National Freight Transport Decarbonization Priorities and Barriers

Regional Meeting on
"Regional Cooperation Mechanism on Low Carbon Transport: Creation of Green Transport Corridors in Asia and the Pacific"
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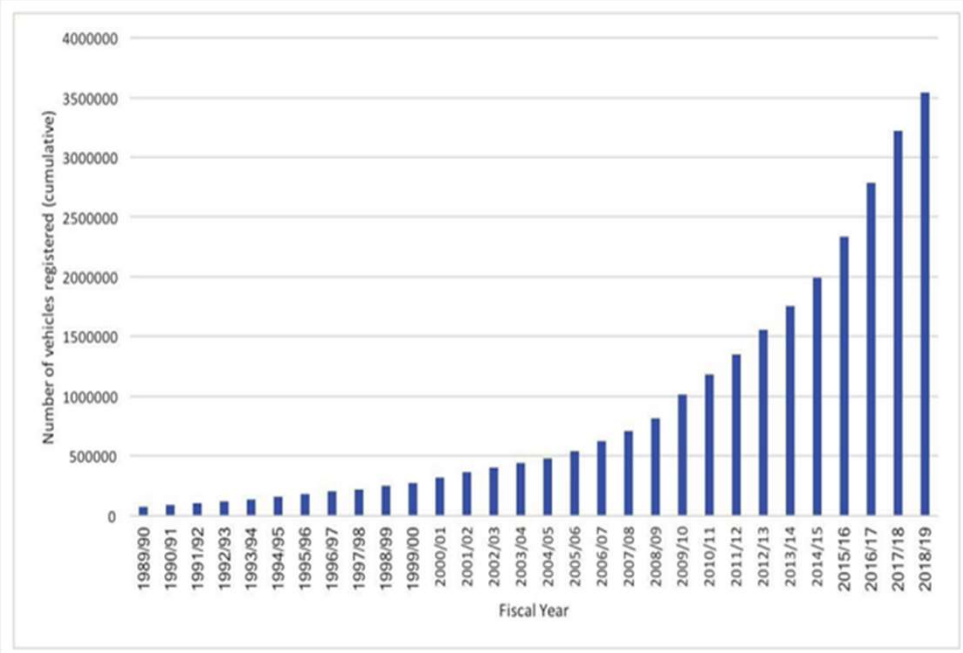
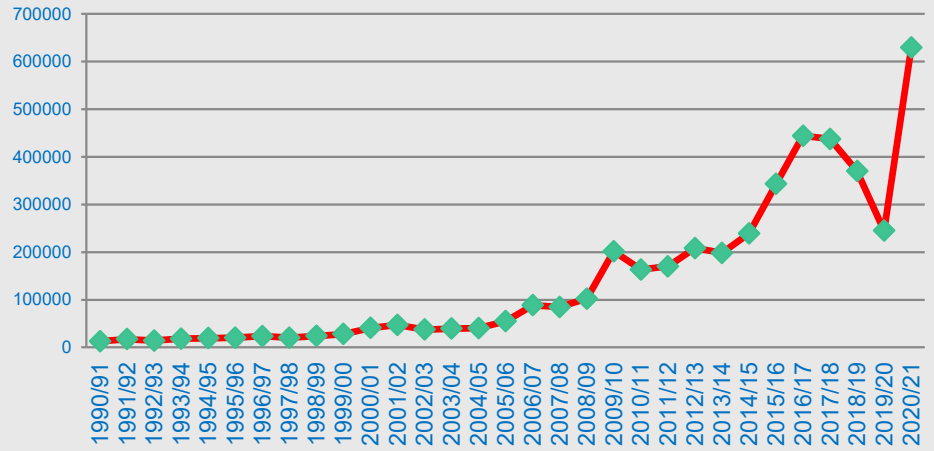
Overview of Transport Sector in Nepal

Dominated by Road Transport

90% of all trips



Trend of Vehicle Registration



Vehicle Types

80%
Motorcycles/ Scooters



20%
Others

Car/Van 6%
Heavy vehicles 2%
Tractor/Power Tiller 4%
Bus 1%
Minibus/Minitruck 1%
Tempo 2%
Electric rickshaws 1%
Pickup 2%
Microbus 0.2%
Others 0.8%

Total Number of vehicles 4.882 M (As of March 2022)

5.15 M MT

Of CO_2 equivalent of GHG emitted by transport sector of Nepal

8.6% of Nepal's total net GHG emission

30% of the total GHG emission from the energy sector

Source: MOFE 2021

History of Electric Mobility



Ropeway –100 years ago (1922)
42 km Kathmandu-Hetauda (Cargo)

Trolley Bus



1975-2001
Trolley buses powered by overhead electric wires
Grant from China
Tripureshwor-Suryabinayak (13 km)

Safa Tempos



1995
Battery operated three wheelers
Started with first seven
700 safa tempos today

Sajha Yatayat



A fleet of 40 electric buses of Sajha Yatayat (State owned company) in operation in Kathmandu city

Past Initiatives

Aug 1999

Registration of 2 Stroke Engine Vehicles Banned

Registration and Transfer of Ownership of Diesel powered 3 Wheelers Banned

99% custom duty and 100% Value Added Tax waived on import of gasoline powered 10-14 seater microbus by displacing diesel 3 wheelers

Dec 1999

Introduction and Enforcement of Nepal Vehicle Mass Emission Standard 1999 (Equivalent to Euro I)

Except for tractors, power tiller, dozer, loader, dumper, crane, roller and excavator

Aug 2000

Restriction on import of used items including machineries and their parts, engine pumps & piston heads

Past Initiatives

Oct 2000

In-use Vehicle Emission Standard (Green Sticker Standard)

Nov 2000

Ban on operation of all types of vehicles made prior to 1980 with effect from 16 Nov 2001

Ban on operation of 2 Stroke engine based vehicle and petrol or diesel fueled 3 wheelers inside Kathmandu valley with effect from 16 Nov 2001

Ban on operation of Diesel 3 Wheelers all over Nepal

Aug 2012

Nepal Vehicle Mass Emission Standard 2012 (Equivalent to Euro III)

Past Initiatives

Mar 2016

Strategic Work Plan for Development of Road, Rail and Transport for Prosperous Nepal (2016-21)

All public vehicles older than 20 years to be scrapped

20% out of all vehicles will be converted into environment friendly vehicle

Feb 2018

Revision of In -Use Vehicle Emission Standard

Provisions on Import of Vehicles

- Only an authorized dealer can import motor vehicles from the country of manufacture or from authorized dealer in another country

- If a vehicle is not being imported directly from the manufacturer the importer should furnish a tripartite agreement between the manufacturer, exporting dealer and the importer.

- Reconditioned or used vehicles or vehicles not complying to Nepal Vehicle Mass Emission Standard 2012 cannot be imported

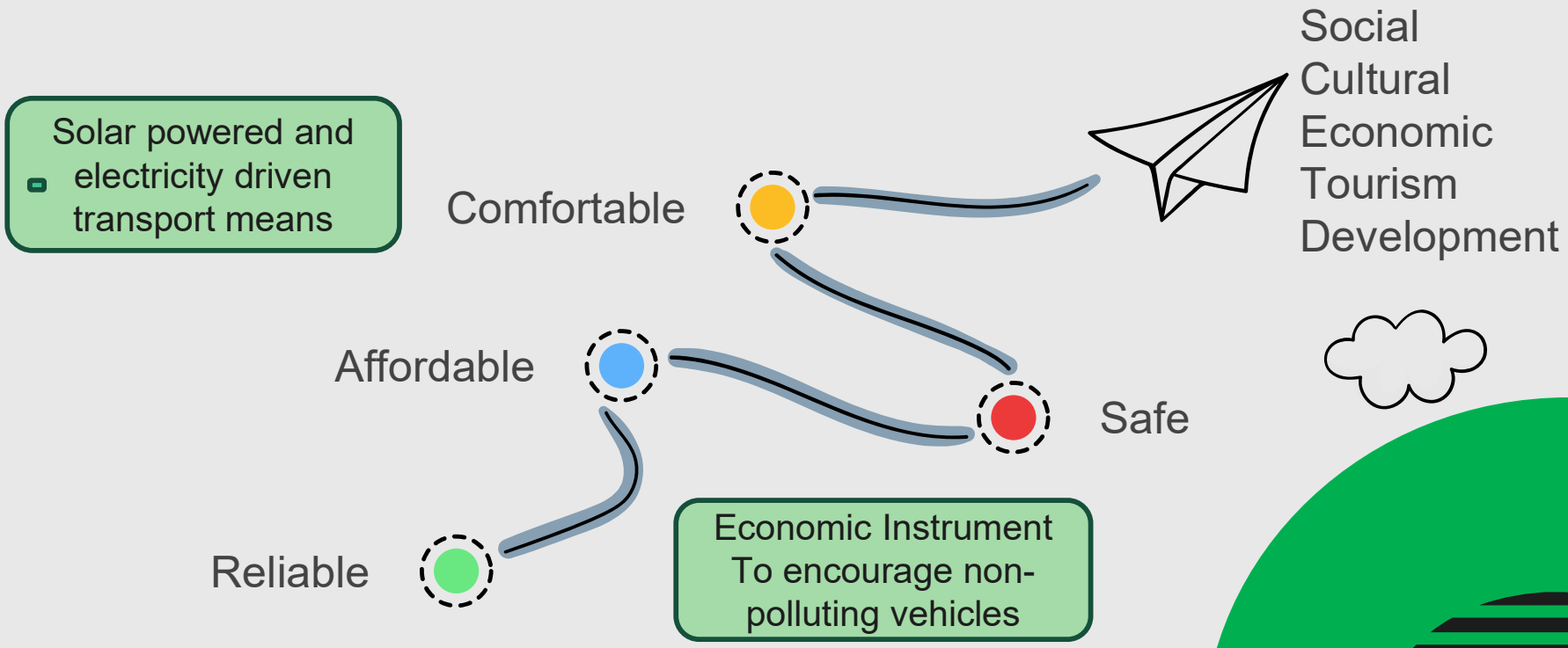
Exceptions:

  - Foreign service employee working at Nepalese Diplomatic Mission abroad
  - A foreign diplomatic staff-member working in Nepal

Low Carbon Transport Policy Initiatives

	National Transport Policy, 2001
	Environment Friendly Transport Policy, 2015
	National Action Plan for Electric Mobility, 2018
	National Climate Change Policy, 2019
	Nepal's Long Term Strategy for Net Zero Emission, 2021
	Nepal's Nationally Determined Contribution, 2020

National Transport Policy 2011



Environment Friendly Transport Policy, 2015



Reduction of GHG emission and air pollution



Conversion of ICE vehicles to EFV



Promotion of National Production of EFV



Infrastructure development for EFV

National Action Plan for Electric Mobility, 2018



Establish

E-Mobility Unit



Develop and Implement

National Program



Build

Financing Mechanism

National Climate Change Policy, 2019



EE technologies in transport sector



Promotion of electric vehicles



Private sector mobilization for reduction of emission in the transport sector

National Road Safety Council

National Road Safety Action Plan 2021-2030

Multimodal transport and land use planning

Safe road infrastructure

Safer Vehicles

Safe road users

Post crash response



National Action Plan for the Transport Sector to Implement Nepal's NDC

Sales of electric vehicles in 2025 will be 25% of all private vehicles sales and 20% of all public vehicle sales

By 2030, increase sales of e-vehicles to cover 90% of all private vehicle sales and 60% of all public vehicle sales

By 2030, develop 200 km of the electric rail network to support public commuting and mass transportation of goods

EV Unit

Financing Mechanism

Comprehensive Programs

Decarbonization Priorities in Nepal

Decarbonization Priorities in Nepal

1. Transition to Low Carbon Emission and Carbon Neutral System

2. Modal Shift from Road to Railways.

3. Improving Efficiency in Freight Transport

4. Vehicle Efficiency Standard and Policies

5. Enhancing Climate Resilient Road Networks

I. Transition to Low Carbon Emission and Carbon Neutral System



Conversion of ICE vehicles to EFV



EE technologies in transport sector

Decarbonization Priorities in Nepal



Promotion of National Production of environment friendly vehicles



Infrastructure development for EFV

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Decarbonization Priorities in Nepal

Transition to Low Carbon emission and Carbon Neutral System



Decarbonization Priorities in Nepal

1. Transition to Low Carbon emission and Carbon Neutral System

Sustainable Electric Transport for Nepal SET4NPL

NAMA Facility (Now MAF)
5 Years (2023-2028)
MOPIT, MOFE
Deployment of 3500 EMB's
Euro 17/6 Million

Decarbonization Priorities in Nepal





Subsidy
Loan
Hire purchase scheme

2. Modal Shift from Road to Railways

a. East-West Electric Railway (1003.79 km)

The detailed project report for the entire section has been completed.
Out of the 70 kilometers of the Bidarbas Chocha section, trackbeds have been completed for 65 km.
Land acquisition process for the Kakarbhitta-Inarwa (106 km) railway





Figure: Ongoing construction work of East West Electric Railway

Decarbonization Priorities in Nepal

2. Modal Shift from Road to Railways

b. **Janakpur-Bardibas(68 km) :**
Railway line construction from Janakpur- Jaynagar has been completed and is operational.





Figure: Kurtha station ho maathi ko photo Jayanagar to bijalpura railway

Decarbonization Priorities in Nepal

2. Modal Shift from Road to Railways

c. Bathanaha-Biratnagar(18.6 km):
Cargo train services have been operational from Bathanaha to Nepal Customs Yard.



Figure: Buddhanagar Station of Biratnagar - Bathanaha railway

Decarbonization Priorities in Nepal

2. Modal Shift from Road to Railways

(Ongoing Study)

Birgunj-Kathmandu electric railway route(140.79 km):
Draft Report has been prepared for construction
Kathmandu-Pokhara electric railway route(157.66 km)
Kurintar-Lumbini railway route (163.46 km)
Kerung-Kathmandu electric railway route (72.20 km)
Kathmandu Valley metro rail (77.28 km)

Decarbonization Priorities in Nepal

3. Improving Efficiency in Freight Transport

- Improve Road Connectivity
- Regular maintenance of the transport corridors
- Sustainable and Efficient Vehicle Use
- Green resilient and inclusive development
- Integrate Road, Rail, and Air Transport

Decarbonization Priorities in Nepal

4. Vehicle Efficiency Standard and Policies

- Introduction of Euro VI Equivalent new Vehicles
- Kathmandu Valley Transport Masterplan
- EV Testing Protocols
- Charging Infrastructure Installations/ Master Plan
- Government set to remove 20 years older vehicles
- SAAJHA to deploy more BEBs

Decarbonization Priorities in Nepal

Barriers to Decarbonizing Freight Transport

Barriers to ecarbonizing ght Transport

- Infrastructure Challenges (EV-Charging Stations)
- Geographical terrain
- Limited funding for large project
- Policy and Institutional Barriers
- Technical and Operational Challenges
- Environment and social concerns

Possible Solutions for Decarbonizing Freight Transport

sible Solutions Decarbonizing ght Transport

- Investing in Green Transport infrastructure
- Regional Cooperation
- Encouraging Public Private partnership
- Harmonizing Regional Policies(Border should not act as a barrier but as a bridge)
- Capacity building and awareness
- Innovation and Research

Thank You!

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