



**UNITED
NATIONS**

UNEP/EA.6/3



**United Nations
Environment
Programme**

Distr.: General
22 November 2023
Original: English

**United Nations Environment Assembly
of the United Nations Environment Programme**
Sixth session
Nairobi, 26 February–1 March 2024
Item 5 of the provisional agenda*

International environmental policy and governance issues

Progress in the implementation of resolution 4/3 on sustainable mobility

Report of the Executive Director

I. Introduction

1. The present report provides an update on progress made in the implementation of resolution 4/3 of the United Nations Environment Assembly of the United Nations Environment Programme (UNEP) on sustainable mobility. In paragraph 4 (f) of the resolution, the Environment Assembly requested the Executive Director of UNEP to prepare a report on actions undertaken within the scope of the resolution for submission to the Assembly at its sixth session.

II. Progress in the implementation of resolution 4/3

2. The transport sector is responsible for nearly a quarter of all energy-related CO₂ emissions, with emissions growing faster than in any other sector. An integrated approach that combines electric vehicles, cleaner fuel and vehicle standards, public transport, and adequate infrastructure for active mobility (walking and cycling) is needed to promote sustainable mobility to meet the targets of the Paris Agreement on climate change. Actions taken to move towards sustainable mobility will not only result in a reduction of greenhouse gas emissions and short-lived climate pollutants but also greatly help improve air quality and human health, particularly in urban areas. This will, in turn, contribute to a sustainable pathway towards achieving the Sustainable Development Goals.

3. According to the Intergovernmental Panel on Climate Change (IPCC), to remain in line with the 1.5°C pathway, electric vehicles will have to displace fossil-fuelled vehicles by 2035–2050. Thus, to meet the targets of the Paris Agreement, it is essential that low- and middle-income countries (LMICs), where vehicle growth is highest, be part of a global shift to zero-emissions electric mobility.

4. In recent years, electric vehicles have undergone significant technological improvements. These have not only lowered their costs but also reduced their environmental footprint and increased their utility, especially for electric two- and three-wheel motorcycles and electric buses. Targets to fully shift to electric mobility have been set by many developed countries. Norway, for example, intends to completely phase out the sale of new non-zero-emissions vehicles by 2025.¹ Meanwhile, the

* UNEP/EA.6/1.

¹ See <https://elbil.no/english/norwegian-ev-policy/>.

Zero Emission Vehicles Declaration² launched at the twenty-sixth Conference of the Parties to the United Nations Framework Convention on Climate Change has been signed by a number of developed and low- and middle-income countries aiming to transition to the sale of 100 per cent zero-emissions vehicles by 2040. Similarly, the increasing affordability of electric vehicles, coupled with the opportunities to utilize locally produced renewable energies and reduce expenditure on fuel imports, among many other co-benefits, is leading to increased uptake of these vehicles in more LMICs.

5. Traditionally, emissions from fossil-fuelled vehicles are and have been a major source of outdoor air pollution, especially in urban areas. While cleaner fuels and vehicle emission standards to reduce these harmful air pollutants have been in place in the developed world for many decades, the same is not true in developing countries. In addition, a majority of LMICs rely on imported used vehicles to meet their increasing mobility needs. The lack of minimum standards to incentivize import of cleaner vehicle technologies, coupled with poor fuel quality, is a leading cause of high vehicle emissions in many cities in LMICs. Sustainable mobility in LMICs has been at the core of the work done by UNEP over the past 20 years. UNEP has continued to support Governments at all levels to develop and adopt sustainable mobility policies and strategies through the Sustainable Mobility Unit, which is part of the UNEP Economy and Industry Division. This work is performed through partnerships, including with other United Nations agencies and multilateral development banks and major regional- and global-level actors. In all its sustainable mobility work areas, UNEP provides LMICs with (a) technical support to collect and analyse sustainable mobility baseline data and trends; (b) training and capacity-building support to develop and implement sustainable mobility policies and standards; and (c) outreach and awareness-raising support to sensitize the public and decision makers about low-carbon mobility options.

Four categories of sustainable mobility activities conducted by UNEP

1. Promoting cleaner fuels and vehicle standards

6. UNEP has been promoting cleaner fuels (unleaded petrol and low-sulfur fuels) and low emission vehicle standards in LMICs since 2002. Through the Partnership for Clean Fuels and Vehicles, whose secretariat is at UNEP, leaded petrol was eliminated worldwide in July 2021, when the phase-out in Algeria completed a process that had begun with 117 countries still using leaded petrol in 2002. The collaborative approach taken by UNEP with partners at all levels, as well as a subregional approach to the harmonization of cleaner fuel and vehicle standards, are among the reasons for this success.

7. For optimal vehicle emissions reduction, a systems approach that combines cleaner fuels with stricter vehicle emission standards is promoted. Using this approach, UNEP is working with LMICs to adopt and implement low-sulfur petrol and diesel fuels (50 parts per million and below) and EURO 4/IV equivalent and higher vehicle emissions technologies. To date, 43 countries have adopted low-sulfur fuels and 38 have approved stricter vehicle emission standards. About half of these countries have adopted these standards since 2019, during the implementation of resolution 4/3. However, some countries, particularly in Africa, are yet to fully implement regionally adopted harmonized fuel and vehicle standards.

8. Urban buses are a major source of particulate matter and black carbon emissions, accounting for 25 per cent of transportation-related black carbon emissions worldwide. An urban bus is estimated to emit 250 or more times as much black carbon as a petrol passenger vehicle travelling the same distance. Trucks have also been identified as an important source of these two pollutants. UNEP is one of the lead implementing partners of the Climate and Clean Air Coalition Heavy-Duty Vehicles Initiative, which primarily focuses on reducing emissions from buses and trucks. Technologies to minimize emissions of these two pollutants from heavy-duty vehicles already exist in the global market. Through this initiative, and working with the International Council on Clean Transportation, a non-profit research think tank based in the United States of America, and other partners, cities in Africa, Asia and Latin America have been supported in their efforts to adopt soot-free bus technologies. Since 2019, six African cities have been supported to develop soot-free bus road maps based on cost-benefit analysis of various cleaner bus technologies. A guideline for Africa on financing and procuring soot-free buses, including electric buses, was developed and disseminated at a subregional workshop in November 2021. The Association of Southeast Asian Nations (ASEAN) is also being supported to develop cleaner standards for trucks.

² The declaration is available at <https://acceleratingtozero.org/the-declaration/>; the signatories are listed at <https://acceleratingtozero.org/signatories-views/>.

2. Regulating the quality of used vehicles

9. In 2020, UNEP published a report that analysed the flow and scale of used light-duty vehicles from the three largest exporters of used vehicles – the European Union, Japan and the United States.³ The report also reviewed the regulatory environment in 146 countries that import used vehicles. Among the key findings was that these three large exporters accounted for 14 million used light-duty vehicles being shipped worldwide between 2015 and 2018. The European Union was the largest exporter, with 54 per cent of the total, followed by Japan (27 per cent) and the United States (18 per cent). Some 70 per cent of exported light-duty vehicles head to developing countries. Africa imported the largest number (40 per cent) in the period studied, followed by Eastern Europe (24 per cent), Asia-Pacific (15 per cent), the Middle East (12 per cent) and Latin America (9 per cent). An update of this report was published in 2021.

10. In support of the UNEP study, the Government of the Kingdom of the Netherlands also conducted a study on the quality of used vehicles exported from Dutch ports.⁴ The study found that some of the used vehicle exports, especially to West Africa, matched end-of-life vehicles facing disposal in the Netherlands. Countries that had put in place regulations, such as Morocco, were importing good-quality used vehicles. In July 2023, the European Union adopted a proposal for a new regulation on end-of-life vehicles, which contains new measures on the export of used vehicles. This will have an impact on the quality of used vehicles exported from the European Union, as each year more than 6 million vehicles reach their end of life in Europe.

11. UNEP is working with used vehicle importing and exporting countries to put in place minimum standards. With funding from the United Nations Road Safety Fund, the Climate and Clean Air Coalition, and the Governments of the Kingdom of the Netherlands and Sweden, UNEP is supporting countries and subregions to put in place standards to ensure the import of cleaner and safer used vehicles. Training and capacity-building have been carried out in West and East Africa, while plans are underway to support Cambodia and Mongolia in Asia, the Latin America and Caribbean region, and Southern and Central Africa.

3. Supporting the shift to electric mobility

12. Since the launch of the Global Fuel Economy Initiative in 2009, UNEP has supported more than 70 LMICs in their efforts to develop fuel economy policies. A UNEP-funded report analysing the fuel economy trends in all these countries was published in June 2023.⁵ This work to improve fuel economy eventually included the first policies and regulations for electric vehicles in LMICs and evolved to become what is now the Global Electric Mobility Programme. Currently this UNEP-led programme is active in 60 countries, implementing more than \$130 million in grants to support the shift to electric mobility in LMICs.

13. The Global Electric Mobility Programme is active at the global, regional and country levels, including four global thematic working groups and partnerships on electric two- and three-wheelers, electric light-duty vehicles, electric heavy-duty vehicles, and vehicle charging infrastructure, renewable power integration and batteries; four regional support and investment platforms in Africa, Asia and the Pacific, Eastern Europe, Central and Western Asia, and Latin America and the Caribbean; and 60 national electric mobility projects.

14. The national electric mobility projects are focusing on: (a) building capacity and creating awareness; (b) establishing road maps and strategies; (c) developing national policy frameworks; (d) creating business models and financing schemes; (e) tackling the issues of used EV imports, battery end-of-life and circularity; and (f) piloting electric vehicles on the ground. At the national level, the programme has resulted in numerous policies and standards being drafted and adopted around the world. The policy options promoted in countries include vehicle taxation based on vehicle efficiency, fast-tracking of new technology introduction through fiscal incentives and improved regulation, and other measures such as fuel economy labelling.

15. The regional support and investment platforms are implemented in partnerships with development banks, such as the Asian Development Bank and the European Bank for Reconstruction and Development, to accelerate the introduction of e-mobility through the development of bankable projects and implementation support. Capacity-building and training programmes are implemented via

³ Available at <https://www.unep.org/resources/report/used-vehicles-and-environment-progress-and-updates-2021>.

⁴ Available at <https://www.ilent.nl/documenten/rapporten/2020/10/26/rapport--used-vehicles-exported-to-Africa>.

⁵ Available at <https://www.unep.org/resources/report/fuel-economy-passenger-cars-global-south>.

these platforms – for example, a first e-mobility forum was recently held in Tanzania, bringing together more than 100 e-mobility practitioners from countries across the African continent.⁶

16. The global thematic working groups are supporting the development of reports, studies and analytical tools. Recently, the programme published a first report on “Electric Vehicle Lithium-ion Batteries in Lower- and Middle-Income Countries: Life Cycle Impacts and Issues”.⁷

17. The online e-Mobility Toolbox developed under the programme makes accessible reports, studies and tools developed by UNEP and partners, such as the Urban Electric Mobility Initiative, the International Energy Agency, and the German development agency (GIZ).⁸

18. The comprehensive support has helped countries to leapfrog to cleaner vehicle technologies, including electric vehicles. Two subregions – the 15 countries of ECOWAS (Economic Community of West African States) and the 10 countries of ASEAN – have adopted fuel economy road maps, including the promotion of electric vehicles. Countries such as Kenya have implemented comprehensive incentives and regulations to accelerate the introduction and local assembly and manufacturing of electric vehicles.

19. Small private-sector startups have been supported through seed funding and technical assistance to develop products and business models adapted to the introduction of electric mobility in LMICs, and vehicles and charging infrastructure have been piloted to generate much-needed on-the-ground experience with the technology.

4. Supporting active mobility

20. Across the world, many people rely on walking and cycling as their primary forms of mobility. The modal share of active mobility can be as high as 70 to 90 per cent in some cities, and data show that every day 1 billion people in Africa walk and cycle as their main mode of transport. However, investors and Governments continue to prioritise increasing road space for cars, despite the high societal costs. Lack of prioritization of walking and cycling policies and lack of investment in the necessary infrastructure increases dependence on private cars and other motorized vehicles (even for short journeys) and worsens traffic congestion. This results in deteriorating air quality, negative climate change externalities, poor access to goods and services, millions of road fatalities and injuries (especially involving pedestrians and cyclists), and economic losses.

21. UNEP has been supporting national and city governments and other stakeholders in their work to better prioritize active mobility investment, and advocating globally and regionally for the cross-cutting role that active mobility plays in contributing to the Sustainable Development Goals and addressing strategic and local priorities, including those related to climate change, air quality, green cities, accessibility, equity, and improved health and well-being.

22. The work by UNEP on active mobility is delivered through the Share the Road initiative and includes technical assistance, stakeholder engagement, policy development, capacity-building, knowledge product and tool development, partnership building, and global and regional advocacy. The Share the Road programme has also worked with partners to develop a series of knowledge products and reports to improve knowledge and capacity for prioritizing active mobility.⁹ A recent report prepared jointly with UN-Habitat and Walk21 studied the conditions of active mobility in all 54 African countries and shared inspiring best practices from within the region.¹⁰

23. The Pan-African Action Plan for Active Mobility is a first-of-its-kind regional action plan that sets out commitments for African Governments to work towards over the next 10 years. It was drafted in 2023 by UNEP in consultation with Government and other stakeholders and will be published in 2024. The action plan is a follow-on initiative of the support UNEP and partners provided to countries including Burundi, Egypt, Ethiopia, Kenya, Rwanda, Uganda and Zambia to develop national- and city-level walking and cycling policies, and of other technical assistance. Other countries supported with policy development and technical assistance include Brazil, Indonesia and Mexico. UNEP also

⁶ See <https://www.unep.org/events/workshop/africa-e-mobility-forum>.

⁷ Available at <https://www.unep.org/resources/report/electric-vehicle-lithium-ion-batteries-lower-and-middle-income-countries>.

⁸ See <https://emobility.tools/>.

⁹ See <https://www.unep.org/resources/report/walking-and-cycling-africa-evidence-and-good-practice-inspire-action>.

¹⁰ Available at <https://www.unep.org/resources/report/walking-and-cycling-africa-evidence-and-good-practice-inspire-action>.

led the establishment of an Africa Network for Walking and Cycling, bringing together more than 200 organizations with a common goal of making active mobility safe and comfortable for all.

III. Lessons learned

24. High urbanization and motorization rates in LMICs mean that sustainable mobility will continue to play a critical role in ensuring that these countries achieve the desired economic growth while minimizing negative impacts, including on air pollution and the climate. A multipronged approach that includes low-carbon public transportation, safe and adequate infrastructure for active mobility and zero-emissions vehicles is key to shifting to more sustainable mobility.
25. Owing to high growth rates in vehicle fleets and energy use in the transport sector, and a lack of requisite standards in LMICs, Governments, particularly in the global South, are encouraged to develop and implement sustainable mobility policies and regulations.
26. A harmonized approach at the subregional, regional and international levels has proven to be a catalyst for more countries shifting to sustainable mobility policies and programmes. While efforts and progress have been made at the local, subnational and national levels, opportunities exist for countries to shift to more sustainable mobility options through developing and implementing harmonized commitments and agreements at the subregional, regional and international levels. The work done by UNEP to promote cleaner fuels and vehicles, electric mobility and active mobility shows that, while sustainable mobility solutions must be embedded in local contexts, their formulation, implementation and impact are enhanced by a subregional approach.
27. Demonstration projects can propel the uptake of sustainable mobility technologies and practices. Demonstration projects, in particular in LMICs, are able to showcase tangible results and the potential to upscale and mobilize greater support to transition to sustainable mobility. One example is how electric two- and three-wheeler demonstration projects implemented by UNEP have helped countries to adopt these technologies at a larger scale.
28. Stakeholder engagement and public participation are critical. The campaign by UNEP to phase out lead in petrol worldwide is an example of how meaningful engagement of all stakeholders and the public can shape policies. Continuous efforts should be made in the areas of communication, awareness-raising, and information and knowledge sharing to leverage the expertise of various stakeholders, gain public support, and place sustainable mobility on the agenda of decision makers across sectors and around the world.
29. Training and capacity-building tailored to country-specific needs are key to the full implementation of sustainable mobility strategies. Although more countries have put in place standards, regulations and laws to promote sustainable mobility, implementation and enforcement have not always been guaranteed. Tailored training and capacity-building on implementation mechanisms will support countries' efforts to comply with adopted sustainable mobility regulations. In addition, capacity-building on data and information collection, analysis and assessment is vital to informing decision makers of the need to act now. Efforts should also be made to enhance coherence and coordination of various capacity-building activities carried out by different actors.
30. Technical assistance in cooperation with financing institutions to develop bankable projects is much needed. Very often, slow uptake of sustainable mobility measures is not caused by absence of funding but by the capacity to develop bankable sustainable mobility projects. It is therefore essential to provide targeted support to build the capacity for the development of sustainable mobility projects.

IV. Recommendations and suggested actions

31. UNEP will continue to:
 - (a) Promote national- and city-level policies and programmes for increased investment in active mobility;
 - (b) Promote a global shift to electric mobility, while focusing on the issues of used electric vehicles, battery end-of-life, circularity, links to renewable energy, opportunities for local manufacturing, electrifying public transportation, and job creation, which are priorities in the global South;
 - (c) Support LMICs in their transition to low-sulfur fuels and stricter vehicle regulations for both new and used vehicles;

- (d) Carry out training and capacity-building for LMICs on policies and innovative technologies to facilitate sustainable mobility;
 - (e) Support communication and awareness-raising through knowledge-sharing platforms, sharing of best practices, technical reports, toolkits and websites to support North-South and South-South cooperation;
 - (f) Engage in partnerships, including with regional and international partners, civil society organizations, Member States, local governments, the private sector and academia.
32. Member States are urged to:
- (a) Join international efforts to switch to low-carbon mobility to help them meet the goals of the Paris Agreement, improve urban air quality and support the Sustainable Development Goals;
 - (b) Shift to cleaner fuel and vehicle standards to minimize harmful emissions;
 - (c) Set targets for zero-emissions mobility and develop road maps to phase out fossil-fuelled vehicles;
 - (d) Support the global shift to electric mobility, while ensuring that the global South is not left behind by including the issues of used electric vehicles, battery end-of-life and circularity;
 - (e) Encourage investment in, and regulation of, public transport to ensure it is safe, licensed and efficient. Considering that a commuter bus carries between 40 and 80 passengers, such investments can translate into a considerable reduction in the burden of private vehicle traffic, lower CO₂ emissions and significantly enhanced road safety for walkers and cyclists;
 - (f) Adopt integrated urban low-carbon mobility pathways that prioritize active mobility;
 - (g) Make available financial and technical resources to fulfil the ambitious mandate of the UNEP sustainable mobility programme.
-