Philippine Country Experience

Forging inclusive roadmaps for paratransit modernisation and electrification

Transport and Climate Change Week, Berlin 14 September 2023, 11:30 – 13:30



On behalf of



Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (2BIE)

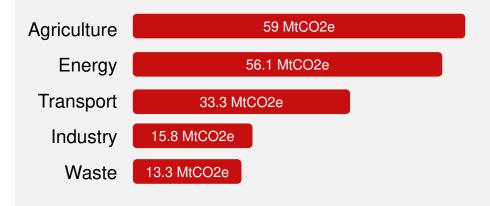
of the Federal Republic of Germany

Country Context: About the Philippines



- Country Population (2022): 115.6 M
- Metro Manila Population: 13.4 M
- GDP per capita: PHP 198k or EUR 3258

Top 5 Sources of GHG Emissions in PH



Sources: World Bank, Philippine Statistics Authority, CAIT Climate Data Explorer via Climate Watch



№ National Target

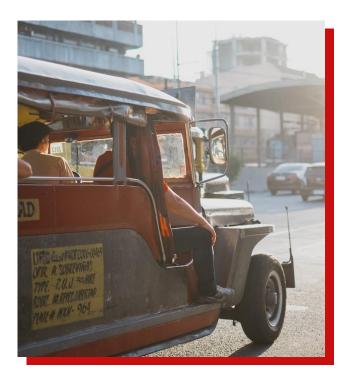


Philippine commitment (2.71% unconditional and **72.29% conditional**) of projected cumulative GHG emission reduction and avoidance from a BAU scenario of **3,340.3** MtCO2e emissions from **2020-2030** (target to reduce to **835** MtCO2e)

Salient Features of the NDC

- 1. Aspirational Peaking
- 2. Climate Change Adaptation
- 3. International cooperation & market and non-market mechanism
- 4. Circular Economy
- 5. Traditional knowledge, education and public awareness

Existing Paratransit Challenges



- Industry is highly **fragmented** and often **individualized**
- Limited financial literacy
- Not subsidized
- No fleet renewal
- On-street competition with small-scale vehicles

(e.g. minibuses)

Public Utility Vehicle Modernization Program



Full study: The Jeepney+ NAMA: Transforming Public Transport in the Philippines

Page 6 | 14 Sept 2023 | Forging inclusive roadmaps for paratransit modernisation and electrification

| Reforming the public transport system, including the jeepney sector, has been on the political agenda since decades but never materialized due to various factors: | | | |
|---|--|--|--|
| Social Function | Most important mode of urban transport in the Philippines: Social Service & Fills out a gap of missing mass-transport options | | |
| Outdated Technology | Safety and Comfort issues, Highly inefficient technology -> high fuel consumption and high emissions -> massive health impacts Low service quality -> mode of last resort -> modal share shift | | |
| Outdated Operations | Inefficient operations due to lack of proper investments on assets and compensation for drivers + poor driving + competition on the street -> poor service quality & congestion | | |
| Outdated Regulation | Outdated franchising system: highly fragmented market Competition in the market rather than for the market & impossible to monitor or regulate market | | |
| Government Capacity | Resource pressures on government capacity for planning, monitoring, and regulation | | |
| Lack of Data | Lack of understanding the sector | | |

Results of Early Evaluation Study

| AVERAGE | TRADITIONAL JEEPNEY | MODERN ROUTES | AVERAGE CHANGE |
|---------------------------------|----------------------|---|----------------|
| Daily operating hours | 14hrs | 19 hours | 36.00% |
| Vehicle utilization | 127km | 150km Diesel Jeepney (90km Electric Jeepney) | 18.00% |
| Days of operation per week | 5.6 days | 6 days | 7.00% |
| Staff per vehicle/day | 1 driver | 2 drivers, 1.5 conductors | 350.00% |
| Staff earnings/day | PHP 650 (EUR 10.7) | 600 + benefits | ~ |
| Vehicle capacity | 20 seat (16-24 seat) | 30 max (22-24 seated) | 50.00% |
| Fuel Economy | 5.9 km/l | 5.2 km/l | -12.00% |
| Fuel economy per passenger/km | 111 km/l | 156 km/l | 41.00% |
| Daily ridership Pax/day/unit | 300 pax | 460 pax (Euro IV Jeep 300-750) (EJeepney 200-250) | 53.00% |

Full study: Reforming the (semi-)informal minibus system in the Philippines: The 'Public Utility Vehicle Modernization Program' Early Route Evaluation

Page 8 | 14 Sept 2023 | Forging inclusive roadmaps for paratransit modernisation and electrification

Fleet Financing

| Php 15.6 B (EUR 257 M) | Loan approvals for 7,128 PUV units | F |
|----------------------------|---|---|
| Php 729 M (EUR 12 M) | Equity subsidy released for 4,659 PUV units | |
| Php 133.3 M (EUR 2.2 M) | Equity subsidy released for 313 PUV units | |
| Php 63.8 M (EUR 1 M) | Equity subsidy in reserved application for 178 units | |

FINANCING INSTITUTIONS



and other private financing institutions



Commercial Performance

- · Majority of operators positive about commercial performance
- · Commercial return on both diesel and electric jeepney seen to be strongly positive over life of investment
- Healthy NPV on investment and IRR >50%

Contributary Factors

- · Larger vehicles
- Higher utilization rate
- · Low capital investment requirement and preferential finance
- · Benefits of operational and fleet management

A change of perspective on investment required

- · Vehicles covering operating costs and amortization during repayment period for majority of operators
- More significant returns made post repayment period, enabling operators with a longer term vision to achieve strong commercial performance

Flectrification Plans: Industry Goals

- $\checkmark\,$ Increase the utilization of EVs in the domestic market
- ✓ Deploy a sufficient number of EV charging points across the country between 2023 and 2040
- ✓ Position the Philippine EV industry to become a producer and exporter of EVs by 2040
- ✓ Promote sustainable economic growth and just e-mobility transition by protecting employment in the automotive industry and providing capacity-building activities and EV-specific transition programs
- Support research and development in battery research, and EVCS technology
- ✓ Digitalization to spur technological innovations and strengthen the competitiveness of the local EV industry



Flectrification Plans: CREVI Projected Results

Projected Results of the CREVI on Cumulative EV and EVCs inventory by 2040

BUSINESS-AS-USUAL SCENARIO

At least ten percent (10%) EV fleet* by 2040

| | Short term (2023-2028) | Medium term (2029-2034) | Long term (2035-2040) | Grand Total |
|------------|----------------------------------|-----------------------------------|---------------------------------|-------------|
| EV Targets | 311,700 | 580,500 | 850,100 | 1,744,400 |
| EVCS | 7,400 | 14,000 | 20,300 | 41,700 |

CLEAN ENERGY SCENARIO

At least fifty percent (50%) EV fleet* by 2040

| | Short term (2023-2028) | Medium term (2029-2034) | Long term (2035-2040) | Grand Total |
|------------|----------------------------------|-----------------------------------|--------------------------|-------------|
| EV Targets | 2,454,200 | 1,851,500 | 2,001,600 | 6,306,480 |
| EVCS | 65,000 | 42,000 | 40,000 | 147,000 |

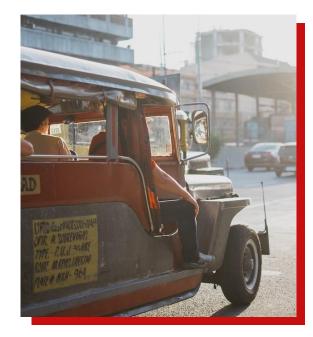
*EV share from the total projected vehicle fleet

Upcoming Project: TRANSCEND

Activities under the Transformative Actions for Climate and Ecological Protection and Development project include:

- ✓ Providing **policy advice** at the national level to consolidate and develop financing mechanisms for public transport
- ✓ Liaising with operators and manufacturers to identify further barriers and challenges in the implementation of sustainable public transport measures.
- Collaborating with a national financial institution to develop a curriculum for financial training of cooperatives, specifically focused on accessing and accounting loans for modern vehicles
- ✓ Conduct a train-the-trainer program based on the developed curriculum



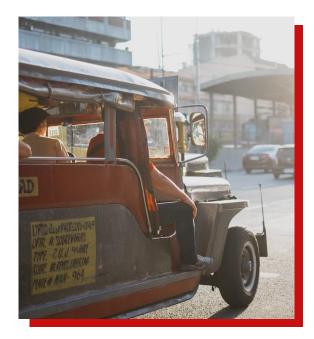


Upcoming Project: TRANSCEND

Activities under the Transformative Actions for Climate and Ecological Protection and Development project include:

- ✓ Review the PUV Modernization program
- Conduct an international review of public transport fleet decarbonization in cities.
- ✓ Develop an electrification roadmap for public transport in the Philippines
- Provide support to the Department of Environment and Natural Resources (DENR) in reforming regulations for the modernization of old vehicles





Thank you! Patricia Mariano, Chief Advisor (PH), Urban-Act

patricia.mariano@giz.de