



Sustainable Transport Policy for Armenia: A Roadmap



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Abstract

As a part of the EU4Energy Programme, the *Armenia Energy Policy Roadmap on Sustainable Transport* presents a comprehensive, evidence-based framework for transforming the country's mobility system into a sustainable and efficient transport system. The strategy seeks to deliver significant reductions in CO₂ emissions while strengthening regional connectivity, fostering economic development, and enhancing energy security. While Armenia has made notable progress in rolling out electric vehicles and electrifying its rail network, it still struggles with a high dependence on imported fossil fuels, a lack of data transparency and weak co-ordination among government agencies. This roadmap is structured to meet both short-term (2025-2030) and long-term (2030-2040) objectives and is organised around five key pillars: 1) enhancing governance and data quality to support informed decision-making and strengthening inter-governmental collaboration; 2) mitigating the environmental and public health impacts of combustion engine vehicles through tighter emissions standards and accelerated fleet modernisation; 3) speeding road transport electrification through tax incentives, building convenient, reliable and robust charging infrastructure and public-private partnerships; 4) boosting transport efficiency through multimodal planning, rail and public transport development and prioritising critical projects; and 5) encouraging the production and use of fossil-free fuels, especially biomethane, to cut reliance on fossil energy. Its recommendations seek to align policy, governance and investment to advance Armenia's sustainable development and support global climate mitigation.

Acknowledgements

This roadmap was written and produced by Martina Wikström, in co-operation with Talya Vatman, Caspian and Black Sea Programme Manager.

The report benefited from valuable inputs, comments and feedback from IEA colleagues, in particular: Elisabeth Connelly and Shane McDonagh. Anna Petrus and Markus Fager-Pintilä also provided valuable feedback and support.

Thanks go to the IEA Communication and Digitalisation Office for their assistance in producing the roadmap, particularly to Astrid Dumond, Isabelle Nonain-Semelin, Poeli Bojorquez and Gaëlle Bruneau. Nicola Clark carried editorial responsibility.

Special thanks to Vahan Sargsyan, EU4Energy Country Expert for Armenia, for his in-country co-ordination and input.

Many senior government officials and international experts provided input and reviewed a preliminary draft of the report. Their comments and suggestions were of great value. They include: colleagues from the Ministry of Territorial Administration and Infrastructure and Ministry of Environment of the Republic of Armenia, colleagues from the Statistical Committee of the Republic of Armenia and Hayk Evoyan (city of Yerevan); Sean Cooke (UN Environment Programme); Hripsime Gevorgyan (EVAN); Harutyun Alpetyan and Alen Amirkhanian (American University of Armenia, Acopian Center for the Environment); Vahan Sargsyan (Scientific Institute of Energy); and Vardan Karapetyan and Areg Barseghyan (Asian Development Bank).

Thank you to the European Commission for their critical support for the IEA's work on the EU4Energy Programme.

The individuals and organisations that contributed to this report are not responsible for any opinions or judgements it contains. All errors and omissions are solely the responsibility of the IEA.

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Executive summary

This roadmap provides evidence-based recommendations for transforming Armenia's transport sector into a sustainable, efficient and low-carbon system. Reflecting Armenia's geography and evolving energy and policy landscape, the roadmap lays out a comprehensive strategy for lowering CO₂ emissions while boosting regional connectivity, economic growth and energy security.

Armenia's transport system faces a number of challenges, including reliance on imported fossil fuels, limited data transparency and fragmented agency co-ordination. Yet the country has already made significant strides in electric vehicle (EV) adoption and rail electrification. This roadmap seeks to build on this foundation.

The strategy is built around five focus areas, each targeting key aspects of Armenia's transport sector in its climate transition. The recommendations emphasise accelerating decarbonisation, improving efficiency, and reducing emissions:

- **Improve governance and data quality** – Strengthen data collection, monitoring and transparency to ensure informed decision-making in sustainable transport planning. Improve inter-governmental collaboration.
- **Mitigate the impacts of internal combustion engines (ICE) vehicles** – Lower emissions from road transport, improve urban air quality and enhance public health through tighter standards and accelerated fleet modernisation.
- **Further electrify road transport** – Speed the transition to electric mobility through tax incentives, improved charging infrastructure, and public-private partnerships to expand electric vehicle (EV) adoption.
- **Increase transport efficiency** – Enhance multimodal planning, rail and public transit networks to improve accessibility, lower emissions and advance key infrastructure projects.
- **Promote fossil-free fuels** – Incentivise the production and use of biomethane in road transport to lower reliance on fossil fuels.

To meet its short-term (2025-2030) and long-term (2030-2040) goals, the roadmap's recommendations are designed to provide a clear path for Armenia's climate transition. By aligning policy, governance and investment strategies, it aims to speed the country's shift to sustainable transport, bolster economic growth and energy security, and contribute to global climate mitigation.

Introduction

The International Energy Agency (IEA) has produced the *Armenia Energy Policy Roadmap on Sustainable Transport* as part of the EU4Energy Programme, a five-year initiative funded by the European Union. EU4Energy's aim is to support the development of evidence-based energy policies and data capabilities within the countries of the Eastern Partnership and Central Asia.

This document offers practical guidance for policy makers at both national and municipal levels. Sustainable transport spans several policy areas. To best clarify the opportunities and challenges of the climate transition, the first section outlines the current policy landscape and the state of Armenia's transport sector. The second section presents measures across five focus areas: 1) improving governance and data quality; 2) reducing the impacts of ICE vehicles; 3) accelerating road transport electrification; 4) boosting transport efficiency; and 5) promoting the production and use of fossil-free fuels, particularly biomethane. The report concludes with a roadmap outlining policy recommendations and milestones through 2040.

Sustainable transport in Armenia

The Republic of Armenia (hereafter “Armenia”) is a landlocked country in the southern Caucasus region between the Black and Caspian Seas. It is bordered by the Republic of Türkiye (hereafter “Türkiye”) to the west, Georgia to the north, Azerbaijan to the east and Iran to the south. The country spans an area of around 29 800 km² with a population of just over 3 million. Yerevan, the capital, is the largest city with approximately 1 million inhabitants.

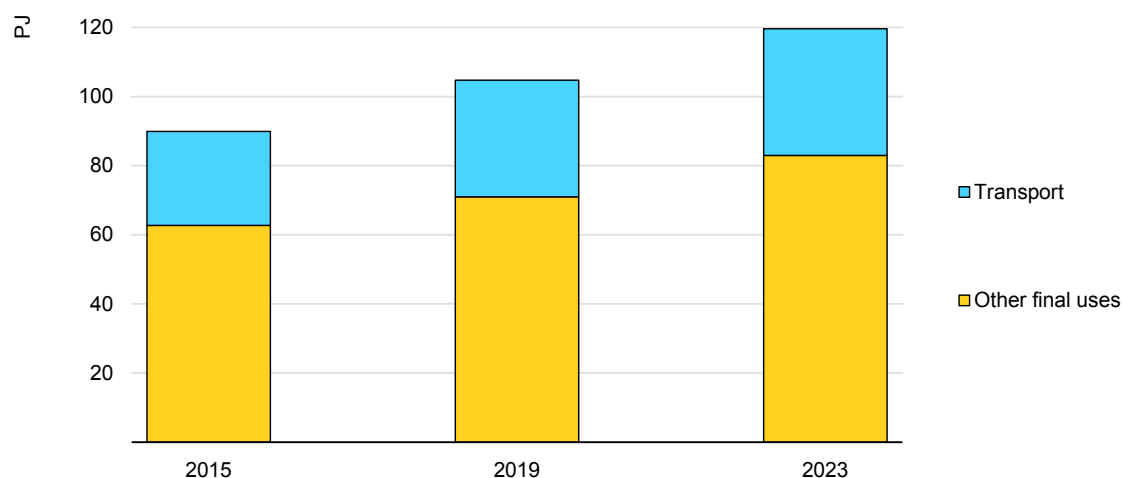
Armenia’s economy has undergone numerous reforms since the economic crisis of the early to mid-1990s. It has transitioned from a Soviet-era, centrally planned economy to a partially market-oriented one, with most enterprises now privately owned. Foreign capital investment began in the early 2000s and has been an important contributor to economic growth. In 2024, gross domestic product (GDP) stood at [USD 25.8 billion](#).

Armenia became a member of the European Union’s Eastern Partnership in 2009 and has been an observer to the EU Energy Community since 2011. Armenia joined the Eurasian Economic Union (EAEU) in January 2015 alongside Belarus, Kazakhstan and the Russian Federation (hereafter “Russia”) (Kyrgyzstan followed in August), and in March 2021, Armenia and the European Union signed a Comprehensive and Enhanced Partnership Agreement (CEPA), which established framework for political, economic and trade co-operation.

Introduction to the Armenian energy and transport systems

In 2023, Armenia’s total energy demand was [120 petajoules \(PJ\)](#), with transport accounting for roughly one-third, or 37 PJ. Overall energy demand has risen by [around 30% since 2015](#), though transport’s share of the total has held steady over this period. Rising demand for transport has driven higher fuel consumption.

Total energy use vs. transport share in Armenia, 2015-2023



IEA. CC BY 4.0.

Note: PJ = petajoules.

Source: IEA (2025) World Energy Statistics and Balances (database)

Energy demand in the transport sector

Energy demand growth in Armenia's transport sector is driven by increasing road activity, which is fuelled predominantly by natural gas.

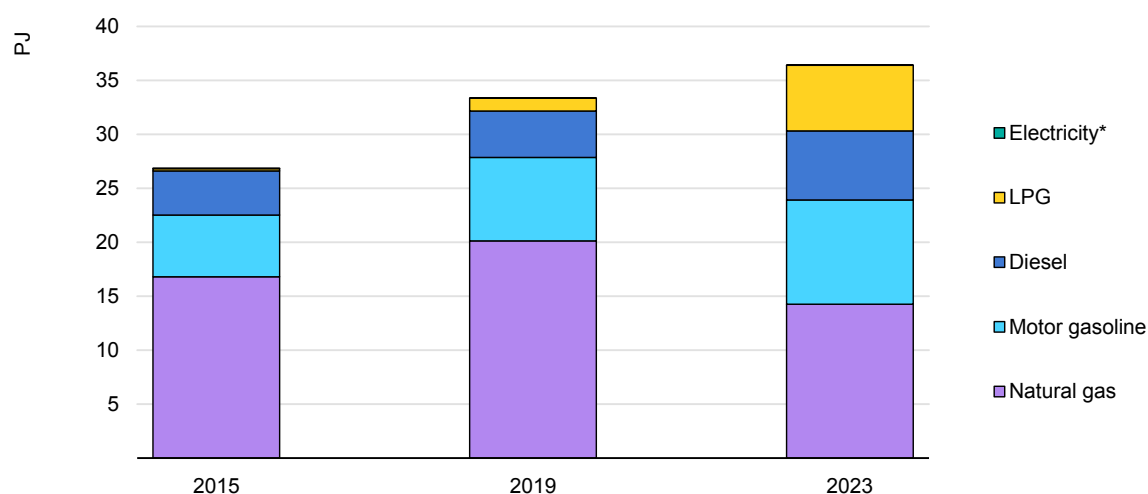
Energy use in the transport sector, in petajoules

	2015	2023
Road	26.80	36.47
Rail	0.26	0.22
Domestic aviation	0.08	0.06

Source: IEA (2025) World Energy Statistics and Balances (database).

In 2023, natural gas accounted for half of Armenia's total energy demand, followed by petrol (20%), diesel (14%) and liquid petroleum gas (13%). Natural gas is the dominant fuel in Armenia's road transport sector, powering [more than 70%](#) of vehicles nationwide – and an even greater share in Yerevan. Most run on compressed natural gas (CNG), though some are designed to run on liquified natural gas (LNG). There are about [380 CNG filling stations](#) across Armenia, all of which are privately owned. Since 2015, there has been a significant increase in the use of liquid petroleum gas (LPG), which is more affordable than petrol.

Energy use in road transport in Armenia, 2015-2023



IEA. CC BY 4.0.

Note: PJ = petajoules.

Source: IEA (2025) World Energy Statistics and Balances (database).

Armenia has made substantial progress in transport electrification. Its 782-km railway network (operated by South Caucasus Railway, a subsidiary of Russian Railways) is fully electrified at 3 kV DC. Armenia's rail network is largely domestic, however, with international connections extremely limited. Rail links were severed with neighbouring countries – with the exception of Georgia – in the early 1990s.

Aviation fuel demand is currently dominated by jet kerosene. While air transport accounts for a relatively small share of emissions, it remains one of the hardest to decarbonise.

Energy supply in the transport sector

Armenia relies entirely on imported fossil fuels, leaving it vulnerable to external economic and energy-security risks. The country spent more than USD 500 million importing refined petroleum in 2022. Russia is also the country's predominant source of natural gas: In 2021, Russia supplied 88% of the country's natural gas via a pipeline from Georgia. The rest is imported mainly from Iran.

Armenia is a net exporter of electricity, although most of this is exchanged for natural gas from Iran under a barter agreement. Armenia also trades electricity with Georgia, though volumes remain low because the two grids are not synchronised. Energy interconnections with Azerbaijan and Türkiye are currently inactive for political reasons.

Over the past two decades, Armenia has substantially reformed its energy sector, including privatising the electricity market. The changes have spurred investment in capacity and networks, considerably improving reliability.

Electricity prices are relatively low, and the market applies a day-night tariff structure that incentivises use during off-peak hours.

Armenia has a diverse electricity mix. In 2024, Armenia produced 9.3 terawatt-hours (TWh) of electricity, of which 37% (3.5 TWh) was derived from natural gas, 32% (3 TWh) from hydro and other renewables, and 30% (2.8 TWh) from nuclear. Armenia is the only country in the Caucasus region that generates nuclear power. Major efforts to increase solar generation capacity are also under way. Electricity production from solar photovoltaic (PV) systems has surged from virtually zero in 2015 to nearly 1 TWh in 2024. By May 2025, Armenia's installed solar capacity exceeded 870 megawatts (MW), of which about 330 MW came from utility installations, 485 MW from households and another 55 MW from Masrik-1, an industrial-scale solar PV plant in the eastern province of Gegharkunik.

Armenia's Transmission System Operator (TSO) is High-Voltage Electric Networks (HVEN), a state-owned enterprise responsible for managing the electricity transmission infrastructure, ensuring grid stability, power distribution and system reliability. A privately owned entity, Electric Networks of Armenia (ENA), serves as the Distribution System Operator (DSO), managing the distribution of electricity to consumers. There is a plan for a complete rollout of smart meters in Armenia by 2025.

EV developments in Armenia

Electric vehicles (EVs) are hard to miss in central Yerevan. Since May 2020, both new and used EVs classified as M1 (passenger cars) or M1G (light commercial vehicles) have been exempt from import duties, a rule that applies to both businesses and individual buyers and is subject to an annual quota of [8 000 vehicles](#). Since 2019, EVs – including passenger cars, small and medium-sized city buses, motorcycles and mopeds – are also exempt from Armenia's 20% value-added tax (VAT). All EV tax exemptions are reviewed annually under the framework of the Eurasian Economic Union (EAEU).

These measures have helped create a more favourable environment for EV adoption and use. Between 2019 to 2024, 36 000 EVs were imported into Armenia. The pace of imports is accelerating rapidly, nearly tripling to 9 528 units in 2024, from 3 526 in 2022.

Most EVs in Armenia are imported from the United States and Japan, with Chinese models steadily increasing in market share. For now, only a handful of

official EV retailers exist. Local banks offer financing for vehicle purchases, including a few products tailored specifically to EVs. Currently, there are about 200 public EV charging stations in Armenia. The market for charging services is deregulated and there is a nationwide network of fast chargers with several charge point operators (CPOs), such as EVAN and Team Energy. Armenia has not established standards for vehicle charging equipment or for AC and DC plugs at charging stations. Public chargers currently offer a mix of connectors compatible with European, American, Japanese and Chinese-made vehicles, reflecting the country's import patterns.

Transport infrastructure

International multimodal freight transport is crucial for Armenia's economic development, but as a landlocked country, it faces significant challenges in maintaining global connectivity and access. Armenia links to road networks in Europe as well as the Asian Highway Network. Connectivity with Georgia is especially vital, accounting for up to 80% of Armenia's trade. In 2009, Armenia signed an agreement on developing multimodal transport as part of the Transport Corridor Europe-Caucasus-Asia (TRASECA) project. Launched by the European Commission in 1993, TRASECA aims to facilitate the movement of goods and people across Europe, the Caucasus and Central Asia.

Transport infrastructure data in Armenia is categorised as either general-purpose or total. General-purpose data covers public and commercial transport of passengers and goods on roads and rail networks – explicitly excluding military transport. The table below gives an overview.

Transport infrastructure in Armenia

	Rail	Road
Total length, km	780 (700*)	11 310 (7 540*)
Density, km / 1000 km ²	26	380
Number of railway stations	75	-
Length of motorways, km	-	1 370
Roads of regional importance, km	-	2 170
Roads of local importance, km	-	4 000

Notes: * length dedicated for general purposes.

Source: Armenia, Ministry of Territorial Administration and Infrastructure, [The prospects and challenges of energy efficient and sustainable freight transport in Armenia](#); [Road Department Fund](#) (website).

Armenia is actively leveraging infrastructure to enhance regional integration, trade capacity and economic development. In October 2023, the government launched "Crossroads of Peace," aimed at strengthening regional energy and transport links

and facilitate multimodal freight between Asia, Europe and Russia. The initiative frames key infrastructure investments within a broader strategy to boost Armenia's role as a transit hub. Projects initiated under this programme include:

- The **North-South Road Corridor**: A project initiated in 2009, it upgrades the Meghri-Yerevan-Bavra motorway to four lanes, allowing speeds of 100 to 110 km per hour and cutting travel time to less than five hours from 10 hours. The USD 2 billion to USD 2.5 billion project is financed by the Asian Development Bank, the European Investment Bank and the Eurasian Development Bank.
- The **Persian Gulf-Black Sea Transport Corridor**: Launched in 2016, it aims to create a new freight corridor linking Europe, India and Iran via Armenia, further integrating the country into international trade networks.

By 2026, Armenia plans to establish three logistics centres to facilitate the transport and storage of cargo between Europe, the EAEU and Iran. One, located in the northwestern city of Gyumri, will handle goods shipments between Europe and the EAEU. The other two will be located further south and will focus mainly on shipments to and from Iran.

Efforts are also being made to improve air connectivity. While commercial aviation remains primarily international, regular domestic links exist between Yerevan-Zvartnots International Airport and Shirak Airport in Gyumri, Armenia's second-largest city. Prior 2020, departing international passengers from Yerevan airport paid a levy of AMD 10 000 (Armenian drams¹; around USD 25). This tax was later removed to encourage air travel to new destinations.

New investment in Armenia's energy and transport projects depends largely on international donors, on whom the country continues to rely for support.

Sustainable transport policy development

Sustainable transport spans multiple policy areas, including energy, climate and mobility. Armenia's goal of producing 50% of its energy from renewable sources by 2030 aligns closely with European Union aims to raise the share of renewables in final consumption to between 42.5% and 45% over the same period. Energy policy now prioritises developing domestic sources – primarily renewables – while extending the operating life of the 1980s-era reactor at its Medzamor nuclear plant, which supplies nearly a third of the country's electricity.

¹ Exchange rate: 1 Armenian dram (AMD) = EUR 0.0022 (as of 23 September 2025).

As envisioned in the [Nationally Determined Contributions \(NDC\) 2021-2030](#), Armenia's transport-sector climate transition rests on three pillars: improving public transport efficiency, expanding the use of renewable energy sources, and promoting the adoption of electric vehicles. The current target is for electric passenger cars to make up 10% of the total vehicle fleet by 2030. Armenia has not adopted fuel economy standards for passenger vehicles. As an EAEU member, Armenia's truck emission standards currently follow EURO V regulations. However, under the terms of its Comprehensive and Enhanced Partnership Agreement (CEPA) with the European Union, Armenia is expected to align with EU transport-efficiency standards by 2030.

In December 2023, the government adopted the [Long-term \(until 2050\) Low Greenhouse Gas Emissions Development Strategy](#) (N 2318-L), setting out the priority areas for emissions mitigation through 2050, including energy and transport.

The strategy defines the following sectoral priorities:

- Improving passenger flow management and transport infrastructure.
- Expanding and upgrading the public transport network.
- Optimising passenger and freight transport and developing infrastructure for bicycles, electric scooters and pedestrians.
- Enhancing digitalisation and online services.
- Renewing and modernising the vehicle fleet, including buses, with a gradual transition to alternative energy sources such as electricity, natural gas, biofuels and hydrogen.

The strategy sets a target of reducing greenhouse gas emissions to 2.07 tonnes of CO₂ equivalent per capita by 2050, down from 2.13 tonnes of CO₂ equivalent per inhabitant in 2022. The strategy proposes an emission trading system, but it excludes the transport sector.

The long-term strategy is framed around three scenarios: a baseline with no new policy interventions ("without measures"), one reflecting "ongoing and planned measures," and a third incorporating "additional measures". Only the "additional measures" scenario would make it possible for Armenia to achieve the 2030 and 2050 targets. Transport's transition is tracked using three indicators: the pace of vehicle fleet renewal, the growth rate for electric vehicle sales and the share of passengers using public transit. The scenario also assumes a marked reduction in transport demand, driven by a rise in telecommuting and remote work. The long-term strategy does not spell out specific measures to meet sectoral priorities, but the [2021-2026 Action Plan](#) offers additional detail on the way forward. The Global Environment Facility (GEF) project, [Transition Towards Electric Mobility in Armenia](#), is central to shaping the country's strategic planning for low-carbon e-mobility. Its objectives include:

- Drafting regulations that promote electric mobility.
- Developing a national e-mobility strategy.
- Purchasing EVs for participating government agencies in the GEF project.
- Purchasing and installing charging infrastructure.
- Publishing a consumer guide for electric vehicles.
- Developing policies and regulations to support e-mobility expansion.
- Hosting a national forum on electric mobility.

The government has set an ambitious goal of increasing renewables to 66% of power generation by 2036, up from 7% in 2012. This target covers small hydro, wind and solar PV, but excludes biofuels. To achieve this, Armenia will need to install about 2 000 MW of new renewable energy by 2036. Planned additions include roughly 50 MW of small hydro, more than 140 MW of large hydro, 500 MW of wind and 1 000 MW of solar PV. Solar PV projects are slated for the near term (through 2030), while wind projects are planned for the following decade. By 2040, the government aims to increase combined solar and wind capacity to at least 2 000 MW.

In January 2021, the government adopted the [Republic of Armenia Energy Sector Development Strategic Programme to 2040](#) and [the Action Plan to Ensure Implementation of the Republic of Armenia Energy Sector Development Strategic Programme](#), which lays out a vision for least-cost strategies to develop the energy system and the steps needed to implement them.

Energy efficiency measures are guided by the government's 24 March 2022 decision approving the [Programme on Energy Saving and Renewable Energy for 2022-2030](#) and its Action Plan Ensuring Implementation of the First Phase (2022-2024) of the Programme on Energy Saving and Renewable Energy for 2022-2030. For transport, three main initiatives have been identified to boost energy savings:

- **Improving the effectiveness and quality of public transport services.** Includes launching a more energy-efficient route network and structure for public transport, especially in Yerevan; upgrading buses to enhance service and comfort; and gradually expanding the electric bus fleet.
- **Reforming street parking fees.** Shifts the focus from revenue collection to traffic management. Implementation would follow public transport modernisation to avoid overburdening drivers.
- **Promoting electric vehicles.** Maintains and expands existing policies, including exemptions from import duties and VAT. New public parking privileges are planned for EV owners, and charging infrastructure will be rolled out across Armenia through public-private partnerships.

The Programme on Energy Saving and Renewable Energy for 2022-2030 projects road transport sector energy use under two scenarios: a **baseline** under which current trends continue, and an **energy-saving policy scenario** built on the following assumptions:

- Starting in 2022, electric vehicles are expected to gradually expand their share of the light-duty fleet, reaching 10% by 2030.
- A new public transport network in Yerevan is projected to increase the energy efficiency of the system by 70% in 2030, from 2022 levels.
- Starting in 2023, the share of electric vehicles in the public transport stock will gradually increase, reaching 50% by 2030.
- Improvements in public transport and the introduction of a new street parking fee policy are expected to increase public transit's share of passenger traffic to 60% by 2030.

Under the energy-saving policy scenario, energy consumption by the road transport sector falls 36% by 2030, compared to 2022 levels.

Digitalisation is seen as key to making the transport system more efficient, lowering CO₂ emissions, improving convenience and reducing transport costs. Under the CEPA agreement, several EU directives related to traffic safety and intelligent transportation systems are currently being incorporated into Armenian legislation.

The city of Yerevan actively promotes sustainable transport through several key initiatives. The metro forms the backbone in the city's public transport system, supplemented by modern buses with improved fuel efficiency and pilot demonstrations of electric buses. Efforts also include the rollout of a unified digital ticketing system that lets passengers pay electronically.

Yerevan operates an active parking policy, under which EVs park for free. In August 2024, the city adopted a new scheme designed to ease congestion in central districts and to encourage EV use. Parking fees apply between 9am and 10pm, with free parking outside these hours. Charging point operators (CPOs) may also designate paid spaces equipped with chargers, with fees tied either to the electricity consumed or the time spent at the parking space.

Sustainable transport governance

Sustainable transport in Armenia is shaped by a network of government bodies, each with specific responsibilities spanning policy development, regulation, enforcement and data collection. Key ministries and agencies coordinate on

infrastructure, environmental standards, safety, tariffs and statistics to support the country's transition to a more efficient and low-emission transport system.

- The **Ministry of Territorial Administration and Infrastructure (MTAI)** is responsible for developing and implementing energy and transport policy. It develops relevant legislation, as well as investment plans for transport infrastructure and state-owned companies.
- The **Ministry of Environment** is the main body responsible for developing and implementing environmental policy, including climate change mitigation and adaptation. The Ministry includes the Climate Policy Department, which was established after the adoption of the Paris Agreement and is responsible for environmental impact assessments. It is the designated national authority for projects under the Kyoto Protocol's Clean Development Mechanism. The Ministry also hosts the Environmental Project Implementation Unit (EPIU), which executes and co-ordinates international climate projects.
- The **Ministry of Internal Affairs** is responsible for maintaining internal security. The **Road Police** department operates under the Ministry of Internal Affairs and is responsible for enforcing traffic laws, managing accidents, registering vehicles and ensuring compliance with required technical inspections and emission standards.
- The **Public Services Regulatory Commission (PSRC)** is an independent body tasked mainly with setting and reviewing tariffs, overseeing licensing and regulating imports and exports. The PSRC also regulates energy and rail transport. Electricity and natural gas tariffs are set by the PSRC on a cost-plus basis, ensuring suppliers a fixed rate of return after covering their operating costs. The gas supply system operates under a single, uniform tariff.
- The **Statistical Committee of the Republic of Armenia** is responsible for the collection, validation and dissemination of official energy and transport statistics.

Accelerating sustainable transport in Armenia

Amid a rapidly changing energy landscape and mounting environmental pressures, Armenia faces both an urgent challenge and an opportunity to reshape its transport system. As it seeks to balance the twin goals of enhanced energy security and reduced dependence on imported fossil fuels, Armenia has made the transition to sustainable transport a top priority.

This chapter lays out a forward-looking framework designed to accelerate Armenia's shift to an efficient, low-carbon and resilient transport system. Drawing on international best practices, the recommendations focus on three interconnected priorities: electrifying the road transport fleet, boosting overall transport system efficiency and expanding the use of fossil-free fuels. These objectives support a broad transformation, aimed not only at curbing greenhouse gas emissions in Armenia, but also at improving economic competitiveness and quality of life.

To speed the transition, Armenia's transport governance must evolve. This chapter outlines key reforms, including greater transparency and the creation of dedicated institutions to support long-term strategic planning.

Accelerating sustainable transport requires targeted investments in modern infrastructure – from freight corridors that support multimodal transport to an expanded, reliable network of charging stations. It also calls for rethinking of regulatory frameworks, with incentives for speeding the shift to electric mobility and stricter measures to limit the impact of internal combustion engines.

This chapter lays out a strategic blueprint, examining a range of policy options, technological upgrades and financing mechanisms. The objective is clear: to help Armenia transition quickly and decisively to a transport system that meets modern standards of safety and efficiency while supporting sustainable, innovation-driven growth.

Governance and improved data quality

Armenia faces several institutional hurdles that complicate efforts to advance sustainable transport governance. While the 2019 merger of the former Ministry of Energy Infrastructures with the Ministry of Transport into the Ministry of Territorial Administration and Infrastructure (MTAI) has helped improve co-

ordination on transport-related issues, high staff turnover threatens institutional memory and disrupts continuity. A lack of strong monitoring systems also makes it difficult to track policy implementation and measure progress.

Co-ordination with the newly established Climate Policy Department within the Ministry of Environment remains limited – particularly on issues that indirectly affect climate reporting, such as transport infrastructure development. Stronger inter-ministerial co-operation will be needed to ensure climate and transport policy are aligned.

Armenia does not yet have a dedicated entity responsible for developing and implementing energy policy. Under the Comprehensive and Enhanced Partnership Agreement (CEPA) with the European Union, Armenia is preparing to adopt a new Renewable Energy and Energy Efficiency Law, which will authorise the creation of an agency to carry out its mandates. It is still unclear whether this task will fall to a new institution or to the existing Renewable Energy and Energy Efficiency Fund. Either way, the agency will be central to advancing Armenia's decarbonisation agenda.

One major hurdle to sustainable transport planning is the lack of sufficient and transparent data. Armenia's modelling capabilities are heavily reliant on financial and technical support from international donors, which raises concerns about long-term sustainability as well as national capacity and ownership of policy tools.

The IEA has already highlighted persistent challenges in the quality of energy end-use data. In the transport sector, key transport data – such as the total vehicle numbers and traffic flows – is not publicly available. Existing datasets cover only commercial vehicles, leaving information on private vehicles inaccessible to the public, other agencies and researchers. This lack of transparency hampers evidence-based policymaking and complicates efforts to track emissions and plan infrastructure investments.

Improving access to transport data

Increasing transparency is vital for a successful transition to sustainable transport in Armenia. The absence of accessible, reliable data hinders decision-making at both national and local levels. Various historical and institutional factors have fostered a reluctance to share data on private vehicles and general traffic flows. Yet other countries facing similarly complex geopolitical circumstances have succeeded in making such data public.

This report recommends policies that ensure relevant transport data is freely available and accessible. Open data initiatives can foster independent research, spur innovation and enhance accountability in transport planning.

The Statistical Committee of the Republic of Armenia should be tasked with developing transparent methods for collecting, validating and disseminating all energy and transport data relevant to sustainable transport policy. This process should include a broad discussion of what counts as “relevant” data, even when some information remains difficult to collect.

Improving data collection and statistics

Improving data collection, statistics and scenario work in Armenia is essential for developing evidence-based sustainable transport policies.

Our short-term recommendations include establishing a centralised digital platform that aggregates data from various sources such as government agencies (e.g. the Ministry of Territorial Administration and Infrastructure (MTAI) and the Ministry of Internal Affairs), local municipalities and private sector stakeholders such as EV charging station and public transport operators. A unified data hub would simplify analysis and improve transparency – creating a formal channel for data sharing, reducing duplication and giving policy makers a comprehensive view of the transport ecosystem.

Data collection methods in Armenia remain largely analogue, relying on paper-based records and manual reporting. Our recommendation is to expand digital reporting and establish standardised protocols for data collection and reporting across agencies. Consistent data formats and regular audits will enhance the overall quality and comparability of collected data. While partnering with international institutions to adopt best practices is valuable, it is equally important to invest in local capacity development and enhance staff skills in data collection, analysis and statistical modelling. Tools, such as those [provided by the IEA](#), can guide the development of strategic action plans and resource allocation to build national energy data capacity. Universities and specialised training programmes can also help develop a local talent pool, reducing reliance on external consultants.

Establishing a national transport research centre

Alongside more transparent and reliable data, local capacity for analysis and scenario planning must be strengthened. Establishing a dedicated transportation research institution could facilitate long-term scenario planning, oversee data collection initiatives and ensure the quality of statistical analyses.

A transport research centre would collect and study data from multiple sources, enabling comprehensive scenario planning and forecasting. A data-driven approach ensures that policies are aligned with actual mobility patterns and evolving technologies, leading to better infrastructure investment decisions and more effective regulatory reform.

With a centralised institution, disparate agencies (e.g. the MTAI, the Ministry of Internal Affairs and municipalities) can better co-ordinate data sharing and joint research projects.

Establishing a dedicated institution helps build local expertise in advanced modelling, simulation, and data analytics. This not only reduces dependence on external consultants but also creates an environment where researchers, policy makers and industry stakeholders can collaborate to drive innovation in transport technologies and smart mobility solutions. It also helps Armenia attract international support and funding by demonstrating its commitment to systematic, transparent policy planning.

As Armenia navigates challenges such as urban congestion, sustainability, and the integration of new mobility services, a national research centre can provide critical insights for long-term planning. Whether by assessing the viability of public transport expansion projects or exploring the potential of electric and autonomous vehicles, this centre would generate the rigorous, scenario-based analyses that Armenia needs to guide policy shifts toward sustainable development.

Reducing the negative impact of ICE vehicles

Traffic emissions and air pollution are a major problem in Armenia and particularly in Yerevan – and a major reason is that vehicles lack catalytic converters. Catalytic converters are crucial for meeting emissions standards and reducing air pollution. The catalytic converter is an integrated part of a vehicle exhaust system, positioned after the engine. It facilitates chemical reactions that convert harmful gasses such as carbon monoxide (CO), nitrogen oxides (NO_x) and unburned hydrocarbons into less harmful substances like water vapour, carbon dioxide (CO₂) and nitrogen (N₂). Exhaust-emission control devices, including catalytic converters, became common in the 1980s. But some older vehicles, as well as those built for unregulated markets, may lack such equipment.

In Armenia, there is a widespread problem with the removal of catalytic converters from modern vehicles, which are then often sold to countries with stricter environmental regulations, such as Georgia. This practice has prompted a temporary ban on their export.

Our policy recommendations for reducing the negative impact of ICE vehicles over the long term is to promote electric vehicle use. For the near term, they include:

- **Strengthening exhaust-emission compliance.** Technical inspections in Armenia are mandatory for cars older than four years. Cars between four and ten years old are inspected every two years and vehicles older than ten years face yearly checks. Natural gas-powered vehicles have their tanks certified

every two years. A central digital reporting system tracks these inspections, which are carried out at 47 technical stations across Armenia.

To address the problem of catalytic converter exports, the report recommends adopting policies that reward vehicles with a strong inspection record by offering benefits such as lower registration fees. Such incentives encourage owners to maintain their vehicles in prime condition.

Enforcement requires adequate capacity to inspect and monitor vehicles. Emission standards for trucks exist, yet some Soviet-era vehicles continue to operate, especially in cities and at construction sites. Armenia's road police help ensure compliance on the ground. They monitor and perform inspections to verify that vehicles meet technical and safety requirements. Their role complements the oversight provided by MTAI's specialised technical inspectors. Local authorities or municipal agencies may also oversee compliance, especially where construction activity overlaps with urban traffic.

- **Permanently banning catalytic converter exports.** Armenia currently imposes a temporary ban, renewed every six months, to prevent the removal and export of catalytic converters. By keeping these devices in the country, the ban helps vehicles meet emission standards and supports efforts to improve air quality. Making the ban permanent would make enforcement more consistent and strengthen environmental protection.
- **Tightening emission standards.** As a member of the Eurasian Economic Union, Armenia adheres to EURO V emission standards. Since 2014, the European Union has adopted the stricter EURO VI standards and is implementing EURO VII standards from 2025. We recommend tougher emission standards for heavy duty trucks to phase out outdated, high-polluting vehicles. Aligning local regulations with EU or international standards would encourage truck operators to adopt cleaner technologies.
- **Promoting modern trucks.** Phasing out old, polluting trucks is essential, but leakage to other markets is unsustainable. Offering incentives that lower the capital costs for companies that invest in newer trucks can help speed fleet renewal. Armenia already offers tax breaks and subsidised leasing to businesses investing in modernisation. Under the government's Measures to Modernise the Economy programme, companies can access nearly interest-free loans for new equipment, including trucks. To further accelerate fleet upgrades, the report recommends introducing designated zones in major cities (e.g. Yerevan, Gyumri and Vanadzor) with tougher emissions standards. These "environmental zones" could be introduced gradually, starting with EURO V standards and initially excluding the oldest, most polluting post-Soviet trucks.

- **Taxing fossil fuels.** Armenia currently imposes no taxes on fossil fuels used for transport. A fuel tax would internalise the environmental costs associated with fossil fuel consumption, making polluters bear the cost of its environmental impact. Vehicle owners in Armenia already pay an annual vehicle tax, based on engine power, as well as an environmental tax tied to emissions. A fuel tax on fossil fuels should complement these existing levies.

A fossil fuel tax would encourage households and businesses to shift to energy-efficient, low emitting vehicles, while the revenue could fund improvements in public transportation, accelerate e-mobility and support a more sustainable transport system. In neighbouring Georgia, environmental taxes, including fuel-related levies, are helping to reduce emissions and promote sustainable energy. Last year, Georgia's motor fuel tax raised a total of [USD 78.2 million](#).

Accelerating road transport electrification

Targeted policies have contributed to a notable rise in passenger EVs, particularly in Yerevan. This momentum is largely driven by incentives, including an import customs exemption for EVs, extended through January 1, 2026. An accelerated transition to EVs in Armenia is crucial to tackling air pollution, cutting reliance of imported fossil fuels and meeting climate goals. Under the Long-term (until 2050) Low Greenhouse Gas Emissions Development Strategy, expanding the number of electric passenger cars is central. The strategy aims to grow Armenia's fleet of EVs to 100 000 by 2030 and 500 000 by 2050.

As a member of the Eurasian Economic Union (EAEU), Armenia must co-ordinate any new supply-side regulations with other member states. However, the current quota-based import customs exemption – 8 000 EVs for 2025 – is a key policy tool, identified in the roadmap as the primary path forward.

Lowering the cost of switching to EVs

Lower operating costs can partly offset higher EV purchase prices. But widespread adoption depends on overall cost competitiveness compared with internal combustion engine vehicles.

Light-duty vehicles

Under the Energy Savings Program, Armenia plans continue and expand current policies to promoting electric vehicles, including the import customs duty and VAT exemptions. Currently, 8 000 EVs (M1 and M1G classes) are exempted from

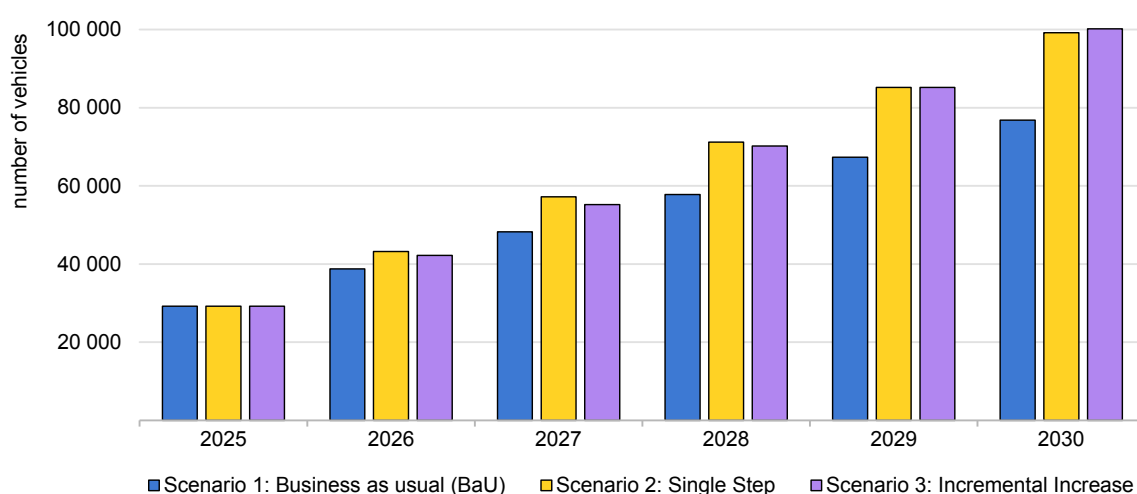
import duties each year, although total imports exceeded the quota in 2024. To bolster EV adoption and help Armenia reach 100 000 EVs by 2030, the quota must increase. While this would reduce tax revenues, it would not require additional public spending. With a policy framework in place and strong political backing, expanding its scope would be a positive early step to accelerate progress toward the national target of 100 000 EVs by 2030.

Adjusting the quota could be achieved either through a single intervention or an incremental approach. To assess the feasibility of reaching Armenia's 2030 target of 100 000 EVs, this roadmap models three scenarios, each based on a different scope of import customs duty exemptions:

- **Scenario 1, Business-as-Usual:** Assumes no policy changes. The quota remains capped at 8 000 EVs annually, while actual imports are assumed to continue at 2024 levels (9 528 EVs per year) through 2030.
- **Scenario 2, Single Step:** The quota for import duty exemption is increased to 14 000 EVs annually beginning in 2026, and imports are assumed to meet this volume. The adjustment of the quota is designed to meet the 2030 target of 100 000 EVs in 2030.
- **Scenario 3, Incremental Increases:** Similar to scenario 2, this scenario is designed to meet the 2030 goal by gradually expanding quotas for import duty exemption. Starting with 13 000 EVs per year in the 2026-2027 period and increasing to 15 000 EVs annually from 2028 to 2030.

All three scenarios assume minimal EV exports and focus on domestic fleet growth.

Different pathways to designing import customs duty exemption in Armenia, 2015-2030



IEA. CC BY 4.0.

Source: IEA analysis based on [Statistical Committee of Republic of Armenia](#).

As illustrated above, the Business-as-Usual scenario falls short of achieving the 100 000 EV target by 2030. The modelling underscores the need for demand-side policies to achieve the 2030 target and highlights the potential to expand the scope of import duty exemptions.

A single-step approach offers a clear, decisive path to 100 000 EVs in 2030. But it may not correspond to domestic EV demand and risks underdelivering in the short term. An incremental approach may align more closely with Armenia's growing EV demand and import capacity.

The modelling illustrates various feasible pathways for reaching 100 000 EVs by 2030. One option is to expand the import duty exemption quota – raising it as high as 20 000 vehicles annually by 2026. This would send a clear signal to the market and reduce uncertainty over eligibility and the risk of the incentive being oversubscribed.

The incentive scheme could also be further refined. Currently, light-duty trucks are excluded from the import duty exemption. Adding them could lower emissions, as such vehicles are generally highly utilised. Duty exemptions also risk favouring progressively more expensive vehicles. As the market matures, introducing a price cap for eligible vehicles could help promote the purchase of more affordable models.

By 2050, EVs will need to make up 40% to 50% of Armenia's fleet – about 500 000 vehicles. Additional measures beyond the import duty and VAT exemptions will be required, or the cost of fossil fuel alternatives will need to rise sharply. Higher taxes on imports of petrol- and diesel-powered vehicles would also boost state revenues.

Heavy-duty vehicles

In the short term, efforts to promote electric buses are recommended. Public procurement rules requiring electric buses should be paired with incentives that lower purchase costs. Electric buses are already being piloted in Yerevan, for example, as part of the Global Environment Facility project.

In Yerevan, trolley buses offer an electrified, high-capacity option – but the government currently limits their operation to within city limits. Extending the system to surrounding residential areas where many workers live would offer a viable alternative to cars, easing congestion and cutting commute times. Expanding trolley bus networks and funding interregional collaboration in the capital region would align with the Long-term (until 2050) Strategy and could accelerate public transport electrification.

Increasing knowledge and avoiding misinformation

Like other disruptive technologies, the rollout of electric vehicles has been clouded by myths rooted in outdated information and early technical limits. Despite advances, misconceptions persist. This section examines the challenge of disseminating accurate, evidence-based information about EVs. Misinformation can shape public perceptions, sow uncertainty and slow the transition from fossil fuels. Such misperceptions are not unique to Armenia but are common in many countries adopting EVs.

Comprehensive resources debunking EV misconceptions have been developed in many countries and are readily available to support public awareness campaigns and educate government officials.

In its 2021-2026 Policy Action Plan, the government announced a programme to promote EVs, which could be supplemented with measures to raise awareness. Our recommendation is to use existing resources to develop information campaigns aimed at key groups such as households, taxi and bus drivers, and public officials. Over time, better access to country-specific data will allow more effective policy design, strengthen legitimacy and help dispel misinformation about EVs.

Linking energy, transport and the built environment

Closer collaboration between the energy sector, transport system and the built environment could help accelerate road transport electrification in Armenia. For now, access to grid capacity is not a barrier. Electricity grid development depends on co-ordination between the state-owned TSO High-Voltage Electric Networks (HVEN) and the DSO Electric Networks of Armenia (ENA) for tasks such as grid reinforcement and expansion.

Armenia is liberalising its electricity market and shifting to a wholesale model aimed at boosting competition and transparency. Reforms are focused on allowing consumers to choose their electricity suppliers and encouraging more players to enter the market, moving away from the single-buyer system. The distribution network is privately owned but remains centralised.

As the road transport sector electrifies, electricity demand will rise in new parts of the grid – primarily in residential areas for overnight charging, but also at strategic urban locations along major transport routes. Meeting this demand and building new, cost-efficient charging infrastructure will require closer collaboration among stakeholders like the HVEN, public transport providers, property owners (residential and commercial) as well as owners of conventional fossil fuel filling stations.

To align efforts across the value chain, this report proposes a Cross-Sector EV Partnership – a task force that includes the ENA, HVEN, charge point operators (CPOs), transport officials and private businesses to co-ordinate EV infrastructure development. This group could advise the Government on issues such as data sharing and grid capacity mapping.

Building convenient, reliable and robust charging infrastructure

Armenia already has a nationwide network of fast chargers, with about 200 public stations – just shy of the European Commission’s guideline of one public charger for every 10 EVs. Fast and slow public charging networks serve different needs and generally complement private charging. As the EV fleet grows, both public and private infrastructure will need to expand, with a focus on making the system convenient, reliable and robust for users.

Fast charging

The European Union sets charging infrastructure requirements for light duty vehicles through its Alternative Fuels Infrastructure Regulation (AFIR). A development in line with these requirements in Armenia, corresponds to the following level of fast-charging infrastructure deployment:

AFIR requirements from an Armenian perspective

AFIR charging requirements	2025	2027	2030	2035
TEN-T Core	800 kW At least 2 x 150 kW Every 60 km	1 200 kW At least 4 x 150 kW Every 60 km		
TEN-T Comprehensive		600 kW At least 2 x 150 kW Every 60 km (50% of network)	600 kW At least 2 x 150 kW Every 60 km (100% of network)	1 200 kW At least 4 x 150 kW Every 60 km
Indicative outcome if applied to Armenia				
Road of national importance	30 charging hubs with 800 kW	30 charging hubs with 1 200 kW		
Road of regional importance		16 charging hubs with 600 kW	33 charging hubs with 600 kW	33 charging hubs with 1 200 kW

Note: All requirements are as of 31 December of each year, respectively.

To build a convenient, reliable and robust public charging network, this report recommends that Armenia align with the AFIR requirements and focus on strategic locations, such as the North-South Corridor. Reaching adequate service levels at these locations may require additional resources. To access funding, charge point operators (CPOs) should fulfil certain criteria such as:

- **Certification and standards:** Unified technical design standards for chargers, such as component durability, communication protocols and data logging capabilities.
- **Data transparency:** Require real-time information on charger availability and functionality through open APIs, enabling third-party apps that EV drivers can use for trip planning.
- **Minimum uptime:** Establish minimum standards for public chargers to remain available and operational.
- **Fair pricing and convenient payments:** Require transparent pricing and interoperable payment options (e.g. mobile apps) to maximise accessibility.

Home charging

Home charging plays a critical role in accelerating EV adoption by providing convenient and cost-effective charging for drivers. Charger installation is straightforward for a single-family home – but in Armenia, multi-family housing remains the norm, especially in cities. Where off-street parking is available, it is therefore essential to facilitate home charger deployment.

To expand access to home charging, we recommend offering partial reimbursements, either through subsidies or tax credits, or waiving VAT and import duties on home charging equipment.

Measuring electricity consumption in transport is more difficult than gathering sales data from fuel suppliers. While public charge point data could be obtained with moderate effort, accurate tracking of private charging remains challenging. Most countries rely on models that estimate transport electricity use from driving data. With improved traffic data transparency, similar models could be developed for Armenia.

Local policies for charging infrastructure deployment

Local authorities play a key role in promoting EV adoption. This section highlights strategic and practical considerations for municipalities.

Prioritise off-street charging infrastructure

On-street charging stations are highly visible and politically attractive, but they are generally more expensive to install than off-street stations. The city of Yerevan

encourages CPOs to deploy on-street charging stations and develop business models. But supporting new off-street charge points in parking lots and garages makes better economic sense. Not only does this represent a service upgrade for drivers, but the ownership structures of parking facilities are also less complex and charger installation costs are lower. Expanding charging infrastructure at such sites also benefits residents in multi-family buildings, providing a clear benefit to the local community.

Local authorities could support off-street charging in three ways:

- **As fleet operators:** Invest in EVs and charging infrastructure for municipal vehicles at designated parking spaces.
- **Through public housing and parking facilities:** Finance investments in charging infrastructure – especially for overnight charging.
- **Setting requirements for new developments:** Require developers to include charging infrastructure in new properties that include parking, similar to the rules under the EU Energy Performance in Buildings Directive, and enforce compliance through the building permit process.

Align EV parking policies with broader sustainable mobility goals

Parking policy is an important tool for cities. In Yerevan, EVs are currently exempted from parking fees. But as the fleet grows, it will be important to align parking and transport system goals to avoid increasing overall car demand or designating parking only for specific users. The aim is to support sustainable mobility for all residents and businesses.

Removing barriers to electrification

Administrative hurdles – such as unintentional regulatory or legal barriers, policy gaps and poor co-ordination – can slow road transport electrification. Moreover, as electrification advances, new challenges will always arise. The proposed Cross-Sector EV Partnership could help to identify these barriers and assist local and national authorities in finding ways to surmount them.

Improving transport efficiency

Improving transport efficiency for people and goods brings multiple benefits, including higher competitiveness and reduced CO₂ emissions. This section focuses on high-capacity transport modes, such as rail and public transport, as well as creating a built environment that encourages walking and bicycling.

Transport planning for a multimodal and sustainable future

Transport planning is central to developing a mobility system that moves people and goods efficiently, stimulates local economies and attracts businesses.

Effective, efficient, and convenient multimodal transport planning is essential for cities, regions and state actors to prioritise resources, governing the transport system and to evaluate and formulate relevant policy goals. This report highlights measures that can help accelerate the climate transition in cities like Yerevan, including reduced speed limits and dedicated bike lines. Gaps in transport data and weak regional co-ordination are barriers to progress. Strengthening transport planning capacity is critical to ensure effective decision-making for sustainable transport at national, regional and local levels.

Transport planning involves evaluating, assessing and forecasting demand, and then designing and implementing strategies to improve the efficiency and safety of the transport system. The goal is to create a sustainable multimodal system that serves everyone – pedestrians, cyclists, public-transport users, motorists and goods carriers.

A well-designed transport system supports economic growth by improving access to education, jobs, services and markets to all citizens. For example, the report recommends that Armenia integrate gender analysis into its transport policy and planning to address mobility constraints specific to women (e.g. safety concerns, affordability and public transit reliability) as part of the recently approved Strategy and Action Plan for the Implementation of Gender Policy in the Republic of Armenia 2025-2028. The needs of other groups with special needs – children and youth, the elderly, people with disabilities and low-income or rural users – should also be considered.

Transport planning assistance has long been a part of international aid to Armenia. Yet managing the transport system should be considered a core national competence, since it is critical to economic development and growth. Emerging transport modes – such as self-driving taxis and delivery drones – add complexity, but they also lower overall transport costs. Meanwhile, it is important to learn from past experience and adopt best practices. Previous rollouts of electric scooters, for example, underscore the need for governance to ensure that new mobility technologies deliver societal benefits.

Alongside the long-term recommendation to create an Armenian national transport research centre, our proposals for the short-term include:

- **Building transport planning competency:** Introduce mobility studies at Armenian universities from undergraduate through doctoral level.

- **Strengthen public-sector expertise:** Partner with Armenian universities to create joint research programmes that focus on value creation.
- **Conduct a transport data gap analysis:** Identify and enhance the collection of missing information that would help improve transport planning.
- **Harness the potential of transport data:** Improved data quality can guide planning and help prioritise resources for more efficient transport of people and goods.

Adopting suitable speed limits

Reducing Armenia's speed limits could advance sustainable transport by improving safety, cutting emissions and encouraging cycling and walking. Current traffic laws permit maximum speeds of 90 km per hour in metropolitan areas and 60 km/h in areas indicated by a white road sign, such as city centres and villages.

Lower speed limits lead to more fuel-efficient driving, reducing CO₂ emissions and air pollution. Enforcing urban limits not only lowers fuel consumption but also makes streets safer, creating more accessible environments for pedestrians and cyclists. Slower traffic can also make public transport a more attractive alternative to private cars.

[Data show broad public support](#) in Armenia for limiting speeds to 30 km per hour in built-up areas. This report recommends reducing limits to 40 km per hour in city centres and 30 km per hour in residential zones. Infrastructure will need to be adapted to enforce slower speeds. International funding is available for measures such as speed bumps and lane adjustments that naturally slow traffic and improve safety. Complementary enforcement measures, including camera-based monitoring, will also be key for ensuring compliance.

Focused efforts to complete priority rail projects

Today, 70% of freight in Armenia is transported by road, with just 18% by rail. Increasing rail's share is key to creating a more sustainable and efficient freight transport system. Rail offers clear environmental advantages, including lower greenhouse gas emissions and reduced energy consumption per ton-kilometre. It also provides economic benefits through decreased congestion and infrastructure wear. Armenia's rail network is already fully electrified and has capacity available, presenting a significant opportunity to boost efficiency and lower CO₂ emissions.

The Government recognises the importance of rail and has launched initiatives to shift from road to rail transport. To transform this commitment into results, Armenia should focus on a limited number of projects and see them through to completion.

This report recommends prioritising logistics hubs to smooth customs and freight handling, as well as strengthening regional passenger connectivity and public transport.

Developing Yerevan-Tbilisi high-speed train

Improving the rail connection between Yerevan and Georgia's capital Tbilisi would improve the accessibility, and MTAI is developing a concept paper for a Yerevan-Tbilisi high-speed rail corridor. The Yerevan-Tbilisi train currently operates three times a week, taking about 10 hours. By road, the 273 km journey takes between four and five hours, depending on border delays. The region's mountainous topography makes travel challenging, but a better rail link would ease road traffic and improve safety. By air, flights between Zvartnots International Airport and Tbilisi International Airport take less than an hour.

Developing Gyumri into a logistics hub

Armenia plans to transform Gyumri into a major dry port (a land-based facility for transferring cargo) and free-trade zone. The new hub will connect warehouses and industrial parks to the Gyumri Shirak International Airport through air, rail and trucking links, streamlining the movement of goods and boosting trade efficiency.

Governing the expansion of the Yerevan metro

Developing public transport in Armenia is a joint effort between local and national authorities. Local governments design and propose systems, which are then financed at the national level. Greater national governance could help improve coherence and efficiency. The Yerevan metro is the best example.

Yerevan's metro is a single, 13 km line that serves 10 stations. It is operated by the Karen Demirchyan Yerevan Subway CJSC, a department of the MTAI. Ridership is around 80 000 passengers per day – just over 20 million per year – with 32 cars currently in service.

Ambitious plans to expand the metro have stalled for lack of funds. An extension beyond Baregamutyun station, to include stops in Achapnyak and Nazarbekyan, has been scrapped. Achapnyak, a largely residential district of more than 100 000 inhabitants, and Nazarbekyan, part of the broader Achapnyak district, remain without direct metro access. Completing this expansion would ease congestion, provide an alternative to private cars, shorten commutes and lower transportation costs.

Extending the Yerevan metro would shift large numbers of passengers from road to rail. The report recommends that the government align local transit development with national policy goals, including boosting use of public transport.

Improving connectivity for a landlocked economy

As a landlocked developing country (LLDC), Armenia faces high transport costs and limited international connectivity. Yet there are opportunities to deepen its regional and global integration.

LLDCs can negotiate transit agreements with neighbouring countries to secure efficient access to ports. Armenia already has a transit agreement with Iran, which grants access to Chabahar and Bandar Abbas ports and facilitates trade with India. The government has also expressed interest in unblocking regional communications and using neighbouring territories for transit and trade. A transit deal with Georgia, now under discussion, would provide access to Black Sea ports.

To advance these types of agreements, the report recommends seeking international support, particularly from organisations and countries invested in regional connectivity and trade. For example:

- The **European Union**: The European Union actively funds transport infrastructure projects in the Caucasus region, including initiatives that foster trade between Armenia and Georgia.
- The **World Bank** and the **Asian Development Bank (ADB)**: These institutions have supported logistics and transit improvements in Armenia and could provide financial or technical assistance.
- The **United Nations** and **UNCTAD**: The United Nations and the United Nations Conference on Trade and Development (UNCTAD) both have programmes targeted at LLDCs and could help Armenia secure better transit arrangements.

Bilateral partnerships with countries that have strong economic ties to Armenia, such as Iran and India, could also help improve transit routes through Georgia to access Black Sea ports.

Developing regional public transport in Yerevan

Yerevan's public transport system is run by the city and currently ends at the city limits. Yet many residents outside the city commute to and from Yerevan for work, study or other economic reasons, which links them to the wider region.

Better co-ordination of public transport across the greater Yerevan region would enhance accessibility and efficiency and support sustainable mobility. The report recommends improving public transport links between Yerevan and surrounding towns (e.g. Abovyan, Echmiadzin) and aligning their operations with the city's transport system.

Inter-city public transport is currently managed by MTAI. In the greater Yerevan region, however, it would be more convenient to extend the city's transit system, sharing the same digital payment platform, online timetables and other features.

Development could proceed in phases: short-term efforts would focus on establishing the necessary integrations, while assessments could take place over the longer term to determine how public transport could support regional economic growth.

Promoting shared mobility solutions

Public transport remains the backbone of high-capacity, shared mobility. Expanding other shared modes (e.g. cars, bikes and e-scooters) offers users more options and can create conditions for more resource-efficient and lower-emission alternatives. Private passenger cars are a major source of greenhouse gases in Armenia, and they also contribute to urban congestion, noise and air pollution. Still, studies show that private car usage remains relatively low: on average, most cars are parked for around [23 hours per day](#). Shared mobility can help optimise the use of these resources, increase accessibility and complement traditional public transport, making it more attractive. Common ride-sharing options range from taxis to peer-to-peer services and carpools – yet in Armenia, these do not yet exist.

Increasing use of fossil-free fuels

Armenia is in an unusual position, since most of the country's vehicles run on methane. Expanding the use of liquid biofuels or e-fuels in its vehicle fleet would be neither cost- nor energy efficient. Biofuels deliver low energy efficiency and offer little advantage in terms of pollution reduction compared to methane vehicles or EVs.

Studies show potential for bioethanol production in Armenia using crops such as gooseberry, corn and raw cellulose. However, vehicles should not be the main market for liquid biofuels. Instead, assessments should explore refining bioethanol into alcohol-to-jet fuel, a drop-in substitute for petroleum-based jet kerosene.

Potential for biomethane production and utilisation

Natural gas (fossil methane) accounts for 52% of Armenia's final energy usage, more than 80% of its energy imports and almost 66% of transport demand. In 2023, the transport sector used 412 million cubic metres.

Biomethane, a renewable gas similar to natural gas, has an estimated production potential of around [5 petajoules \(PJ\) per year](#) – enough to replace about one-third

of transport sector demand. Given that the European Union's Renewable Energy Directive mandates that 14% of transport energy to come from renewables by 2030, it would behove Armenia to develop a domestic biomethane industry rather than continue relying on imported fuels.

Increasing biomethane production in Armenia, would bolster domestic resource use, expand renewable energy production and diversify energy sources. Reducing reliance on imported methane would also bring economic benefits: Armenia spent nearly USD 400 million importing natural gas in 2023 alone. Developing a biomethane industry – from collecting agricultural and municipal waste to production and distribution of biomethane – would create jobs and improve waste management. Methane production technologies are also versatile, capable of processing a wide range of biowaste, from agricultural residues to kitchen and garden waste.

Today, many countries – including Denmark, Sweden and France – inject biomethane into the gas grid. The share of biomethane in Sweden's western regional gas grid already surpass 30%, for example, while France plans for [15% biomethane by 2030](#).

Scaling up biomethane production in Armenia involves several challenges, including gaps in production and distribution infrastructure and risks of methane leakage. There is also the potential for a “lock-in” effect, where continued reliance on methane risks slowing the transition to a renewable energy system.

Biomethane offers a viable pathway to decarbonise Armenia's transport fleet, since it works with existing vehicles and infrastructure. Methane is also a key resource for many industrial processes. As the transport sector transitions toward electrification, demand for biomethane in other sectors should increase, maintaining its relevance and value within Armenia's energy system.

Foreign investors are showing interest in Armenia's nascent biomethane sector. Expanding production and use of biomethane could deliver economic, environmental and social benefits. To this end, the report recommends the following measures:

- **A biomethane strategy for a more resilient transport sector.** The strategy should cover the entire value chain, including establishing waste collection systems and determining the scope of investment in production plants. It should also identify appropriate funding schemes. The cost of producing biomethane today is estimated to be [between 7 and 70 US cents per cubic metre](#). Meeting 14% of transport energy demand by 2030 would require annual production of 58 million cubic metres, with total capital costs estimated at USD 4 million to USD 40 million.

- The strategy should also include **a review of legislation** to remove barriers to injecting biomethane into the national grid and explore policy options to promote its use.
- **A biomethane action plan.** The strategy should be backed by a detailed action plan that includes time-sensitive deliverables to scale production and meet defined energy policy targets.

Create a plan to meet ICAO's 2050 net-zero CO₂ target for aviation

Aviation is one of the fastest-growing sources of carbon emissions worldwide, and international aviation to Armenia is expected to increase in the coming decades.

In October 2022, the International Civil Aviation Organization (ICAO) set a Long-Term Aspirational Goal (LTAG) of net zero CO₂ emissions for international aviation by 2050, highlighting the role of sustainable aviation fuels (SAFs), innovative aircraft technologies and more efficient flight operations. While ICAO does not impose specific obligations on individual states, countries can voluntarily submit national aviation decarbonisation strategies.

Implementing sustainable aviation policies now would help Armenia build a resilient and competitive aviation sector while boosting air quality, energy efficiency and tourism. The report therefore recommends developing a long-term strategy for meeting ICAO's 2050 goals.

Mobilising investment in the climate transition

Armenia can mobilise investment in the transport sector's climate transition by leveraging policy incentives, financial instruments and international partnerships. Armenia has developed a [national strategy to promote green investments](#). The strategy focuses on sustainable infrastructure, private sector investments and climate finance. It includes a Green Finance Roadmap to scale up green investments and attract private sector participation. The strategy aligns with Armenia's Nationally Determined Contributions (NDCs) under the Paris Agreement. Armenia has received funding from global climate finance mechanisms, including the Green Climate Fund (GCF), Climate Investment Fund (CIF), and the Global Environmental Facility (GEF).

In the Long-term (until 2050) Low Greenhouse Gas Emissions Development Strategy, the proposed measures under the "with additional measures" scenario are estimated to require investments in the range of AMD 1.55 billion to AMD 2.7 billion (around USD 3.7 million to USD 6.5 million). To fund

implementation, various sustainable financing options exist, including green bonds, transition bonds, sustainability-linked loans and green equity funds.

Green bonds can be issued by governments and financial institutions, provided the projects meet the green bond principles set by bodies such as the International Capital Market Association (ICMA). They attract investors focused on environmental, social, and governance (ESG) goals and often offer lower borrowing costs compared to conventional bonds. Green bonds are well-suited to sustainable transport projects such as electric buses. Armenia has been exploring this type of financing, though the market remains nascent. One key initiative is the [Green Bond Framework](#), designed to help Armenian banks and financial institutions issue bonds for sustainable infrastructure, including transport projects.

Transition bonds are for companies in an early transition phase and not yet eligible for a fully sustainable project. Japan has been a major player in transition bond issuance, with Japanese companies accounting for [91% of transition bonds](#) by value in 2022. Projects that include biomethane could be considered for transition bonds. Sustainability-linked loans (SLLs) incentivise borrowers to improve their ESG performance. Unlike green bonds, which must fund specific projects, SLLs can be used for general corporate purposes, with loan terms (e.g. interest rates) tied to the borrower's ability to meet predefined sustainability targets. The Sisian-Kajaran Road Project – part of Armenia's North-South Road Corridor – has applied to the European Bank for Reconstruction and Development (EBRD) for both SLLs and transition bonds.

Green equity funds invest in companies and projects that promote environmental sustainability. These funds aim to generate financial returns while supporting green industries such as sustainable infrastructure and mobility. There are different types of green equity funds: mutual funds and exchange-traded funds (ETFs) that are focused on sustainable sectors, and private equity funds that invest in emerging green technologies and startups.

Governments can use tax incentives to encourage green equity financing, making investments in sustainable projects more attractive for businesses and investors. Examples include tax credits for green projects, reduced corporate tax rates and other measures that reward businesses for reducing their carbon footprint.

To encourage sustainable transport investments and improve competitiveness, the report recommends considering a carbon-pricing mechanism, such as the fuel tax suggested earlier. Public-private partnerships will play a key role, with the Armenian government co-ordinating the relevant stakeholders and helping to secure funding for transport projects from multilateral development banks (e.g. World Bank, EBRD, ADB) and climate funds like the Green Climate Fund (GCF).

Policy recommendations and milestones

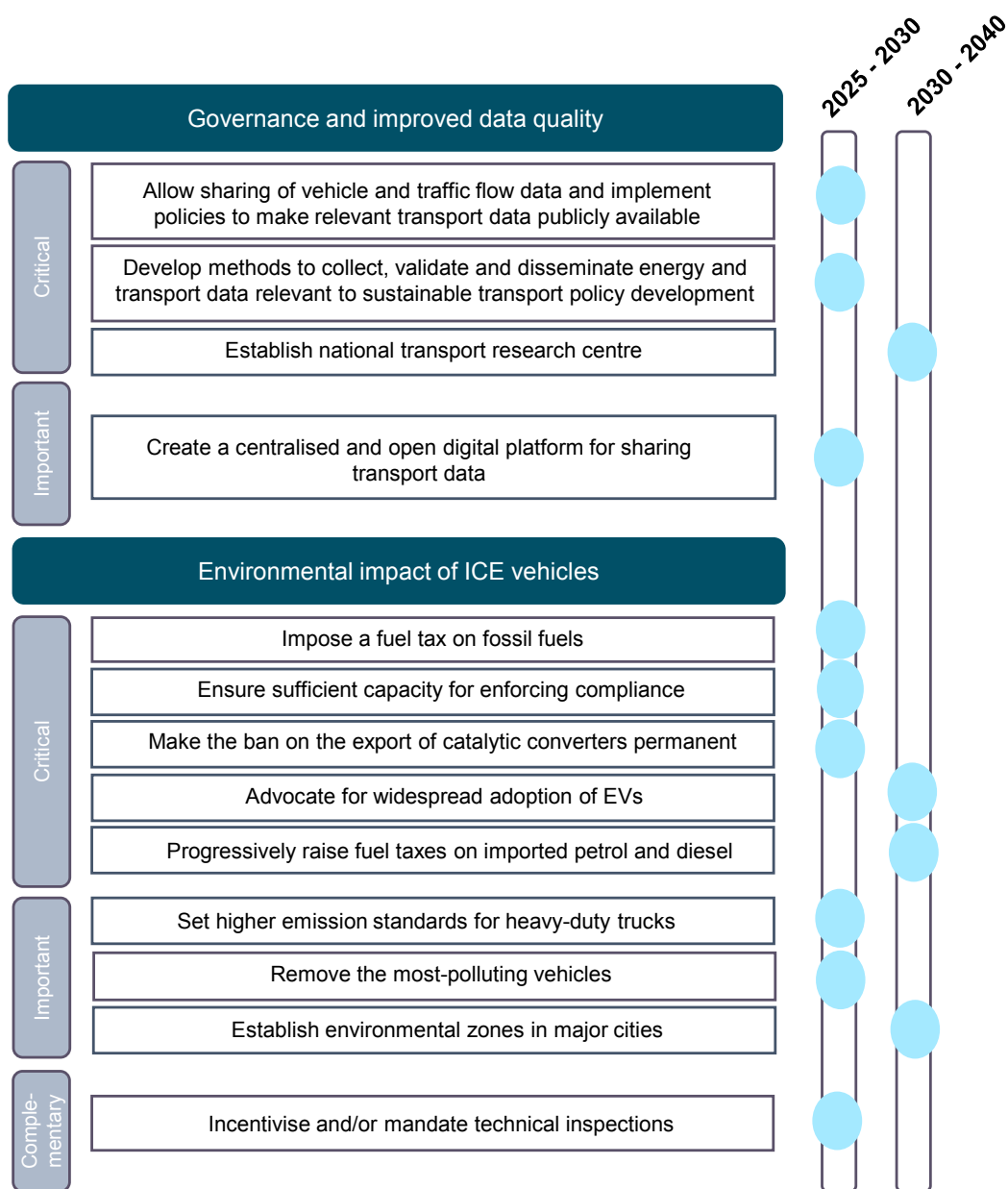
As Armenia shifts toward a sustainable transport sector, a clear roadmap with structured policy recommendations and milestones is essential. To be sure, the transition faces challenges ranging from geopolitical risks to resource limitations. However, it also offers significant opportunities to lower CO₂ emissions, improve transport accessibility for people and businesses, enhance regional and international connectivity and wean Armenia from its dependence on imported fossil fuels.

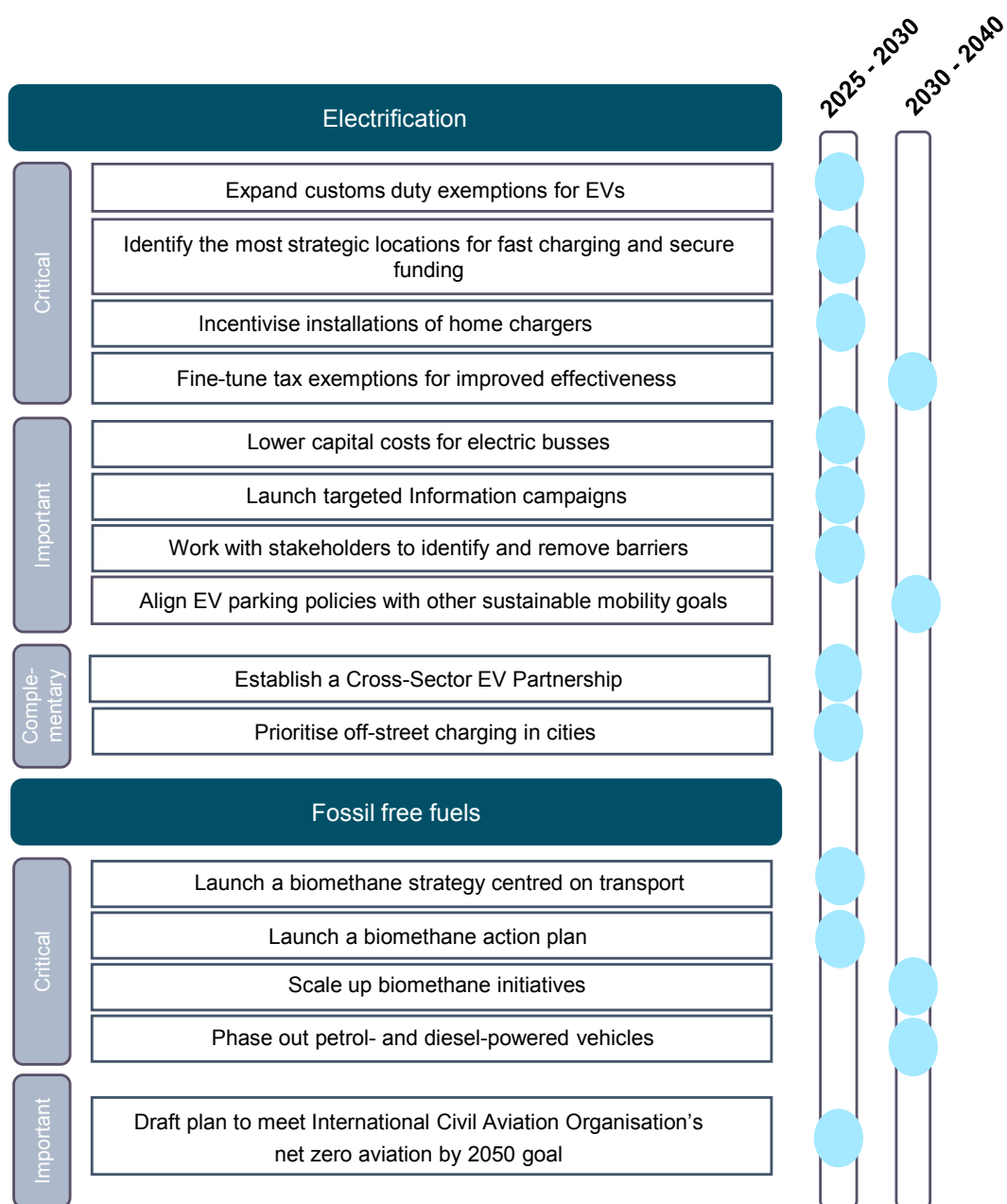
In the summary below, the recommendations offered in this roadmap have been grouped into three categories to help the government prioritise its actions effectively and ensure a systematic transition toward low-carbon mobility. Each category reflects the level of urgency, impact and feasibility of the proposals:

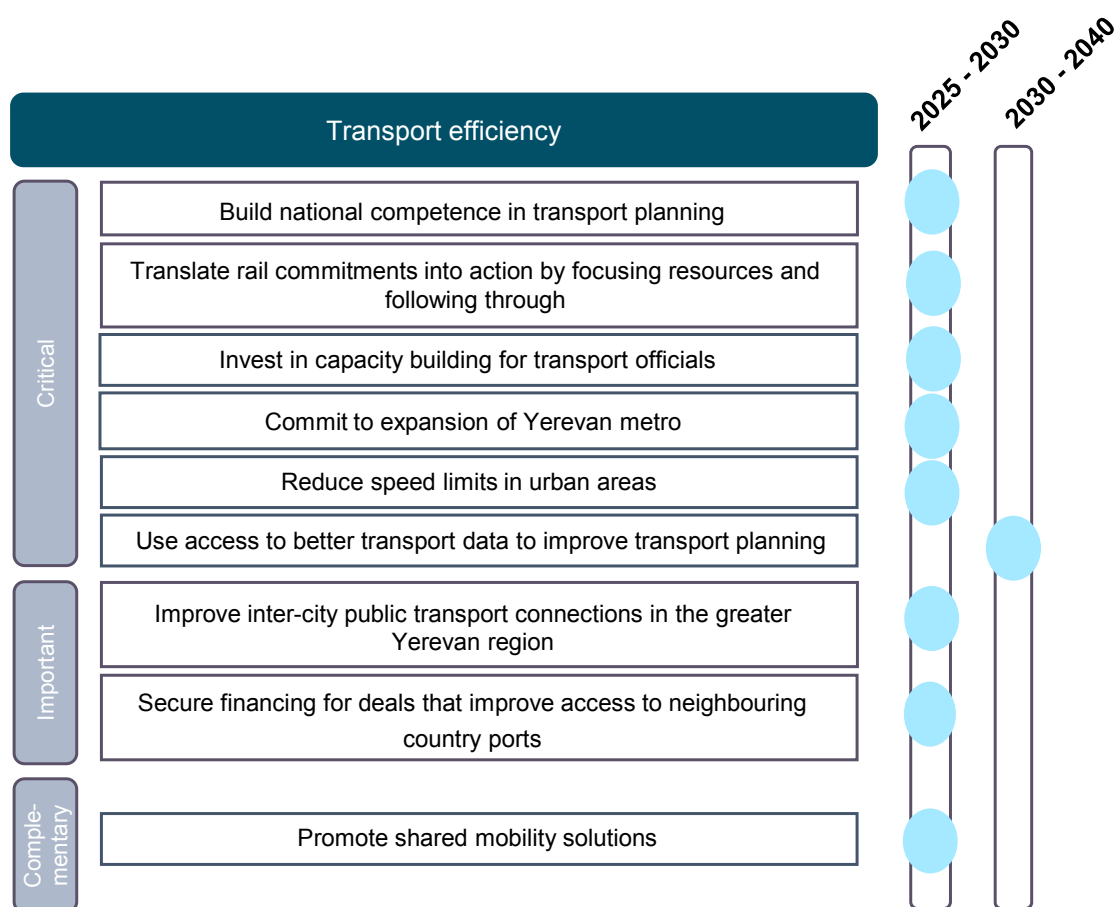
- **Critical Measures:** These are high-priority actions essential for achieving energy and transport policy goals. They require immediate implementation and will have the greatest impact on emissions reduction, infrastructure development and regulatory frameworks.
- **Important Measures:** While not as urgent, these actions are necessary for long-term success. They complement critical measures by supporting institutional reforms, fostering technological innovation and strengthening financial mechanisms for sustainable transport.
- **Complementary Measures:** These are additional initiatives that enhance and refine the transition process. They may not be essential on their own, but they increase efficiency and enhance the impact of the other measures.

This categorisation ensures a balanced and strategic approach, allowing decision makers to prioritise key investments.

Armenia Sustainable Transport Roadmap







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Despite significant geopolitical challenges and resource constraints, Armenia continues to press forward in the transition to sustainable transport. This structured roadmap can help guide government efforts to improve regional connectivity, spur economic development and strengthen energy security in Armenia, while significantly reducing CO₂ emissions.

Annexes

Abbreviations and acronyms

AC	Alternating current
ADB	Asian Development Bank
AFIR	Alternative Fuels Infrastructure Regulation
AMD	Armenian dram
CEPA	Comprehensive and Enhanced Partnership Agreement
CIF	Climate Investment Fund
CJSC	Closed joint stock company
CNG	Compressed natural gas
CO	Carbon monoxide
CO ₂	Carbon dioxide
CPO	Charge point operator
DC	Direct current
DSO	Distribution system operator
EAEU	Eurasian Economic Union
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
ENA	Electric Networks of Armenia
EPIU	Environmental Project Implementation Unit
ESG	Environmental, Social and Governance
ETF	Exchange-traded fund
EU	European Union
EV	Electric vehicle
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse gas
ICAO	International Civil Aviation Organization
ICE	Internal combustion engine
ICMA	International Capital Market Association
IEA	The International Energy Agency
HVEN	High-Voltage Electric Networks (Armenia's transmission system operator)

LLDC	Landlocked developing country
LNG	Liquified natural gas
LPG	Liquified petroleum gas
LTAG	Long-term aspirational goal
MTAI	The Ministry of Territorial Administration and Infrastructure
Mtoe	Million tonnes of oil equivalent
MW	Megawatt
NO _x	Nitrogen oxides
N ₂	Nitrogen
NDC	Nationally determined contribution
OECD	Organisation for Economic Co-operation and Development
PSRC	The Public Services Regulatory Commission
PV	Photovoltaics
SAF	Sustainable aviation fuel
SLL	Sustainability-linked loan
TRASECA	Transport Corridor Europe-Caucasus-Asia
TSO	Transmission system operator
TWh	Terawatt hours
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
USD	US dollar
VAT	Value-added tax

See the [IEA glossary](#) for a further explanation of many of the terms used in this report.

Current sustainable transport policies and projects in Armenia

- European Committee of the Regions – [Armenia - transport](#)
- IEA, [Energy Policy review](#) (2022)
- [First Nationally Determined Contributions](#) (Updated 2021)
- [Long-Term \(Until 2050\) Low Emissions Development Strategy of the Republic of Armenia](#) (2023)
- [Republic of Armenia Energy Sector Development Strategic Program to 2040](#) (2021)
- [Sustainable Development Goals – voluntary national review report](#)
- [Armenia Development Strategy for 2014-2025](#) (2014)

This publication has been produced with the financial assistance of the European Union and is part of the EU4Energy programme. This publication reflects the views of the International Energy Agency (IEA) Secretariat but does not necessarily reflect those of individual IEA Member countries or the European Union. The IEA makes no representation or warranty, express or implied, in respect to the publication's contents (including its completeness or accuracy) and shall not be responsible for any use of, or reliance on, the publication.

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Typeset in France by IEA - October 2025
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