United Nations Framework Convention on Climate Change

Agenda item 4.1 (c) (i)
Paragraph 36 of the annotated agenda

SSC-NM102: “Ride hailing services”

CDM EB 102

Bonn, Germany, 25 to 28 March 2019

UNFCCC Secretariat
SDM programme

Background

- A proponent, Beijing Didi Infinity Technology and Development Co. Ltd. submitted SSC Type III meth from Transport sector.

- Proposal to use of ride-hailing application/platform (app) to,
  - Book taxis,
  - Book ride-hailing cars (ride sharing with another passenger(s)),
  - Book hitch-riding cars (ride sharing with driver).

Purpose

Proposal submits a new methodology for **better utilization of loading factor** of taxis / passenger cars.

Key issues and proposed solution

Applicability

- **Applicable to passengers using ride-hailing app** to book taxis, book ride sharing with another passenger(s) or book ride sharing with the driver.
- **Applicable to passenger cars** only.
- Only **ride-hailing app** apply for emission reductions.
- Travelling between different cities is not allowed.
- **Applicable when share of passengers** using ride-hailing apps, is **<= 20% of the total passengers travelling** by taxis in host city in recent 1 year.

Key issues and proposed solution

Baseline scenario for each of the measure is;

Measure 1: Booking of taxis – Taxis find passengers by cruising or waiting at taxi stand/service centre or web-based or phone booking system without the ride-hailing app;

Measure 2: Booking ride sharing with another passenger(s) – Passengers would take different transportation measures other than ride-hailing cars in absence of project activity;

Measure 3: Booking ride sharing with driver – Drivers would travel alone without sharing ride with the passengers, and the passengers would take different transportation measures other than hitch-riding cars in the absence of project activity.

Key issues and proposed solution

Applicable vehicle categories in baseline scenario

- ERs generated **from shift of baseline transport** mode,
  a) Passenger cars,
  b) Taxis,
  c) Online-hailing cars without sharing,
  d) Buses,
  e) Motorcycles,
  f) Rail-based urban mass transit (metro, light rail transit, trams),
  g) Non-motorized vehicle,
  h) Other vehicle categories such as para-transit and
  i) Others.

  Vehicle category is not identified, it should be categorized as “others”.

  Baseline emissions for vehicle categories (g), (h) and (i) should be determined as zero.

Key issues and proposed solution

Baseline emissions

- BE of specific car booking model *i* ($BE_{i,y}$) is function of baseline passenger-mileage ($PD_{b,i,y}$), share of passengers shifted from baseline vehicle categories *($SD_{i,j}$) and* EF of that vehicle category ($EF_{pkm,j,y}$)

$$BE_{i,y} = PEF_{b,i,y} \times PD_{b,i,y} \times 10^{-6}$$

$$PEF_{b,i,y} = \sum_{j} (EF_{pkm,j,y} \times SD_{i,j})$$

- $EF_{pkm,j,y}$ is calculated using approach provided **TOOL18: Baseline emissions for modal shift measures in urban passenger transport**.

Key issues and proposed solution

Baseline passenger-mileage is calculated using;

a) Passenger mileage of taxis and average unloaded ratio of taxi in baseline and project scenario for **Measure 1**;

b) Baseline travelling mileage of ride-hailing cars and number of passengers under each booking order for **Measure 2**; and

c) Baseline passenger mileage of hitch-riding cars' drivers under each booking order and baseline travelling mileage of hitch-riding cars and number of passengers under each booking order for **Measure 3**.

Key issues and proposed solution

Project emissions

- **Measure 1: Booking online taxis** – is **deemed zero** as total travelling mileages of taxis remains same under project activity
- **Measure 2: Booking ride sharing with another passenger(s)** – calculated as multiplication of total travelling mileage of ride-hailing cars under booking orders ($D_{o,y}$) and EF per kilometre of ride-hailing cars ($EF_{km,o,y}$)
- **Measure 3: Booking ride sharing with driver** – calculated as multiplication of total travelling mileage of hitch-riding cars $\left(\mathrm{D}_{\mathrm{h,y}}\right)$ and EF per kilometer of hitch-riding cars $\left(\mathrm{EF}_{km,h,y}\right)$

No leakage is considered.

Key issues and proposed solution

ERs generated using ride-hailing app due to

- **Avoided unloaded cruising** of taxi to find passengers (Measure 1).

- **Avoided duplicate driving of separate vehicles** with the same or similar route **from passengers** (Measure 2)

- **Avoided duplicate driving** of separate vehicles with same or similar route **from driver and passenger** (Measure 3).

Recommendation to the Board

- MP **recommends that the Board to approve** the proposed new methodology.