

Electric mobility transition in Nepal: opportunities and obstacles

Monica Maharjan
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MU
Murdoch
University

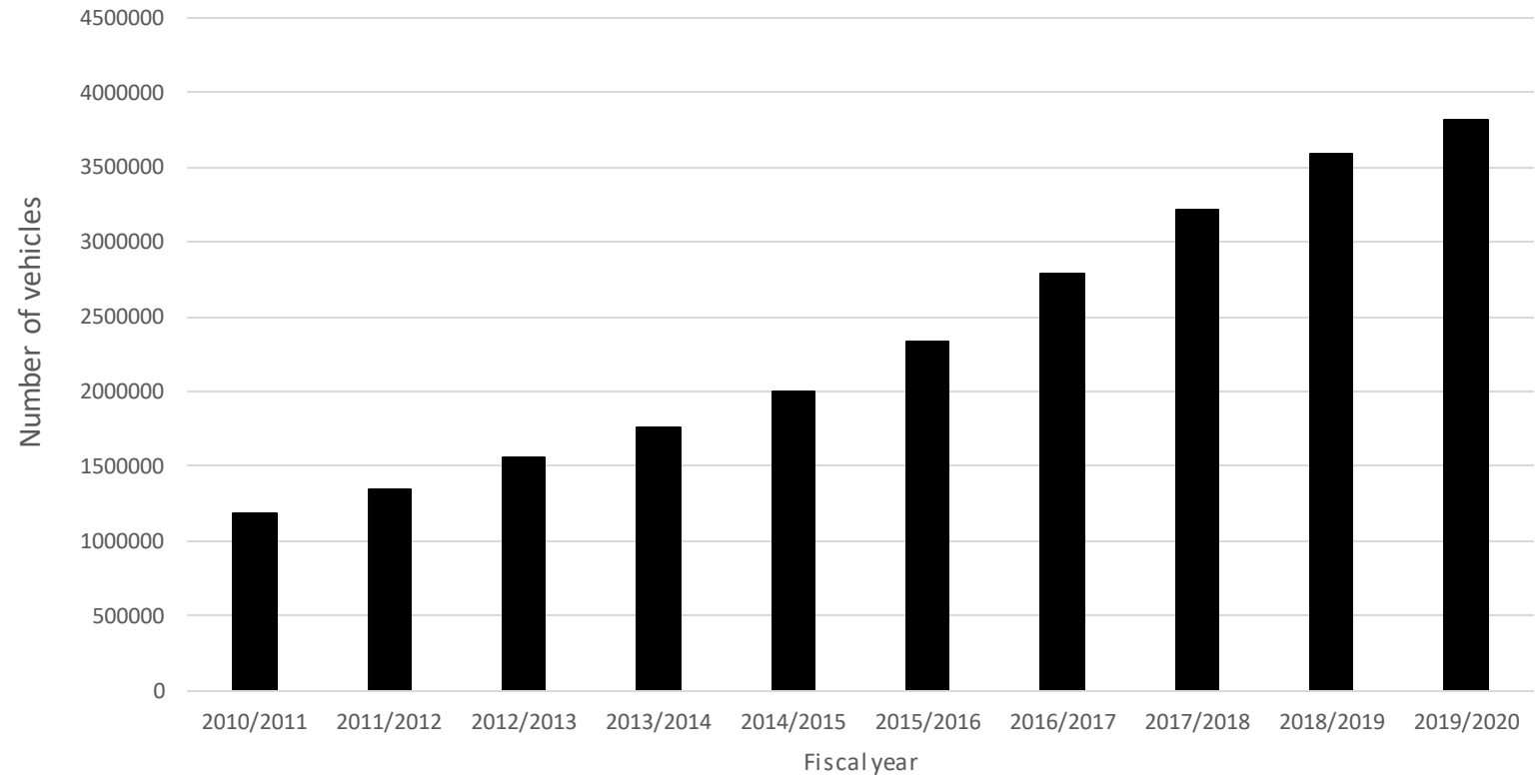


Electric mobility (or e-mobility)

- Leading nation: Norway
1. Ambitious followers
 - China, Germany, UK and Singapore
 2. Emerging EV markets
 - US, Japan, UAE and Thailand
 3. Starters
 - Mexico, India, Brazil, Indonesia, Vietnam and South Africa

NEPAL

1. Dramatic increase in vehicle imports



Data source: Department of Transport Management, Nepal



NEPAL

1. Dramatic increase in vehicle imports
2. Deteriorating air quality

One of the bottom three countries in the world in terms of air quality ([Wolf et al., 2022](#))



Source: <https://farsightnepal.com/news/140>

NEPAL

1. Dramatic increase in vehicle imports
2. Deteriorating air quality
3. Embarked into e-mobility

Year	Policy measures
2014	Environment Friendly Vehicles and Transport Policy ; Target: 20% of vehicles to be electric by 2020
2015	National Sustainable Transport Strategy for Nepal (2015 – 2040) ; Aims to minimize per capita CO ₂
2016	First Nationally Determined Contribution ; Target: Increase the share of electric vehicles (EV) to 20% by 2020 from 2010 level ; Target: Develop its own electrical (hydro-powered) rail network by 2040; Target: Decrease dependency on fossils in transport by 50% by 2050
2017	Phase out of 20-years old public transport vehicles and goods carriers Import of Euro IV compliant fuel Kathmandu Valley Air Quality Management Action Plan ; Proposed: Implement Euro IV vehicle emission standards
2018	National Action Plan for Electric Mobility Ministry of Energy, Water Resources, and Irrigation's White Paper; Target: 50% of imported vehicles to be electric
2019	National Climate Change Policy and Environment Protection Act
2020	Second Nationally Determined Contribution ; Target: 25% sales of private EVs by 2025; Target: Develop 200km of the electric rail network
2021	Annual National Budget (Financial Act 2021); Lowering of customs duty and waiving of excise tax for EVs; Phase out conventional light duty vehicles by EVs by 2031
2022	Annual National Budget (Financial Act 2022); Public institutions to procure electric vehicles

What facilitates e-mobility in Nepal?

- History of trolleybus operation
- Hydropower
 - Current generation: 557 MW
 - Under construction: 172 new hydropower projects of total capacity 4,642 MW
- Aggressive e-mobility policies of its neighbours



- No enforceable Acts and regulations on EVs
- No detailed plans, programmes and budget
- Unpredictable changes in government policies
- Weaknesses in the tax policy for EVs

1. Domestic opposition

Nepal Oil Corporation

- Monopoly over storage and distribution
 - No legislation to govern distribution, domestic sales and marketing
 - Depends on internal policies and procedures
- Largest government revenue generator
- Undermining the guidance and direction to e-mobility
 - Continue to invest in oil pipelines and storage facilities
 - Nepal Oil Corporation vs Nepal Electricity Authority

2. Relationship with donors

- Inefficient use of aid
 - Attitude of policy actors
 - Lack of preparedness
 - Submissive attitude
 - Political greed
- Trends and patterns of aid flow
 - Project scope
 - Road construction
 - Aid modality
 - Increasing loans than grants
 - Donors' economic, political and security interests

3. Relationship with India

- Nepal-India trade relation
 - International trade and transit
 - More than 60 % of trade with India
 - Vehicles and petroleum products
- Dependency on India
 - Transportation-based development assistance
- EV industry in India versus China
 - Affordable Chinese EVs
 - Nascent Indian EV industry

2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
road transport	road transport	road transport	education	energy	Local development
energy	energy	energy	local development	road transport	education
local development	education	health	health	earthquake reconstruction	health

Source: ([Ministry of Finance, 2019, 2021a, 2021b](#))

Implications for e-mobility transition

- Conflict between economic growth and environmental protection
- ICE interest is strengthened by the interests of
 - Nepal Oil Corporation
 - Indian Oil and automotive industry
- India has the ability to set the tone
- Dependent on external assistance

Conclusion

- Landlocked countries' realities
- Attitude of policy makers can make a big difference
- Balance between internal aspiration and maintaining political relations with donors and neighbours

THANK YOU!