained in the tender," the Ministry of Heavy Industries said in a statement.
The C40 CTFA brought together senior level representatives from nine Brazilian cities and experts from around the world to develop viable business models to implement zero-emission buses and help advance financing projects.
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Thank you!
Gracias!
Obrigado!