



TAJIKISTAN

E-mobility Country Profile

Background

The Republic of Tajikistan is a land locked country situated in Central Asia bordered by Afghanistan, Uzbekistan, Kyrgyzstan, and China. IT is the smallest nation in the sub-region by area (142 thousand square kilometers), and currently has an estimated population of 9.7 million people.

The GDP per capita is projected to experience long-term robust growth at an annual average rate of 6.2%.¹ In the first half of 2023, the economy expanded 8.3%, with an average 7.1% growth in the past decade.² Urban population is lower than the regional average, at 22% in 2022, but is estimated to reach 43% by 2050.

This rapid urbanization and economic expansion are expected to drive growth in transportation activities. Forecasts indicate an average annual increase of 1.8% in passenger transport activity, measured in passenger-kilometres, and a strong 3.8% average annual growth rate for freight transport activity.⁴

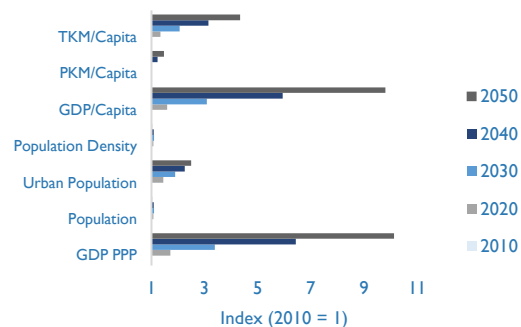
Road and rail play dominant roles in transportation. Car motorization rates are estimated to increase 7-fold from current levels to 350 cars per 1,000 inhabitants by 2050.

The transportation sector is one of the major contributors to air pollution and greenhouse gas (GHG) contributing 23% of the fuel combustion GHGs in the country (total of 7 million tons in 2020), with most attributable to the road sector.⁷

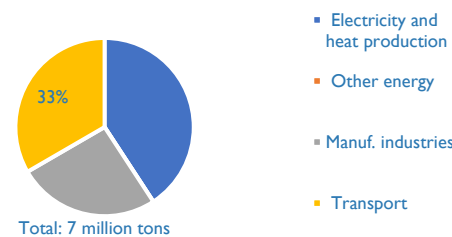
In terms of ambient air pollution, the road transport sector is estimated to contribute 4.5 % of the total burden of disease related to Particulate Matter 2.5 (PM2.5). Road transport air pollution significantly contributes to ischemic heart disease (52%), and chronic obstructive pulmonary disease (4%) in the country.⁸

The average concentration of PM2.5 in Tajikistan is one of the highest among the Central Asian region. (35.9 $\mu\text{g}/\text{m}^3$). This concentration significantly exceeds the World Health Organization's guideline value of 5 $\mu\text{g}/\text{m}^3$. In 2019, it is estimated that more than 4 thousand premature deaths were attributed to PM2.5 pollution in Tajikistan.^{9,10}

Socio-economic & Transport Indicators



2020 Fuel Combustion CO2: % By Sector



E-mobility at a Glance

As of August 2023, an estimated 1,600 EVs have been registered in Tajikistan, half of which were imported in the first of 2023.¹¹ Only a handful of EV charging stations exist in the trade centers of Dushanbe and Khujand.¹² Recent initiatives and pilot projects have increased the profile of EVs in the country. In December 2021 the Yak Taxi company introduced electric taxis available through a mobile phone app.¹³ Complete with plans to develop a network of EV charging stations throughout the country. The Global Environment Facility, and the European Bank for Reconstruction and Development are also supporting a project featuring Rakshsh Taxi (owned by Sayohon LLC), a private ride-hailing company that operates in Dushanbe. The project aims at financing up to 100 EVs and 30 EV charging infrastructure at the company's depot.¹⁴

There are no established EV automobile production facilities in Tajikistan, but ventures such as Akia Avesto Automotive Industry and Agrotech-service have been established in cooperation with Belarus and Turkey.¹⁵ Electric buses and trolleybuses assembled at the Akia Avesto plant in Dushanbe have been used in the city since 2021.¹⁶ The Ministry of Economic Development and Trade is exploring proposals involving production of electric vehicles in the country.¹⁷

As of August 2023, it is estimated that Tajikistan has constructed 36 EV maintenance and charging stations.¹⁸ The available open geospatial data on these charging stations is not exhaustive, with all stations reportedly located in Dushanbe. According to an expert, there are also two stations in Khujand City in the north, and one in Kulob City in the central south portion of the country.¹⁹

The transition to e-mobility is seen to be beneficial in terms of providing additional economic opportunities, increasing resilience, in addition to environmental benefits. Tajikistan is ranked 6th in terms of having the cheapest average electricity rates globally, which is estimated at 0.023 USD per kWh in 2021.²⁰ Access to electricity is at almost 100 percent since the turn of the century.

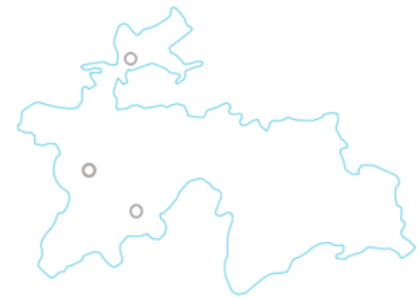
In terms of the emissions impact of the electricity grid, the national average is estimated at 84 kgCO₂ is emitted per MWh, which ranks 16th globally.²¹ The average grid emission factor, though, has more than double since the turn of the century, (in 2000 it was 32 kgCO₂/MWh). Tajikistan has huge energy reserves, particularly hydropower. the country ranks 8th globally in terms of hydropower potential relative to its area.²² More than 95% of the electricity of Tajikistan is generated through hydro power plants.²³ As the grid CO₂ emission factor is significantly low, EVs can reduce GHG emissions by nearly 100%.²⁴ Electricity losses were reported to be at 20% in the first 10 months of 2023.²⁵

Policy Measures: Highlights

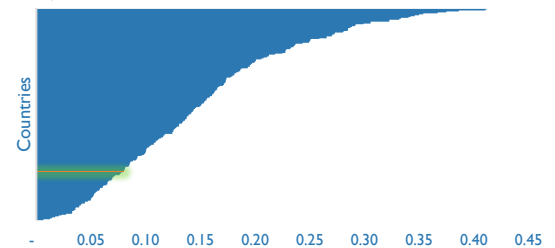
E-mobility is gaining strength through the introduction of various policy measures Tajikistan's Nationally Determined Contribution (NDC) includes switching to electric vehicles as an important mitigation action to achieve a 30%-40% GHG reduction against 1990 levels.

In its Green Economy Development Strategy, it lays down a plan to create an e-mobility friendly environment leading up to 2037. During the year 2037, the goal is to have 55% of all vehicles to be electric.

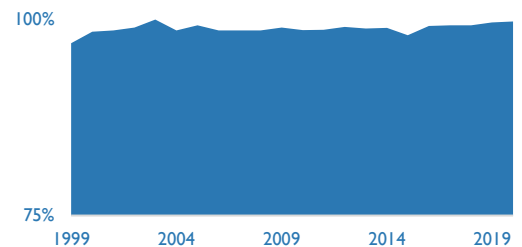
Charging Stations Approximate Locations



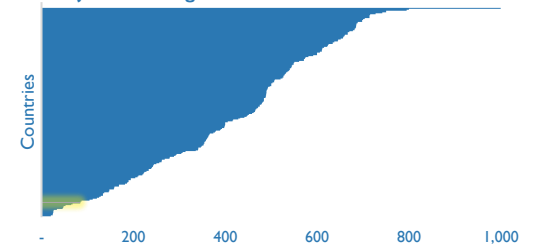
Tajikistan: 0.02 USD/kWh



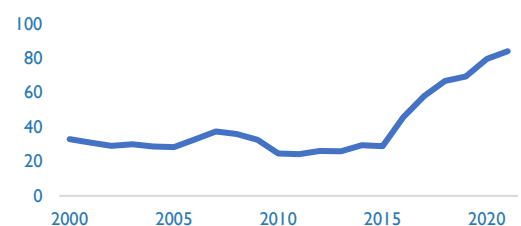
% Population with Access to Electricity



Tajikistan: 84 kgCO₂/MWh



Tajikistan Historical Grid kgCO₂/MWh



Policy Measures: Highlights

A March 2022 Presidential Decree introduced tax exemption incentives for EVs. As for commercial vehicles, non-financial incentives including priority access to main destinations, and dedicated fast charging sites, are now being implemented.²⁶

In October 2022, the country adopted the Electric Transport Development Program for 2023-2028.²⁷ The program aims to create favorable conditions for the development of EVs under the categories M1, M2, M3, N1, N2, N3 (motor vehicles with at least 4-wheels used for passenger and goods transport). The program anticipates the introduction of the following measures: amendment and/or creation of regulatory, legal, and technical instruments to support e-mobility; construction of infrastructure for power, and EV maintenance; organization of events focusing on the safe operation of electric vehicles; development and implementation of digital and communication technologies relevant to electric transport; development of battery recycling technologies; creation of favorable and attractive investment conditions; providing additional benefits and other preferences to drivers of electric vehicles; development of action plans to create material and technical bases for production.

The program puts special emphasis on the development of EV infrastructure, the disposal of electric vehicle batteries, and the stimulation of the production of EVs.

In terms of EV infrastructure, the program anticipates: determination of key sites for pilot testing; identification of key directions for the development of electric networks for charging stations and phased expansion; development of financing mechanisms for the development of such infrastructure; creation of high (at least 40 units) and medium (850 units) power charging infrastructure.

The program recognizes the need to abate the negative consequences of EV battery disposal through: creation of regulatory instruments; creation of used battery collection infrastructure; creation of favorable and attractive investment climate for creating enterprises for processing and disposal of batteries; development of additional incentives for enterprises that would recycle used batteries. In July 2023, the Minister of Transport also acknowledged that battery recycling is a significant issue and called for the establishment of workshops with appropriate equipment.²⁸

To stimulate the supply side of e-mobility, the government have planned the following actions in the EV program up to 2028:

- Develop new regulatory, legal, and technical instruments
- Provision of grants for relevant scientific research
- Provision of benefits to organization producing EVs, components, infrastructure
- Taking measures aimed at ensuring guarantees for the sale of goods and products
- Public procurement of EVs, infrastructure facilities
- Formation of mechanisms for government orders within the framework of government programs to upgrade the public transport fleet
- Take measures to improve cooperation between industrial organisations
- Attract public sector support
- Provide special conditions for the allocation and use of land plots, as well as in terms of permitting for the construction of electric power facilities
- Ensure simplified procedures for land allocation and registration of construction permits
- Development of financing mechanism to support the production of EVs and their components
- Resolve priority issues relating to standardization, conformity assessment

The said program is expected to be financed mainly through private sector funds (more than 95% of the estimated financing requirement).

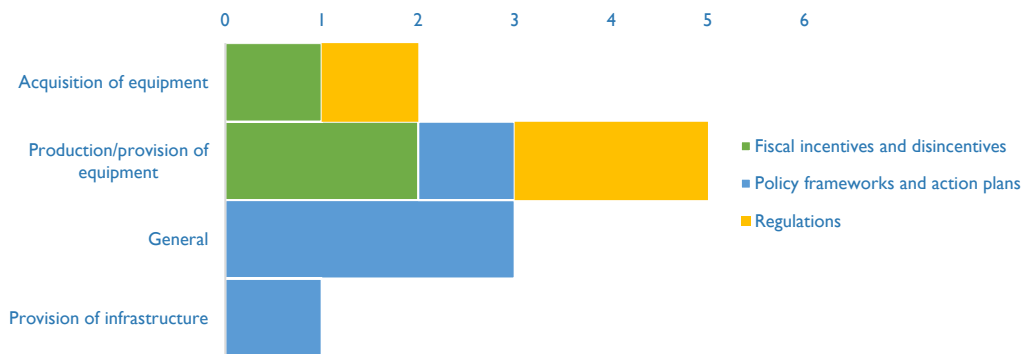
Tajikistan's Tax and Customs Codes were amended in 2023 to allow a ten year exemption from taxes and customs fees for the importation of electric vehicles.²⁹ This followed the President's pronouncement to waive taxes and customs duties on imported EVs in December 2021.³⁰

On the electricity side, Tajikistan's Minister of Energy and Water Resources, recently announced plans to increase the share of non-hydropower renewable energy (solar and wind) to 10% by 2030, as part of efforts to diversify power sources. The country also aims to produce 500,000 tons of green hydrogen by 2030.³¹

Note strong policy commitments at the urban level, particularly in the capital of Dushanbe, where a Decree (Chairman of the city, June 2023 No. 308) which approved the "*Concept to change public transport of the capital city to electric from 2023-2026.*" An action plan of the executive body of the city is also in place for the development of electric transport for 2022-2028, which aims to displace 500 units of diesel buses with electric buses.³²

Snapshot of E-mobility Policy Measures

Distribution of Policy Measures



Pillar	Stage	Category	Type of Policy Measure
EVs and EV components	Acquisition of equipment	Fiscal incentives and disincentives	Custom tariff waiver/ reduction for EV and components
		Regulations	Regulating age of imported Evs
	Production/provision of equipment	Fiscal incentives and disincentives	Financing mechanism for production and assembly
			Import duties reduction for EVs and components
		Policy frameworks and action plans	General pronouncement of support for Evs production / assembly / import
		Regulations	EV standards - multidimension EV safety standards
	End-of-life	Policy frameworks and action plans	Battery recycling industry support
Usage	Policy frameworks and action plans	EV Modal targets	
General	General	Policy frameworks and action plans	General pronouncement of support for emobility Dedicated National EV Policy/Roadmap/Strategy
Infrastructure	General	Policy frameworks and action plans	Electric infrastructure targets
	Provision of infrastructure	Policy frameworks and action plans	Maintenance infrastructure for Evs
	End-of-life	Policy frameworks and action plans	Used battery collection infrastructure
	Integration - infrastructure&equipment&services	Regulations	Standards development for Charging Stations

Note: The graph and the table above mainly representative of the policy measures that had been collected, collated and categorized by the authors. The authors make no claims about the completeness of the list, nor the accuracy of the categorization.

Endnotes

Photo: Красный , Creative Commons Attribution-Share Alike 4.0 International . https://commons.wikimedia.org/wiki/File:Dushanbe_trolleybus.jpg

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