Opportunities and Challenges of Implementing Low Carbon, High Volume Transport in Bangladesh

Objective of todays presentation

- Background
- Current transportation trend
- Low carbon High volume transport opportunities in Bangladesh
- Challenges

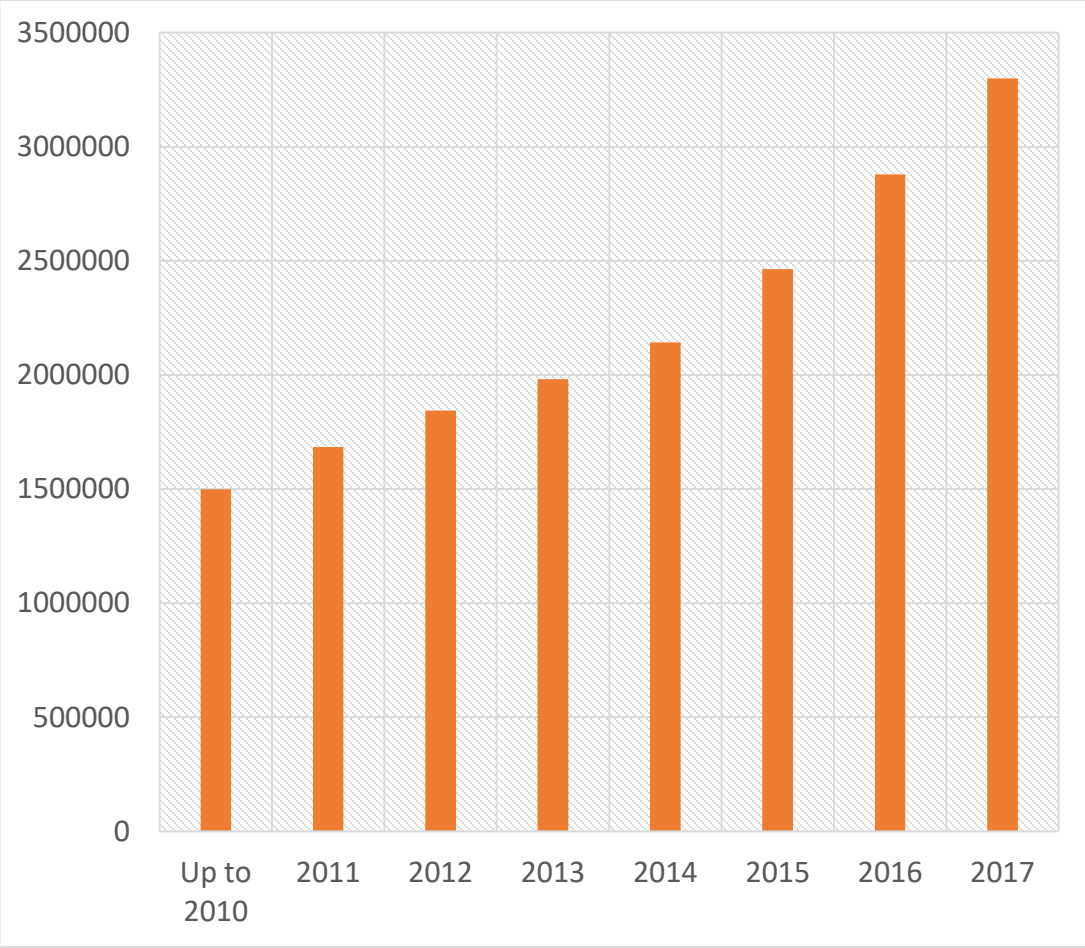
Background

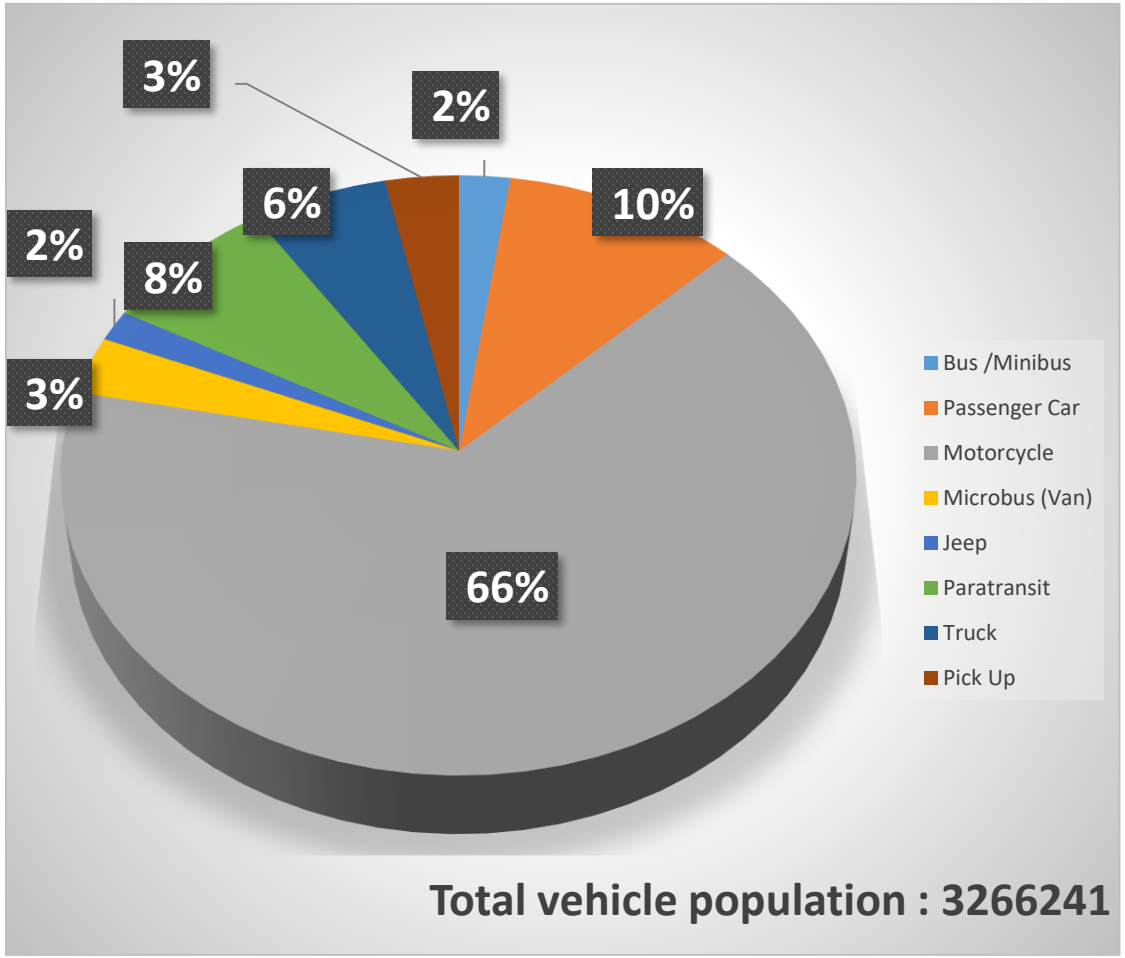
- Bangladesh is a highly climate vulnerable country with less than 0.35% of global GHG emissions
- If the world fails to take ambitious action to reduce GHG emissions, the costs to Bangladesh of climate change could amount to an annual loss of 2% of GDP by 2050 and 9.4% of GDP by 2100
- Bangladesh therefore wants to play its part in global collective action to reduce GHG emissions.

Emission reduction target in NDC

Sector	Base year (2011) (MtCO2)	BAU scenario (2030) (MtCO2)	BAU change from 2011 to 2030	Unconditional contribution scenario (2030) (MtCO2)	Change Vs BAU	Conditional contribution scenario (2030) (MtCO2)	Change Vs BAU
Power	21	91	336%	86	-5%	75	-18%
Transport	17	37	118%	33	-9%	28	-24%
Industry (energy)	26	106	300%	102	-4%	95	-10%
Total	64	234	264%	222	-5%	198	-15%

Vehicle Composition and Trend

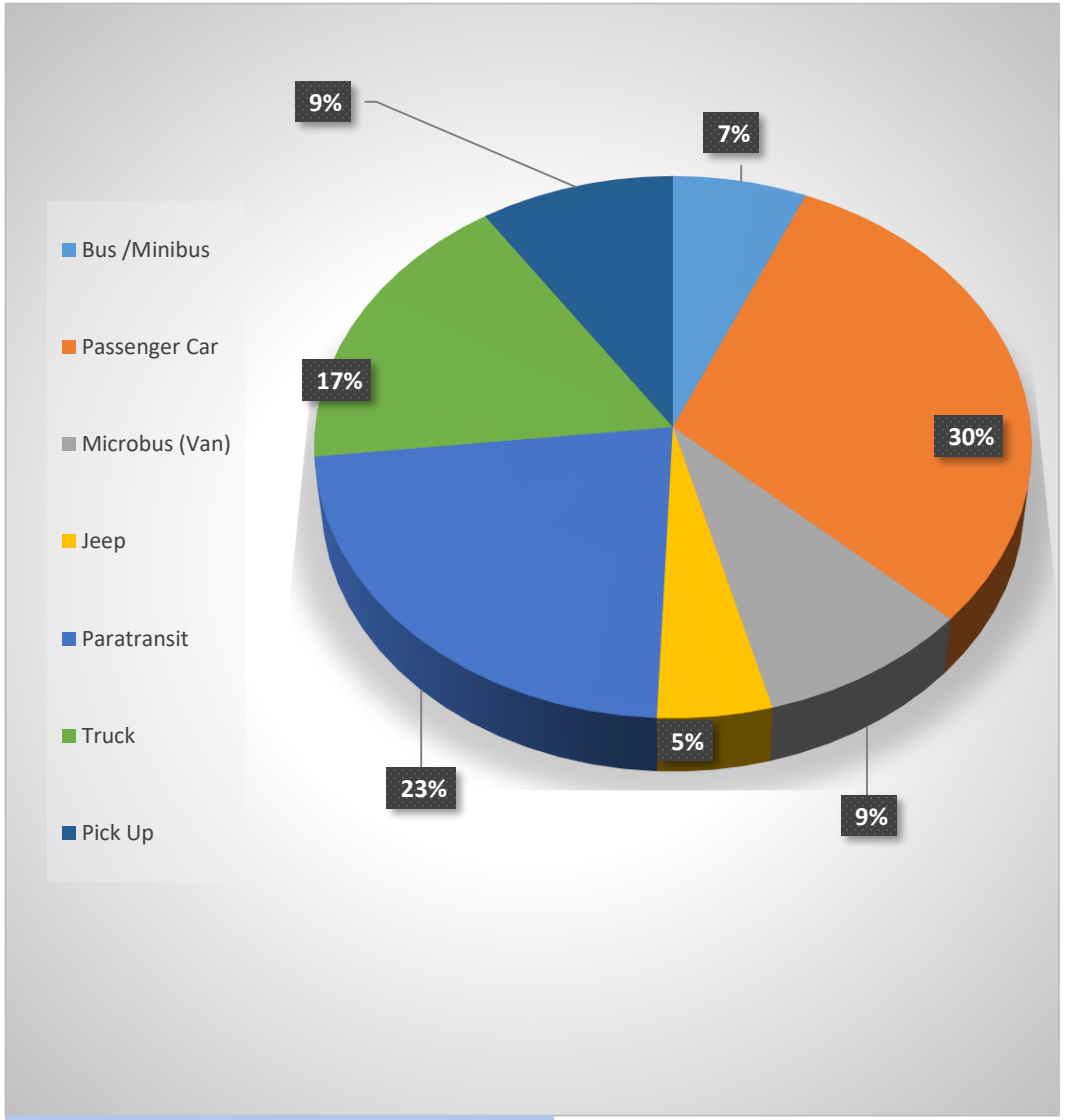




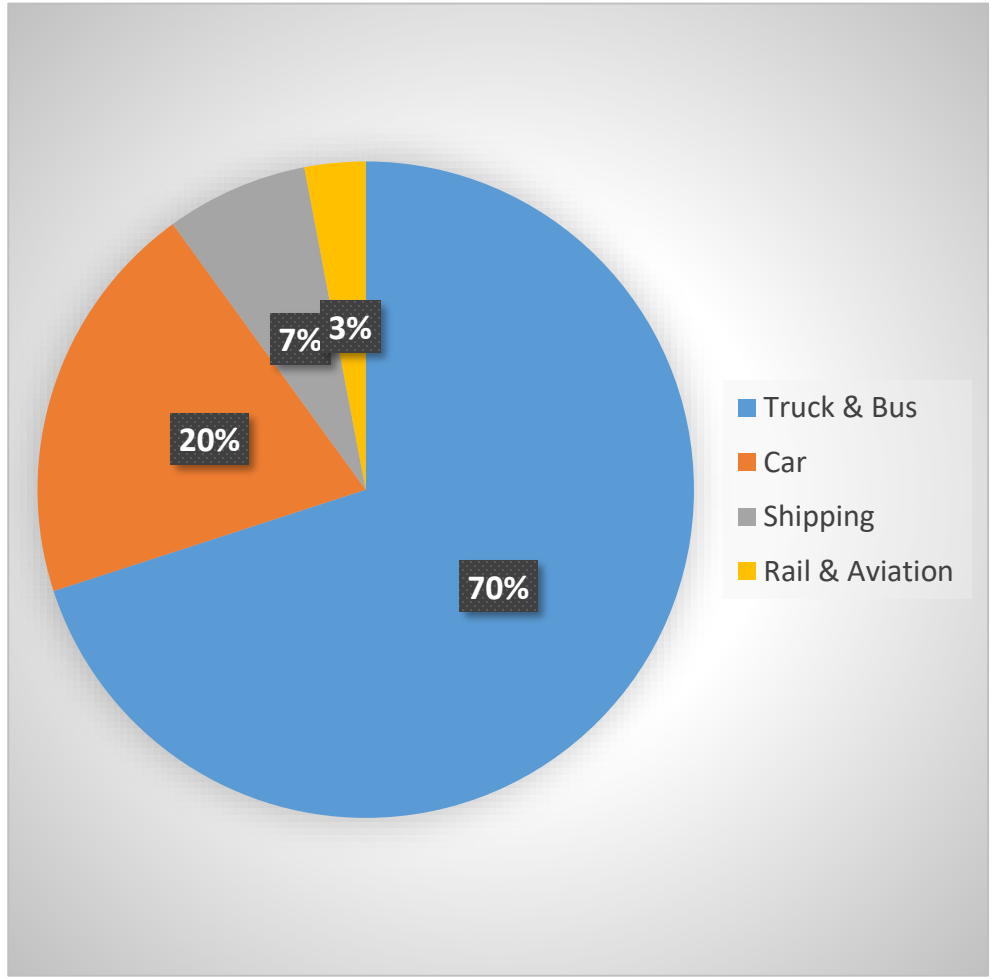
- **Car ownership** (1000) : **Bangladesh - 1.8**
  Dhaka -15

Source: BRTA 2017

Vehicle Composition and Trend



Source: BRTA 2017



Transport Sector CO_2 Emissionin Bangladesh

Vehicular emission Standard

Vehicle Type	As Per 1997 ECR	As per 2017 ECR	2020
Light duty diesel vehicles with GVW≤ 2500 kg	EURO I	EURO II	EURO III
All Cars and light duty diesel vehicles with GVW: 2500 -3500 kg	EURO I	EURO II	EURO III
Light duty Petrol and CNG vehicles with GVW≤ 2500 kg	EURO II	EURO III	EURO IV
All Cars and light duty Petrol and CNG vehicles with GVW: 2500 -3500 kg	EURO II	EURO III	EURO IV
All commercial Diesel vehicles > 3500 kg	EURO I	EURO II	EURO III
All commercial CNG vehicles > 3500 kg	EURO II	EURO III	EURO IV

Bangladesh I/II/II/IV

Fuel used in Transport Sector of Bangladesh

Type of Fuel (consumption in 2016-17 MT)	Type of Vehicle	Major pollutants	Comments
Petrol (417898)	LDV	PM, VOC, lead, Nox, SO2, GHG	From July 1999 import of unleaded petroleum banned
Diesel (2178171)	Bus/Truck/SUV		500 ppm from 2016
CNG	LDV/Bus/Truck/ 3 wheeler	GHG (min)	Introduced in 1995 503131 nos. Veh.(2017)
LPG	LDV	GHG (min)	Started 2016 5000 nos. LDV
Electricity	Passenger car/SUV	“O” tailpipe emission	Getting Popular

Major reasons of vehicular emission

- Existing HDV's are mostly EUROI/II and use high sulfur contain diesel (2000-3000ppm)
- Existence of Old, poorly maintained vehicles
- Inadequate regulatory framework for inspection
- Congestion due to Poor traffic management

National Transport and climate change related Policy

- National Integrated Multi-Modal Transport Policy 2013
- Strategic Transport Plan for Dhaka 2016
- Road master plan (2009)
- Railway Master Plan (2013)
- Bangladesh Climate Change Strategy and Action Plan (BCCSAP)
- National Sustainable Development Strategy 2010-21 (2013)
- Perspective Plan of Bangladesh 2010-2021
- Delta plan 2100

LC-HVT options for Bangladesh (already in place)

- **Shift to more sustainable mode (lower GHG emission per passenger/km)**
  - **Rail and Road based Mass transit**
  - **Restructure Bus routes**
- **Shift to more sustainable mode (lower GHG emission ton/km)**
  - **Enhance capacity of rail freight movement**
  - **Enhance capacity of freight movement by waterway**
- **Shift to cleaner fuel and Technology**
  - **Reduce the sulfur level from diesel (50 ppm by 2023)**
  - **EURO IV by 2020**
  - **Use of CNG both for private and public bus**
  - **Hybrid Vehicle tax incentive**
  - **More than 5 years old vehicle cant import**
- **Demand management: Avoiding unnecessary transport trips and/or shorten length of trips with improved land use planning**
  - **Use of ICT to reduce travel (national level/ local level) , Car free day/street**
  - **Reduce school trips by reserving 40% seat for local resident**

LC-HVT options for Bangladesh (already in place)

LC-HVT options for Bangladesh (to be done)

- **Expansion of mass transit network in Dhaka and Initiate in other major cities**
- **Electric vehicle (private and public)**
- **Multimodal integration**
- **Green freight including eco-driving**
- **10 ppm or less Sulfur level**
- **Investment in charging station**
- **Trained Manpower for maintenance**
- **More incentive for Hybrid and electric vehicle**
- **E- vehicles for Government**
- **Upgrade 2 lane to 4 lane, Intersection development & SMV lane on Major Highways**
- **Emissions graduated tax**

Challenges for LC-HVT

- *Lack of inter-Ministry coordination*
  (Transport/Environment/Energy/Commerce/Shipping /Railway etc..)
- *Need Strict law and enforcement for adulteration*
- *Need dedicated supply of low sulfur diesel*
- *Lack of awareness of people about air pollution*
- *Need huge investment to develop I/M centers*
- *Inadequate skills, capacity, or knowledge regarding LCT*
- *Absence of regulatory framework*

Thank you