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Uzbekistan

Environmental performance reviews

Fourth review





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The Ministry of Ecology, Environmental Protection and Climate Change became the National Committee on Ecology and Climate Change under the President in November 2025; these authorities are referred to generically as "the national authority in charge of the environment" in the recommendations.

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Photo credits:

Cover, clockwise from top left: Press Service, National Committee on Ecology and Climate Change of Uzbekistan (Tupalang Reservoir in the mountains of Surkhandarya Region); Natalya Marmazinskaya (black kite (*Milvus migrans)*); EPR Team (Tashkent clock tower); Press Service, National Committee on Ecology and Climate Change of Uzbekistan (flavours of Uzbekistan: traditional bread and dried fruits; apricot tree in bloom).

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FOREWORD

The Fourth Environmental Performance Review (EPR) of Uzbekistan builds on the substantial experience accumulated by the United Nations Economic Commission for Europe (ECE) and its member States in applying the EPR tool to regularly assess progress in reconciling national economic and environmental objectives. Over the past 30 years, ECE EPRs have contributed to strengthening institutions for environmental governance and management; improving financial frameworks for environmental protection; advancing environmental monitoring and information systems; integrating environmental concerns into sectoral policies; enhancing public participation and environmental awareness; and fostering international cooperation. EPRs bring together good practices and a wealth of experience from ECE member States in a mutually enriching learning exchange.

Uzbekistan has made significant progress in environmental governance, including revising air quality standards to align with international norms, expanding air monitoring networks and improving waste management infrastructure. The country has advanced its green transition through comprehensive legislation, fiscal reforms, increased renewable energy investments and the introduction of green finance instruments, guided by strategic frameworks such as the Strategy for the Transition to a Green Economy (2019–2030). Uzbekistan has demonstrated commitment to climate resilience through policy reforms, renewable energy initiatives and improvements in disaster risk management and early warning systems. Furthermore, afforestation projects, the expansion of green spaces and the launch of the Yashil Makon (Green Space) Initiative reflect a growing recognition of the role of nature-based solutions in sustainable development.

Looking ahead, the Fourth Review identifies areas where further efforts can accelerate progress. These include strengthening wastewater treatment and hazardous waste management, enhancing promotion of best available techniques and improving monitoring and data systems for water, soil and biodiversity. Advancing the green transition will require scaling up renewable energy, improving resource efficiency and introducing carbon pricing mechanisms. Building resilience to climate change calls for the adoption of a comprehensive climate change law, a national adaptation plan and robust monitoring, reporting and verification systems. Expanding the use of nature-based solutions beyond forestry to sectors such as infrastructure, urban planning and agriculture would deliver multiple benefits for climate adaptation and sustainable development. Addressing these priorities would enable Uzbekistan to consolidate achievements and move closer to its 2030 sustainability targets.

I would like to highlight the innovative approach used in the Fourth EPR of Uzbekistan, which consists of four chapters with a higher degree of thematic integration, addresses 41 Sustainable Development Goal (SDG) targets and makes 45 recommendations (a total of 163 recommendations including sub-recommendations). I congratulate the Government of Uzbekistan on the high implementation rate of the recommendations made in the Third Review: 77 per cent of a total of 277 recommendations, including sub-recommendations, have been implemented, partially implemented or are in progress as of 2025. I trust that this review will serve as a powerful tool to support decision makers, policymakers and civil society representatives in their efforts to improve environmental governance, management and performance and achieve the SDGs in Uzbekistan.

ECE wishes the Government of Uzbekistan, and especially the National Committee on Ecology and Climate Change under the President, continued success in meeting its environmental objectives, including through the implementation of the recommendations in the Fourth Review. It is our hope that the lessons learned from the expert and peer review processes in Uzbekistan will benefit other countries in the ECE region and beyond.

Tatiana Molcean
United Nations Under-Secretary-General
Executive Secretary
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INTRODUCTORY STATEMENT

For the Republic of Uzbekistan, the preparation of the Fourth Environmental Performance Review is of particular importance and a logical continuation of the Third Review launched in 2020. Since then, Uzbekistan has undertaken comprehensive reforms in environmental governance, sustainable natural resource management and climate policy.

In November 2025, a Presidential Decree was adopted to establish the National Committee on Ecology and Climate Change with an expanded mandate on State environmental policymaking, addressing emerging environmental challenges and implementing nationwide green initiatives. The establishment of the Eco-Police and the National Environmental Monitoring Centre, together with the earlier creation of the National Climate Change Centre and the Agency for Waste Management and Development of Circular Economy, has further strengthened institutional capacity and enhanced environmental monitoring, compliance and enforcement.

Uzbekistan continues to improve its environmental legislation, including reforms of the environmental impact assessment system and the development of a legal framework for strategic environmental assessment. Following its accession to the Aarhus Convention, the Government is also strengthening public access to environmental information, enhancing transparency and promoting inclusive public participation in environmental decision-making.

Practical measures are being implemented to reduce air pollution, expand renewable energy and support the green transition of key economic sectors. Under the guiding principle "Nature Knows No Borders," Uzbekistan is actively promoting international cooperation and scientific collaboration. In this context, the establishment of the Central Asian University for Environmental Studies and Climate Change in 2023 represents an important investment in regional knowledge and capacity-building.

We expect that the Fourth Review will serve as an important benchmark and provide further guidance for the systematic integration of environmental priorities into sectoral policies and decision-making processes. As a next step, we plan to develop a roadmap for the implementation of the Fourth Review recommendations, strengthening stakeholder coordination and making effective use of the expanded capacities of institutions responsible for environmental governance.

The Republic of Uzbekistan highly values its continued partnership with the United Nations Economic Commission for Europe (ECE) and is confident that the Fourth Review will make a significant contribution to advancing environmentally sustainable development and achieving the Sustainable Development Goals. We express our sincere appreciation to the ECE team, international and national experts, and all participants for their valuable contributions to the preparation of Uzbekistan's Fourth Review.

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PREFACE

The Fourth Environmental Performance Review of Uzbekistan assesses progress made in strengthening environmental governance and management since 2018 and provides recommendations to support further implementation. The Review also examines developments related to Uzbekistan's efforts to achieve relevant targets under the 2030 Agenda for Sustainable Development.

This Review introduces an innovative approach, structured around four chapters with a higher degree of thematic integration. It evaluates progress in addressing environmental pollution by assessing the impact of key economic sectors on air, water, soil and biodiversity, and by reviewing pollution control measures, as well as developments in the sustainable management of waste and chemicals. It considers actions taken towards green development, including the greening of the tax and tariff system, subsidies, financial systems and investments in environmental protection. It also reviews measures related to climate change by analysing economic and environmental impacts, greenhouse gas emissions and adaptation and mitigation efforts. In addition, it pilots a new chapter on nature-based solutions, assessing their implementation to address biodiversity loss, desertification, water scarcity and climate resilience. The Review includes an assessment of 41 SDG targets across 12 SDGs.

The Fourth EPR of Uzbekistan commenced in March 2025 with online consultations to agree on the report's structure and timeline. A team of international experts conducted the country review mission from 19 to 23 May 2025. The draft report was discussed by the ECE Expert Group on Environmental Performance Reviews at its meeting in Geneva on 16–17 October 2025, together with a delegation from Uzbekistan, focusing on conclusions and recommendations proposed by the international experts. The recommendations, incorporating amendments suggested by the Expert Group, were subsequently submitted for peer review to the ECE Committee on Environmental Policy at its thirtieth session in Geneva on 26–28 November 2025. The Committee adopted the EPR recommendations.

The ECE Committee on Environmental Policy and the ECE secretariat express their gratitude to the Government of Uzbekistan and its experts for their close cooperation and valuable contributions throughout the review process. ECE also wishes to acknowledge with appreciation the support of the German Federal Ministry for the Environment, Climate Action, Nature Conservation and Nuclear Safety and the German Federal Environment Agency, which provided funding through the Advisory Assistance Programme for this Review. Furthermore, ECE thanks the Federal Ministry of Agriculture and Forestry, Climate and Environmental Protection, Regions and Water Management of Austria, the Ministry of Environment and Energy Security of Italy and the Federal Office for the Environment of Switzerland for their financial support to the EPR Programme.

Sincere thanks are extended to Germany, Italy and the United Nations Environment Programme (UNEP) for providing experts to this review. ECE is also grateful to the United Nations Development Programme (UNDP) for substantive and logistical support, and to the United Nations Country Team in Uzbekistan for its assistance.

Finally, ECE expresses its deep appreciation to Estonia, Germany, Italy, North Macedonia and Switzerland for providing experts to the ECE Expert Group on Environmental Performance Reviews, which undertook the expert review of this report.

NOTE ON INSTITUTIONAL CHANGES IN UZBEKISTAN'S ENVIRONMENTAL GOVERNANCE

The Fourth Environmental Performance Review of Uzbekistan is based on activities from 2018 to October 2025. In November 2025 the country underwent major structural reforms in environmental governance.

By Decree of the Head of State, the Ministry of Ecology, Environmental Protection and Climate Change was transformed into the independent National Committee on Ecology and Climate Change. Under its new status, the environmental authority reports directly to the President of the Republic of Uzbekistan and operates independently of other government agencies and organizations.

The Unit of the Advisor on Environmental Issues has been established within the Presidential Administration, and the Chairman of the environmental authority has been awarded the high status of Advisor to the President of the Republic of Uzbekistan on Environmental Issues. The National Committee on Ecology and Climate Change is now authorized to submit regular reports to the President on environmental violations committed by large enterprises and industries, as well as measures taken against them and their officials. Furthermore, the Committee reports on the quality and timely performance of tasks by the responsible regulatory and management bodies in the environmental field. The Committee also reports on the repeal of decisions taken by state bodies that contradict the requirements of environmental legislation.

The Committee has been given an expanded mandate to coordinate major national environmental projects (Waste-Free Territory, Clean Air, Yashil Makon, Ecoculture and BioHeritage) and to promptly respond to environmental challenges. The institutional capacity of state environmental control and monitoring has been strengthened. As part of the reform, the Environmental Police (Eco-Police) was established with the authority to ensure compliance with environmental legislation. Dozens of staff positions for overseeing compliance with ecological, environmental protection and forestry legislation, previously allocated to the prosecutor's offices of the Republic of Karakalpakstan, the regions and the city of Tashkent, have been transferred to the Eco-Police. A National Centre for Environmental Monitoring has been established for the systematic collection and analysis of data.

In collaboration with the Presidential Administration, unprecedented measures have been introduced to combat air pollution. Round-the-clock environmental patrols, the installation of automated environmental monitoring systems and the replacement of outdated air pollution control equipment have significantly and measurably reduced pollutant emissions and increased the environmental responsibility of polluters.

Regional efforts to strengthen cooperation with neighbouring countries in Central Asia to jointly address environmental challenges and preserve natural heritage are ongoing.

Thus, Uzbekistan's environmental agenda has been systematically developed, significant institutional reforms have been implemented, active international cooperation has been established, and new governance mechanisms have been introduced. The reforms and measures implemented since November 2025 reflect a transition to a stronger, more independent, more effective and more internationally oriented environmental governance system.

(Information provided by the National Committee on Ecology and Climate Change in February 2026.)

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Photo 1: Charvak Reservoir, Tashkent Region

Photo credit: Charvak water reservoir near Tashkent in Uzbekistan, by Dynamoland/stock.adobe.com

Between 2018 and 2025, Uzbekistan made substantial strides in strengthening environmental governance, advancing legislative reforms, expanding monitoring systems and increasing transparency across air quality, water, soil, biodiversity, waste, chemicals management and green development. Progress includes new air quality standards, improved water legislation, expansion of protected areas, modernization of waste sector institutions, better chemicals inventories and growing investments in renewable energy and naturebased solutions. Yet persistent structural challenges continue to affect progress toward environmental sustainability: data availability and quality assurance remain limited, enforcement capacities are uneven, pollution pressures from industry, agriculture and waste management persist, and coordination across institutions is sometimes insufficient. Key sectors such as water, soil and biodiversity remain under significant stress from pollution, inefficient resource use and climate impacts, while the green transition is slowed by dependence on fossil fuels and underdeveloped circular economy systems. Achieving longterm resilience will require strengthened scientific foundations, more effective crosssectoral planning, increased financing and broader integration of green and nature-based solutions into national development strategies.

Air quality

Uzbekistan has made notable progress in air quality management between 2018 and 2025, including the introduction of standards for fine particulate matter ($PM_{2.5}$), expansion of the monitoring network and improved public transparency through a national real-time air quality website. First city-level air quality assessments for Tashkent and Termez were completed, and Tashkent is implementing an air quality action plan. Strategic planning is advancing, with a national air protection strategy to 2035 under preparation and plans to accede to the Convention on Long-range Transboundary Air Pollution. Regulatory measures in the transport sector have been tightened, attention to industrial emissions and best available techniques (BAT) is increasing and a national programme has been launched to address sand and dust storms. However, the country still lacks sufficiently robust scientific studies to guide evidence-based air quality management, data quality assurance remains relatively weak, institutional capacities for monitoring equipment operation are limited and historic datasets are not easily accessible. Fuel quality standards are insufficiently stringent, BAT implementation remains underfunded and cities other than the capital lack strategic air quality frameworks. Persistent practices, such as burning waste and using low-quality fuels, continue to affect levels of particulate matter in the air.

Water resources

Uzbekistan has strengthened its legal and institutional framework for water management, modernizing its Water Code, creating specialized ministries and improving data collection and reporting, including on SDG indicators. The 2023 Constitution and the Uzbekistan-2030 Strategy place water conservation at the centre of national priorities, while international cooperation, particularly on the Aral Sea and transboundary water management, continues to expand. The country's accession to the Protocol on Water and Health and collaboration with ECE and Central Asian partners further support improved governance and climate resilience. Nevertheless, water pollution and scarcity remain critical constraints on sustainable development. Agriculture, industry, mining and insufficient domestic wastewater treatment continue to degrade surface and groundwater quality. Inefficient irrigation, high agrochemical use and limited sewage infrastructure exacerbate pressures, and mining-related contamination persists. While these challenges are significant, they also offer opportunities to improve water-use efficiency, accelerate modernization of treatment infrastructure and strengthen enforcement. Continued improvements in data systems and monitoring will support more targeted action to restore water quality and ensure sustainable use.

Soil

Protecting soil remains critical given the country's exposure to desertification, land degradation and pollution, which are compounded by rapid agricultural expansion, population growth, industrial development, water scarcity and climate change. While the risks of desertification are well assessed and targeted measures exist for priority areas, monitoring remains limited and fragmented, and data generated by scientific institutions are not systematically integrated into national systems or made publicly accessible. Rehabilitation efforts in contaminated areas, effective soil governance and long-term land sustainability can be enhanced by more comprehensive monitoring, harmonized methodologies and open data.

Biodiversity

Uzbekistan's arid ecosystems and diverse species remain vulnerable to pollution, which, combined with climate change, further reduces ecological resilience and adversely affects habitats and public health. The country has taken steps to address these pressures by expanding protected areas, improving pesticide and waste management systems and promoting sustainable agriculture through measures such as Good Agricultural Practices and support for organic farming. Addressing existing gaps and reinforcing conservation outcomes will involve measures to strengthen monitoring of aquatic biodiversity, improve scientific understanding of pollution impacts, provide for additional investment in protected area management capacity, reduce institutional complexity in pesticide management and ensure environmentally sound hydropower development.

Waste

Uzbekistan has taken important steps to modernize waste management, including centralizing governance under the new Agency for Waste Management and Circular Economy Development, rehabilitating and closing numerous dumpsites, improving data accuracy with modern tracking tools and expanding municipal solid waste collection coverage. Recycling initiatives, plastic reduction efforts and waste-to-energy investments are gaining momentum. The transition toward a circular economy—still at an early stage—offers substantial potential: strengthening extended producer responsibility schemes, expanding recycling infrastructure, addressing industrial and hazardous waste gaps and scaling pilot projects for construction and ewaste could accelerate resource efficiency and reduce environmental impacts.

Chemicals management

Uzbekistan has strengthened its chemicals management framework since the third EPR, including establishing a specialized division for chemical accident prevention within the Ministry of Emergency Situations, development of inventories of persistent organic pollutants (POPS) and obsolete pesticides and making progress in implementing the Basel, Rotterdam and Stockholm Conventions. At the same time, overlapping mandates that lead to duplication and oversight gaps require the strengthening of inter-agency coordination. Further improvements in national data systems, updating and renewing laboratory capacity, enhancing hazardous waste treatment facilities, addressing unsafe disposal and raising public awareness would enhance risk management and improve environmental health.

Green development

Between 2018 and 2025, Uzbekistan demonstrated a strong political and institutional commitment to environmental sustainability through major legislative updates, targeted reforms and increased investments in renewable energy. The designation of 2025 as the "Year of Environmental Protection and the Green Economy" underscored national efforts to tackle issues such as the Aral Sea crisis, air pollution and water scarcity. Strategic frameworks—including the Strategy for the Transition to a Green Economy (2019–2030) and the Concept of Environmental Protection until 2030—have guided actions to promote cleaner energy, expand green technologies and strengthen environmental governance. Despite this progress, structural challenges persist. These include continued prevalence in the energy mix of fossil fuels, urban air pollution, inefficient water use in agriculture and low recycling rates. Pollution fees do not reflect the true social costs of pollution, limiting incentives for cleaner behaviour. While private and foreign investments have contributed to the growth of renewable energy—now 15–18 per cent of electricity generation—this pace needs to accelerate to reach the 54 per cent target by 2030. Advancing sustainability will require stronger enforcement mechanisms, more effective fiscal instruments, enhanced domestic financing and greater uptake of green technologies by the private sector.

Climate change

Uzbekistan is highly vulnerable to climate change, with impacts already affecting the economy, ecosystems and population, particularly in agriculture, water resources and biodiversity. Economic losses from climate impacts are projected to reach 1 per cent of GDP by 2030, underscoring the need for a comprehensive national adaptation strategy and a unified state policy. The Government has demonstrated commitment to strengthening climate resilience through the Strategy of Transition to a Green Economy and improved environmental legislation. Uzbekistan's 2024 BTR provides a comprehensive overview of the country's efforts to address climate change and includes detailed information on GHG inventories for the period 1990–2022 and on progress in implementing Nationally Determined Contributions (NDCs) and adaptation measures for selected sectors. Going forward, there is a need to advance preparation of key planning instruments—most notably national adaptation plan and the long-term low-emission development strategy under the Paris Agreement. NDCs lack necessary detail on specific measures, including those based on nature-based solutions. Enhanced public participation, gender considerations and costing are prerequisites for a sustainable climate action. Establishing a comprehensive monitoring, reporting and verification system will further support transparent tracking of climate actions and inform evidence-based policymaking.

Nature-based solutions

Nature-based solutions (NbS) are increasingly being applied in Uzbekistan through various national and international projects, but the concept remains insufficiently recognized and not widely promoted, even among practitioners. As a result, information on implemented NbS, their effectiveness and lessons learned is fragmented, and most initiatives remain small-scale components of larger programmes, making investment needs difficult to quantify. NbS are not yet systematically integrated into adaptation planning for key sectors such as energy, transport, water and urban infrastructure. Afforestation is the most prominent NbS, with forest cover at 8.7 per cent and over 600,000 ha planted in 2021, mostly in desert areas. The establishment of a new Agency for Afforestation in 2025 signals strong political commitment to expanding green spaces and combating desertification. Uzbekistan can benefit from further integrating NbS into sectoral policies, climate adaptation planning and urban development. Documenting NbS effectiveness, scaling successful pilots and embedding NbS into legislation would enhance their role in combating desertification, improving resilience and supporting green growth.

Status of implementation of the recommendations of the Third EPR

Uzbekistan has made steady progress in implementing recommendations from the Third EPR (2020). Out of 277 recommendations and sub recommendations, 120 (43 per cent) have been fully or partially implemented, 93 (34 per cent) are in progress and 64 (23 per cent) remain unimplemented—reflecting an overall implementation engagement rate of 77 per cent. Progress has been integrated into new laws, policies and institutional reforms, while outstanding recommendations often relate to emerging priorities requiring additional capacity or resources. Many elements of partially implemented recommendations are reflected in the Fourth EPR, offering continued pathways for improvement. Uzbekistan is encouraged to sustain its efforts by continuing to monitor progress on previous recommendations while advancing implementation of the new set of EPR recommendations.

Assessment of SDG targets in the Fourth EPR

The Fourth EPR of Uzbekistan evaluates progress toward 41 SDG targets across 12 Goals, reflecting the country's broad engagement with the 2030 Agenda. The assessment covers key areas such as disaster risk reduction, sustainable agriculture, pollution-related health outcomes, water and sanitation, resource efficiency, sustainable cities, chemicals and waste management, climate action, biodiversity conservation and international cooperation. In several domains—particularly water management, disaster resilience, biodiversity protection and climate related planning—the review identifies strong alignment between national priorities and SDG targets, supported by ongoing reforms and institutional improvements. Strengthening data availability and statistical capacity, especially related to water quality, waste treatment, hazardous chemicals, material consumption, climate mitigation and biodiversity trends, and environmental economic accounting will enable more comprehensive SDG monitoring and support evidence based decision making.

Participation of Uzbekistan in multilateral environmental agreements

Uzbekistan has continued to expand and deepen its engagement in multilateral environmental agreements (MEAs), reinforcing its commitment to international environmental governance since the Third EPR. Between 2020 and 2025, the country acceded to or ratified seven MEAs, including key instruments on nuclear safety, chemical and occupational safety, early notification of nuclear accidents, water and health and on access to information, public participation and access to justice on environmental matters. The country's growing international engagement—including hosting major global events such as CMS COP14 and preparing for CITES COP20—demonstrates its commitment to regional and global environmental governance. Uzbekistan's designation of 2025 as the Year of Environmental Protection and the Green Economy, along with the launch of Eco Expo Central Asia, further reflects its ambition to serve as a regional hub for green innovation and cooperation. Further progress in implementing MEA commitments and ratifying pending agreements offers opportunities to enhance cooperation, attract investment and support the national green transition.

Environmental legislation in Uzbekistan

Uzbekistan has developed a comprehensive and rapidly evolving environmental legal framework, with more than three decades of legislation underpinning natural resource management, pollution control, environmental governance and sustainable development. Between 2018 and 2025, Uzbekistan significantly accelerated legal modernization, introducing laws on renewable energy, environmental audit, organic products, hydrometeorology, soil protection, subsoil, ecological expertise, and—most notably—the new Water Code (entering into force in 2025) and the Law on Limiting Greenhouse Gas Emissions (effective 2026). Numerous presidential decrees and Government resolutions operationalize national strategies and strengthen institutional capacity in areas such as green economy, biodiversity conservation, climate resilience, waste management and energy efficiency. This evolving legal framework provides a strong foundation for continued environmental improvements and for implementing the Fourth EPR recommendations.


Photo credit: EPR Team

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Photo credit: EPR Team

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Photo credit: EPR Team

Peer review of the environmental performance of Uzbekistan by the ECE Committee on Environmental Policy

The Committee proceeded with the peer review of the Fourth EPR of Uzbekistan. The Review's four chapters and related recommendations had earlier been examined at the fortieth session of the ECE Expert Group on EPRs (Geneva, 16–17 October 2025) by the Expert Group together with experts from Uzbekistan.

A representative of Uzbekistan presented key developments and remaining challenges in advancing the national environmental agenda within the environmental performance review framework. She underlined major institutional and legislative reforms, including the recent establishment of the National Committee on Ecology and Climate Change reporting directly to the President of Uzbekistan, as well as strengthened environmental control, monitoring and financing systems. The speaker highlighted progress in reducing air emissions, promoting cleaner transport, improving energy efficiency and expanding renewable energy, supported by digitalized monitoring. She also referred to advances in water management, land reclamation, biodiversity protection, access to environmental information following ratification of the Aarhus Convention and the implementation of green economy strategies. She announced the intention of Uzbekistan to implement the Fourth Review through a road map for 2026–2030 to ensure coordinated follow-up, monitoring and integration of recommendations into national development processes.

The rapporteur (Italy) designated by the Expert Group on EPRs highlighted that the Review provided an integrated assessment across four chapters on environmental pollution, green development, climate change and, for the first time in the EPR Programme, nature-based solutions. She noted that the Review addressed 41 SDG targets across 12 Goals and contained 45 recommendations, with an implementation rate of 77 per cent of the recommendations made in the Third Review, well above the programme average. The rapporteur emphasized that the Review recognized the strengthened strategic framework for green development of Uzbekistan, including national long-term strategies and emerging fiscal and financial instruments, while underscoring the need for their closer alignment with environmental and climate objectives. On climate change and resilience, the rapporteur acknowledged progress in mitigation, renewable energy deployment and energy efficiency, supported by new legislation and targets. She informed the Committee that remaining gaps included the absence of a comprehensive climate framework law and a national adaptation strategy. She highlighted increasing climate risks, including water scarcity, desertification and the impacts of the Aral Sea crisis, and stressed the importance of nature-based solutions for resilience. The Review underscored that, while nature-based solutions were applied in forestry, land restoration and urban greening, their integration into infrastructure planning remained limited. Thus, the Review recommended defining nature-based solutions in legislation, scaling up their use across sectors and integrating them systematically into infrastructure planning and development.

During the discussion, delegates posed questions, shared experiences and commended the Government of Uzbekistan for its commitment in undergoing the Fourth Review and for progress made since the Third Review. The Committee adopted the recommendations of the Fourth Review. The Chair (Portugal) wished Uzbekistan success in implementing the recommendations.

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Key abbreviations and acronyms

ADB	Asian Development Bank
AEWA	Agreement on the Conservation of African-Eurasian Migratory Waterbirds
BAT	best available techniques
BTR	Biennial Transparency Report
CBD	Convention on Biological Diversity
CH_4	methane
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on the Conservation of Migratory Species of Wild Animals
CO	carbon monoxide
CO_2	carbon dioxide
DRR	disaster risk reduction
EBRD	European Bank for Reconstruction and Development
ECE	United Nations Economic Commission for Europe
EIA	environmental impact assessment
EPR	Environmental Performance Review
FAO	Food and Agriculture Organization of the United Nations
GCF	Green Climate Fund
GEF	Global Environment Facility
GGGI	Global Green Growth Institute
GHG	greenhouse gas
GIZ	German Agency for International Cooperation
HFC	hydrofluorocarbon
HPP	hydropower plant
IFAS	International Fund for Saving the Aral Sea
IFC	International Finance Corporation
IPPU	Industrial Processes and Product Use
IUCN	International Union for Conservation of Nature
MAC	maximum allowable concentration
MEA	multilateral environmental agreement
MRV	monitoring, reporting and verification
MSW	municipal solid waste
N_2O	nitrous oxide
NAP	National Adaptation Plan
NbS	nature-based solutions
NBSAP	National Biodiversity Strategy and Action Plan
NDC	Nationally Determined Contribution
NGO	non-governmental organization
NH_3	ammonia
NO_2	nitrogen dioxide
NOx	nitrogen oxides
ODS	ozone-depleting substance

OECD	Organisation for Economic Co-operation and Development
OSCE	Organization for Security and Co-operation in Europe
PCB	polychlorinated biphenyls
PFC	perfluorocarbon
PM	particulate matter
PM_{10}	particulate matter (10 micrometres or less in diameter)
$PM_{2.5}$	particulate matter (2.5 micrometres or less in diameter)
PPP	public-private partnership
PRTR	pollutant release and transfer register
RES	renewable energy sources
SDG	Sustainable Development Goal
SEA	strategic environmental assessment
SF_6	sulfur hexafluoride
SHPP	small hydropower plant
SME	small or medium-sized enterprise
SO_2	sulfur dioxide
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention for Climate Change
UNHCR	United Nations High Commissioner for Refugees
UNITAR	United Nations Institute for Training and Research
WHO	World Health Organization

Signs and measures

..	not available
-	nil or negligible
°C	Degree Celsius
µg/m³	microgram/cubic metre
€	euro
cm³	cubic centimetre
eq.	equivalent
g/l	gram/litre
Gg	Gigagram
ha	hectare
kg	kilogram
km	kilometre
km²	square kilometre
kt	kiloton
kW	kilowatt
kWh	kilowatt-hour
l	litre
m	metre
m²	square metre
m³	cubic metre
mg	milligram
MJ	megajoule
mm	millimetre
Mt CO_2eq	million tons of CO_2-equivalent warming impact
MW	megawatt
n.d.	no data
t	ton (1,000 kg)
US$	United States dollar
y	year

Currency conversion

Exchange rate (period average)

Year	Soum per US$
2018	8 070
2019	8 837
2020	10 054
2021	10 609
2022	11 050
2023	11 735
2024	12 652

Source: World Bank Database, 2025.

CHAPTER 1
ENVIRONMENTAL POLLUTION

Photo 1.1: Natural landscape of a mountain valley in Uzbekistan

Photo credit: Press Service, National Committee on Ecology and Climate Change of Uzbekistan

1.1 AIR QUALITY

Status and trends in air quality

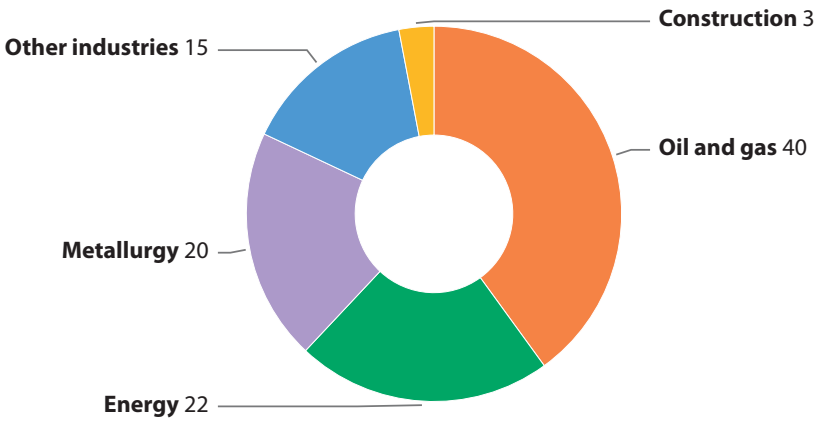
Uzbekistan faces challenging climatic and environmental conditions that significantly exacerbate air pollution. Located in the arid zone of Central Asia, the country experiences a dry climate with long, hot summers, unstable winters and widespread sandy and loamy soils. About 79 per cent of the national territory consists of plains dominated by deserts and semi-deserts. In the central desert regions, temperatures can reach up to 49°C, intensifying soil desiccation and wind erosion. These natural conditions contribute to high levels of ambient dust and create a baseline of elevated particulate matter (PM) across much of the country. The environmental disaster of the Aral Sea has further worsened the situation. Approximately 5.5 million ha of its exposed former seabed is now subject to severe wind erosion, generating over 100,000 tons of dust and salt annually. These particulates are transported by winds across Uzbekistan and beyond, contributing to transboundary air pollution.

Urban centres, particularly Tashkent, face additional pressures. Thermal inversions trap pollutants near the ground, causing sharp deteriorations in air quality. These combined geographic, climatic and anthropogenic factors make air pollution a complex and persistent issue, with negative implications for public health, investment and tourism development. According to the 2024 IQAir World Air Quality Report,[1] Uzbekistan ranked 19th out of 138 countries with the highest population-weighted annual $PM_{2.5}$ concentrations. Tashkent ranked 19th among 121 capital cities, highlighting the severity of urban air pollution.

[1] IQAir (2025).

Despite these challenges, recent trends show a gradual reduction in emissions. Total atmospheric pollutant emissions declined by 25 per cent between 2018 and 2024, driven by a 15 per cent decrease from stationary sources and a 31 per cent decline from mobile sources. In 2023, emissions from stationary sources totalled 763,200 tons, with Tashkent accounting for 56 per cent and Kashkadarya region contributing 15 per cent. As of 2024, 40 per cent of emissions from stationary sources originated from the oil and gas industry, 22 per cent from energy, 20 per cent from metallurgy, 3 per cent from construction and 15 per cent from other sectors. Emissions from mobile sources totalled 1,052,200 tons in 2024 (see figure 1.1).

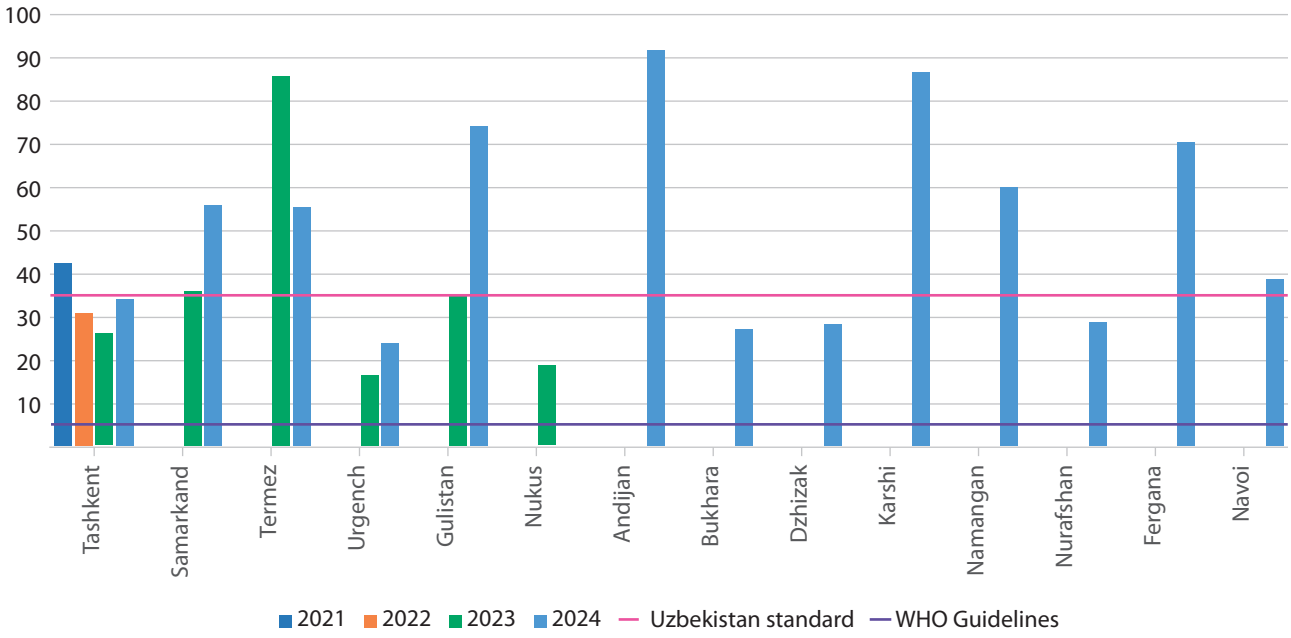
Figure 1.1: Distribution of air pollutant emissions by sector, 2024, percentage



Source: Ministry of Ecology, Environmental Protection and Climate Change, 2025.

Air quality monitoring has significantly improved since the rollout of automatic stations starting in 2022, which now provide more reliable data on key pollutants. Nevertheless, as of July 2025, the available data remain insufficient for assessing long-term trends. In 2024, 5 out of 13 monitored cities met the national $PM_{2.5}$ standard (35 µg/m^3), and none met the PM_{10} standard (50 µg/m^3) (see figures 1.2 and 1.3).[2] In Tashkent, annual $PM_{2.5}$ concentrations were more than six times above the 2021 World Health Organization (WHO) guidelines of 5 µg/m^3, with winter peaks indicating that heating-related emissions are a major contributor to fine particulate pollution.

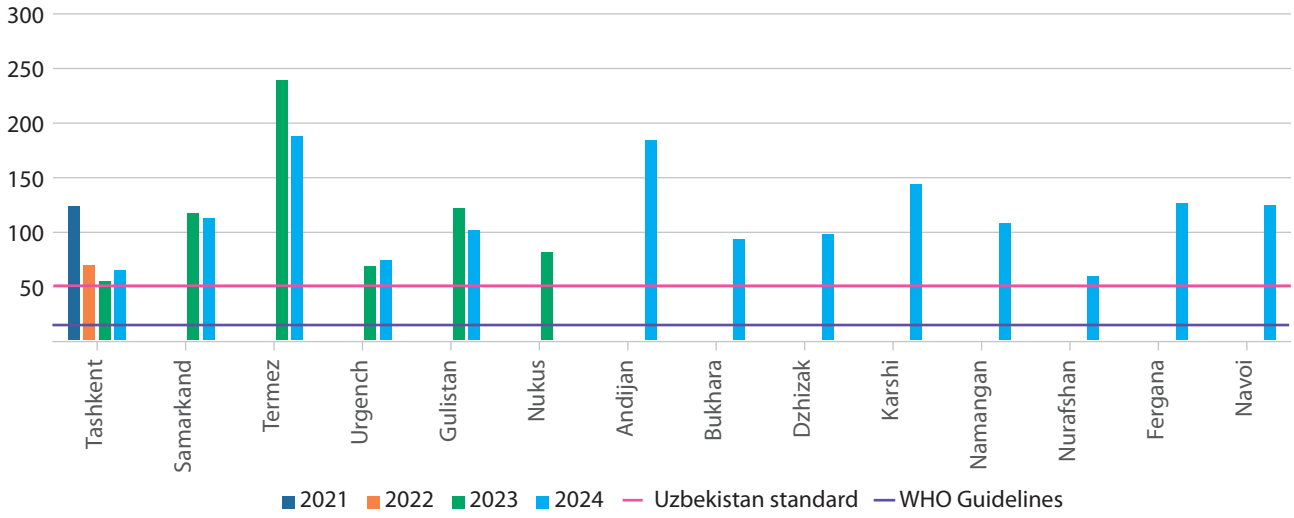
Figure 1.2: Average annual concentration of $PM_{2.5}$, 2021–2024, µg/m^3



Source: Agency of Hydrometeorological Service, 2025.

[2] Data are based on data from automatic monitoring stations.

Figure 1.3: Average annual concentration of PM_{10}, 2021–2024, µg/m^3



Source: Agency of Hydrometeorological Service, 2025.

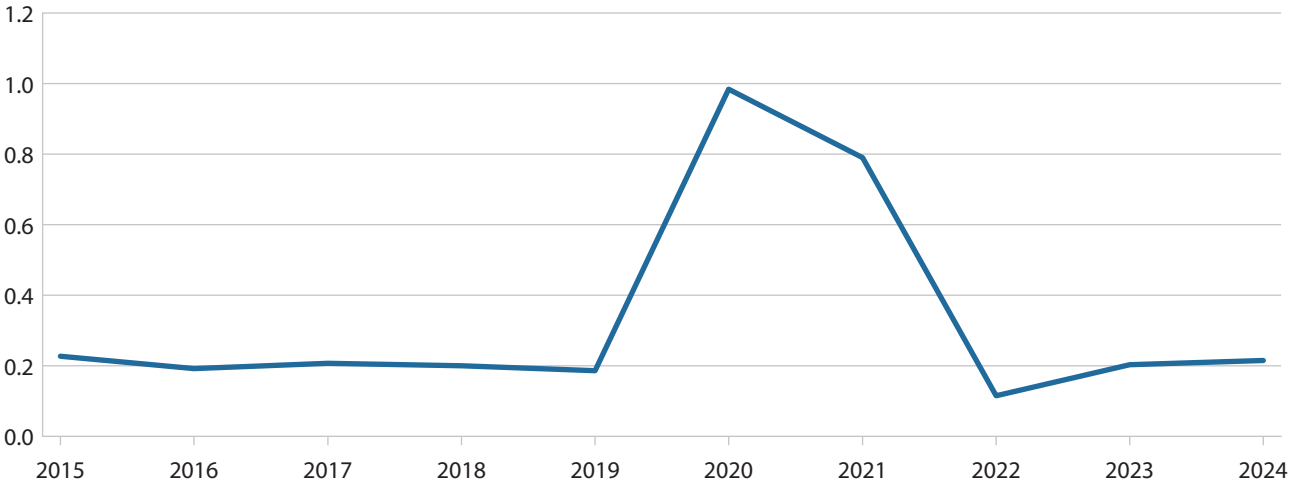
Air pollution is one of the top 10 causes of death and disability in Uzbekistan and poses the country's most serious environmental health risk. Fine PM and other pollutants contribute to diseases such as asthma, chronic obstructive pulmonary disease and cardiovascular illnesses, disproportionately affecting vulnerable groups like children, the elderly, individuals with chronic conditions and outdoor workers. Urban environments, especially during heatwaves and sand and dust storms, intensify these risks by trapping heat and pollutants, while dust events bring additional fine particles into densely populated areas.

According to the Global Burden of Disease 2021,[3] an estimated 32,500 deaths in Uzbekistan were attributable to air pollution, including 27,100 from $PM_{2.5}$ and 5,280 from household air pollution. According to a 2024 World Bank report, in Tashkent alone, $PM_{2.5}$ exposure is linked to about 3,042 premature deaths annually. Using the Organisation for Economic Co-operation and Development (OECD) recommended Value of Statistical Life figures and assuming that the morbidity costs are 10 per cent of mortality costs, the average annual economic costs of $PM_{2.5}$ ambient air pollution in Tashkent are estimated at US$488.4 million, which is equivalent to 0.7 per cent of Uzbekistan's GDP.[4] The health impact assessment of air pollution in Tashkent used a combination of local data and international evidence from the Global Burden of Disease. Due to the unavailability of detailed local epidemiological data, international databases and studies were applied. As a result, the findings should be viewed cautiously, noting the lack of Uzbekistan-specific health information. In 2022, Uzbekistan, with the other Central Asia countries, adopted the Roadmap for Health and Well-being in Central Asia (2022–2025).[5] In 2023, the WHO Regional Office provided the Central Asia countries with the AirQ+ tool featuring improved functions for estimating the health effects of exposure to the most relevant air pollutants and supported its use.

The global Sustainable Development Goal (SDG) indicator 3.9.1 on mortality attributed to household and ambient air pollution, part of measuring the global SDG target 3.9 (By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination), has been adapted nationally to include broader household sources as part of measuring the national SDG target 3.9 (Reduce the number of deaths and illnesses from water and air pollution, hazardous chemicals, including chemical production and disposal sites) and made publicly available in line with Recommendation 8.2(c) of the third Environmental Performance Review (EPR) of Uzbekistan. The national SDG indicator 3.9.1 related to mortality from diseases caused by household and ambient air pollution per 100,000 population, coordinated by the Ministry of Health, showed a relatively stable rate from 2015 to 2024, with a sharp peak in 2020, a decline in 2021, a drop near zero in 2022 and a slight uptick in 2023 and 2024 (see figure 1.4). According to the WHO Global Health Observatory, the estimated age-standardized mortality rate attributed to household and ambient air pollution has decreased since 2012 and reached in 2019 154 deaths per 100,000 population, of which, 117 deaths per 100,000 population due to ambient air pollution and 46 deaths per 100,000 population due to household air pollution (global SDG indicator 3.9.1).

[3] IHME (2024).
[4] World Bank (2024).
[5] WHO (2022).

Figure 1.4: Mortality from diseases caused by household and ambient air pollution, 2015–2024, per 100,000 population



Source: National Statistics Committee on (National SDGs Data Portal), 2025.

Photo 1.2: Industrial area

Photo credit: Industrial Area, Uzbekistan, by Eduardo/stock.adobe.com

Major sources of air pollution

Air pollution in Uzbekistan results from a combination of anthropogenic and natural sources, amplified by the country's arid climate, rapid urbanization and rising energy demand. Key anthropogenic sources include emissions from industry, energy production and heating, transport, waste burning, agriculture and construction. Industrial enterprises remain one of the most significant contributors, with heavy emissions of sulfur dioxide (SO_2), carbon monoxide (CO) and ozone precursors from the metallurgy, oil and gas, energy, chemical and construction material sectors. Many facilities continue to operate with outdated or poorly maintained emission control systems. Stationary source pollution is concentrated in regions with dense industrial activity, notably Tashkent, Kashkadarya, Syrdarya and Samarkand.[6] In some cases, filtration systems are absent altogether. The energy sector also plays a major role, particularly in winter, when emissions from coal-

[6] Ministry of Ecology, Environmental Protection and Climate Change (2023), page 23.

and wood-burning boiler houses and industrial heating systems increase significantly. Although natural gas is widespread, coal and solid fuels are still used in many facilities and homes, contributing to elevated levels of PM and other pollutants.

Transport-related pollution is driven by the prevalence of old vehicles, limited use of public transport, poor fuel quality and insufficient vehicle maintenance. In urban areas, particularly during periods of stagnant weather, transport emissions are a major source of nitrogen dioxide (NO_2), SO2 and CO. Although the number of vehicles using liquefied petroleum gas or electricity is increasing, this shift has not yet produced a significant reduction in overall emissions. Waste burning in open areas and landfills—common during the summer—adds to local air pollution through emissions of fine particulates and toxic gases. Agriculture contributes through the use of chemical fertilizers and pesticides, leading to increased ammonia (NH_3) levels. While less visible, the NH_3 emissions have measurable impacts on air quality in rural regions and act as precursors to other pollutants. Construction activity and urban expansion also generate airborne dust, particularly where environmental standards or green buffer zones are poorly enforced.

In Tashkent, air pollution is driven by both internal and external sources. Windblown dust, much of it originating outside the city, is the largest annual contributor to $PM_{2.5}$ concentrations (36 per cent). During winter, heating becomes the dominant source, accounting for up to 45 per cent of $PM_{2.5}$ in peak months and 29 per cent annually. Transport contributes 16 per cent of the annual average, followed by emissions from urban dust (6 per cent), heavy industry (6 per cent) and waste burning (1 per cent). In terms of total $PM_{2.5}$ annual emissions, the heating sector remains the largest contributor (33 per cent), followed by transport (25 per cent), industry (22 per cent) and urban dust (18 per cent). A major aggravating factor is the presence of 1,875 greenhouses in and around the city, most of which lack dust and gas filtration systems. Around 60 per cent are coal-heated, often burning rubber, plastic and waste oil, which leads to severe localized pollution. Roughly 80 per cent of the air flow entering Tashkent passes through the zone with the highest concentration of greenhouses, compounding the city's pollution burden during the heating season.

Natural sources, particularly sand and dust storms, further intensify air pollution. These storms are most frequent from autumn to spring and are driven by strong winds, low precipitation and the widespread presence of sandy or loamy soils. $PM_{2.5}$ and PM_{10} concentrations can rise sharply during these events. The most significant natural dust source is the exposed bed of the Aral Sea; the Kyzyl Kum and Kara Kum deserts also contribute to long-range dust transport. These particles reduce visibility, damage crops and infrastructure and pose serious respiratory health risks. While historically less exposed, cities like Tashkent are now experiencing more frequent dust events, with up to 80 per cent of airborne dust in some regions traced to transboundary sources. The increasing scale and frequency of these storms underscore the need for strengthened monitoring, regional cooperation and targeted mitigation as part of national air quality management.

Measures to control air pollution

Uzbekistan has taken steps in recent years to establish a strategic and institutional foundation for air pollution control. The 2019 Concept of environmental protection until 2030 (Decree of the President No. 5863) serves as the central guiding document, setting priorities for reducing emissions, modernizing infrastructure, promoting the use of best available techniques (BAT) and strengthening environmental monitoring. It calls for sector-specific pollutant inventories and the introduction of automated emission analysis systems at high-impact industrial facilities. The 2023 Strategy Uzbekistan – 2030 (Decree of the President No. 158) reinforces these commitments by setting a target to reduce atmospheric pollutant emissions by 10.5 per cent and requiring full modernization of polluting technologies in category I and II enterprises.[7] The 2025 Decree of the President No. 16 further strengthens accountability by linking the performance of regional leaders to tangible progress in air quality management, including the functioning of gas cleaning equipment and monitoring infrastructure.

These strategic instruments are supported by emerging tools such as the National Green Taxonomy, introduced in 2023 (Resolution of the Cabinet of Ministers No. 561), which encourages investment in air pollution control technologies aligned with BAT-associated emission levels (see chapter 2).

Monitoring and assessment

Uzbekistan has made notable progress in expanding and modernizing its background air quality monitoring system, thus implementing Recommendations 4.1(a) and 8.2(a) of the third EPR of Uzbekistan. As of May 2025, ambient air quality is monitored in 26 cities through a national network comprising 66 stationary stations and 1 mobile station, including 23 modern automatic stations equipped with $PM_{2.5}$ and PM_{10} analysers. These were installed with support from the Zamin Foundation and cover all regional centres and major industrial zones, with 10 stations located in Tashkent alone.

[7] Category I corresponds to high risk, while category II to medium risk.

The network, operated by the Agency of Hydrometeorological Service, monitors up to 12 pollutants depending on site characteristics, and classifies stations by type—urban background, industrial and traffic. Manual sampling, conducted three times daily, complements automatic monitoring, and a mobile station supported by the World Bank enhances coverage in remote locations. In total, 89 observation points now monitor air pollutants, with samples analysed across 17 laboratories. Data quality from automatic stations, and data timeliness with key pollutant concentrations updated every hour, have improved. This shift has minimized the potential for human error and improved reliability. Uzbekistan has also harmonized five national air monitoring standards with international standards and is currently planning to install 347 additional automatic mini stations, alongside 200 low-cost IQAir sensors. These developments represent a major achievement in expanding data coverage and accessibility, particularly in support of long-term planning and SDG implementation.

Photo 1.3: Automatic air quality background monitoring station in Tashkent

Photo credit: Marina Plotsen, Uzhydromet

At-source emissions monitoring is coordinated by the Centre for Specialized Analytical Control under the Ministry of Ecology, Environmental Protection and Climate Change, which conducts monthly inspections at more than 800 industrial facilities, primarily those in hazard categories I and II. Monitoring focuses on key pollutants such as nitrogen oxides (NOx), SO_2, CO, PM, heavy metals and hazardous organics, with particular attention to high-impact sources such as cement plants. These facilities are among the most polluting and emit large quantities of fine dust, posing serious risks to human health. Although the Centre's public portal provides access to basic information on 78 emission points in line with Recommendation 4.3(c) of the third EPR of Uzbekistan, comprehensive quantitative data is not yet available. To address this gap, the Ministry of Ecology, Environmental Protection and Climate Change is developing a unified national database that will integrate background and at-source monitoring data. This system is expected to serve as a core analytical tool for evidence-based decision-making and regulatory enforcement, representing a crucial step forward in operationalizing integrated air quality management and implementing Recommendations 4.3(a) and 4.3(b) of the third EPR of Uzbekistan.

Uzbekistan assesses air pollution levels by comparing measured concentrations of pollutants with maximum allowable concentrations (MACs) established under national legislation. These hygienic standards define safe exposure limits—maximum one-time, average daily and annual values—for ambient air and individual stationary sources, with the aim of preventing adverse health effects and preserving sanitary conditions. In line with Recommendation 8.2(b) of the third EPR of Uzbekistan, Uzbekistan updated its MACs for $PM_{2.5}$ in 2024, setting a daily average limit of 60 µg/m^3 and an annual average of 35 µg/m^3, the latter aligning with the WHO Interim Target 1. While this represents a step forward, achieving more stringent 2021 WHO guidelines remain unrealistic under Uzbekistan's climatic and geographic conditions, which result in persistently high background dust levels due to natural factors such as sand and dust storms.

Uzbekistan has made advances in air quality assessment and health risk analysis, building on international partnerships and expanding its technical capacity. Following the World Bank's $PM_{2.5}$ source apportionment study in Tashkent, the Ministry of Ecology, Environmental Protection and Climate Change, with support from the United Nations Environment Programme (UNEP) and the Finnish Meteorological Institute, launched an assessment of key pollution sources in Termez to differentiate between natural and anthropogenic sources. These efforts are being scaled up nationally using data from the newly established automatic monitoring network. Between 2023 and 2025, a comprehensive project led by the Ministry of Ecology, Environmental Protection and Climate Change and the Ministry of Health is assessing ambient air pollution and associated health risks across several regions, integrating international good practices and developing a dedicated database on fine particulate matter. The Central Asian University of Environmental and Climate Change Studies (Central Asian Green University) also contributes research, notably on the impacts of sand and dust storms, while a task force under the Ministry of Ecology, Environmental Protection and Climate Change investigates source-specific emissions in Tashkent. In accordance with the 2023 Decree of the President No. 81, Uzbekistan is piloting a national forecasting and early warning system for natural pollution, supported by the integration of the atmospheric model of the System for Integrated Modelling of Atmospheric Composition. This system is expected to enhance predictive capabilities, improve public awareness and support progress toward SDG target 3.9.

Uzbekistan has made visible progress in air quality data collection, public access and awareness-raising, particularly through the implementation of Recommendation 4.3 of the third EPR of Uzbekistan. In line with the Recommendation 4.1(b), since 2022 live air pollution data have been accessible via the national monitoring platform hosted by the Agency of Hydrometeorological Service;[8] the platform displays real-time readings from the country's monitoring stations. A national mobile application is under development, and the 2023 National State of the Environment Report featured a dedicated chapter on air quality.[9] Regular ecological bulletins and forecasts are also issued by the Agency of Hydrometeorological Service. In Tashkent, the city administration operates an urban air quality platform (air.tashkent.uz) that integrates meteorological and $PM_{2.5}$ data and provides health guidance for vulnerable groups. The Ministry of Ecology, Environmental Protection and Climate Change is developing a centralized digital portal for environmental data to improve evidence-based decision-making. While these steps have enhanced transparency, historic emissions and concentration data, detailed pollutant inventories remain largely unavailable publicly. The absence of a national emissions inventory is a key gap, though its development is expected in connection with Uzbekistan's planned accession to the Convention on Long-range Transboundary Air Pollution (Air Convention). Meanwhile, the Ministry of Ecology, Environmental Protection and Climate Change actively engages the media during peak pollution periods, helping to build public understanding and support for policy measures.

Emissions reduction

Uzbekistan has adopted an ambitious strategy to reduce industrial air pollution, anchored in the 2019 Concept of environmental protection until 2030 and reinforced through a series of recent decrees. The Government has introduced strict emission control requirements, mandating the installation of high-efficiency dust and gas filtration systems: 99.5 per cent for new facilities and 95 per cent for existing ones. The 2023 Decree of the President No. 81 requires all category I enterprises to install automated substations for continuous emissions monitoring by July 2025, with category II enterprises to follow by the end of 2025. These systems must be paired with modern abatement technologies and water treatment facilities located in the vicinity. Incentives include a US$100 million credit line, deferred environmental compensation payments and reimbursement of up to 70 per cent of costs for compliant enterprises. In accordance with 2025 Decree No. 67 on measures to stimulate production, export and entrepreneurial activities, and improve the effectiveness of trade and industrial policy, the deadlines for installing automated substations to monitor and analyse emissions into the atmosphere have been extended. The deadline for category I enterprises is 1 January 2026 while, that for category II enterprises is 1 July 2026. As of August 2025, 67 automated stations have been installed at 33 enterprises, Additionally, 33 observation posts have been equipped in the sanitary protection zones of 22 enterprises.

At the same time, enforcement has been strengthened: non-compliance now incurs a fivefold increase in pollution compensation fees. New industrial projects in high-risk sectors—such as cement, metallurgy and toxic chemicals—are now prohibited in major cities unless equipped with advanced cleaning technologies. Enterprises that install background pollutant monitoring equipment can receive additional reimbursements, reinforcing the Government's emphasis on both prevention and transparency.

8 Agency of Hydrometeorological Service (Interactive map on atmospheric air quality).

9 Ministry of Ecology, Environmental Protection and Climate Change (2023).

Complementary measures focus on green industrial transformation. Category I and II enterprises are now required to establish green belts to serve as natural air filtration zones, and financial instruments are being developed to support emissions reduction and afforestation within industrial zones. Recognizing the high costs of adopting BATs, Uzbekistan has initiated a phased implementation approach, initially targeting large state-owned enterprises. In line with Recommendation 8.4 of the third EPR of Uzbekistan, BAT training has begun, supported by the regional expertise under the Air Convention and ongoing legal reforms aimed at embedding BAT principles more firmly in national legislation. This growing alignment of environmental policy with industrial planning reflects a systemic shift toward cleaner, more accountable industrial development. Additionally, Uzbekistan has achieved a 99.5 per cent reduction in ozone-depleting substances (ODS) since 1989, in line with its commitments under the Montreal Protocol on Substances that Deplete the Ozone Layer. As of July 2025, a digital permitting system regulates ODS imports and exports, and the country continues to strengthen enforcement through revised fines and stricter controls on emissions and hazardous substances, further demonstrating its commitment to multilateral environmental agreements (MEAs) and pollution control.

Uzbekistan is undertaking a major transformation of its energy and heating sector to reduce air pollution and greenhouse gas (GHG) emissions, guided by the 2019 Concept of environmental protection until 2030 and reinforced through recent decrees of the President. Central to this shift is the phase-out of coal and fuel oil—key contributors to ambient PM and SO2 pollution—and the expansion of renewable energy and energy efficiency. Emission limits for thermal and power generation facilities have been introduced, aligned with international standards, and modernization programmes were revised accordingly. In line with the third EPR's Recommendation 8.4(b), the 2025 Decree of the President No. 16 establishes "green tariffs" for solar, wind, waste and biogas power, while allowing households to sell surplus solar electricity. The Decree mandates a programme of installing solar panels and solar collectors from 2025, broken down by districts and cities. By the end of 2025, fuel oil will be fully banned in power and heating generation, already effective in Tashkent and nearby areas. Complementary measures include the establishment of the Energy Efficiency Promotion and Support Fund (2025 Resolution of the Cabinet of Ministers No. 292) (in line with the third EPR's Recommendation 8.4(a)), encouraging the use of smart heat meters in households (Recommendation 8.4(c)) and efforts to improve the quality of domestically mined coal, along with revised environmental standards for solid heating fuels.

Uzbekistan is advancing an integrated strategy to reduce air pollution from the transport sector through a combination of cleaner fuels, electrification, regulatory reforms and sustainable mobility planning, in line with the 2019 Concept of environmental protection. A nationwide shift to gas and electric public transport is underway, targeting 80 per cent fleet conversion by 2030, alongside railway electrification and a modal shift from road to rail. The 2024 Resolution of the President No. 338 accelerated the ban on sub-Euro-4 fuels to end-2025, while the 2025 Decree of the President No. 16 tightened vehicle import standards and promoted bicycles and green mobility. Measures include mandatory ecological certification for public and corporate fleets, voluntary options for private users and incentives for low-emission vehicles. A national laboratory system is being developed for emissions testing. Charging infrastructure is expanding, and electric vehicles are produced domestically. Urban planning reforms prioritize public and non-motorized transport lanes, reduced congestion and improved traffic flow under joint efforts by the Ministry of Transport and the Ministry of Ecology, Environmental Protection and Climate Change.

Air quality management

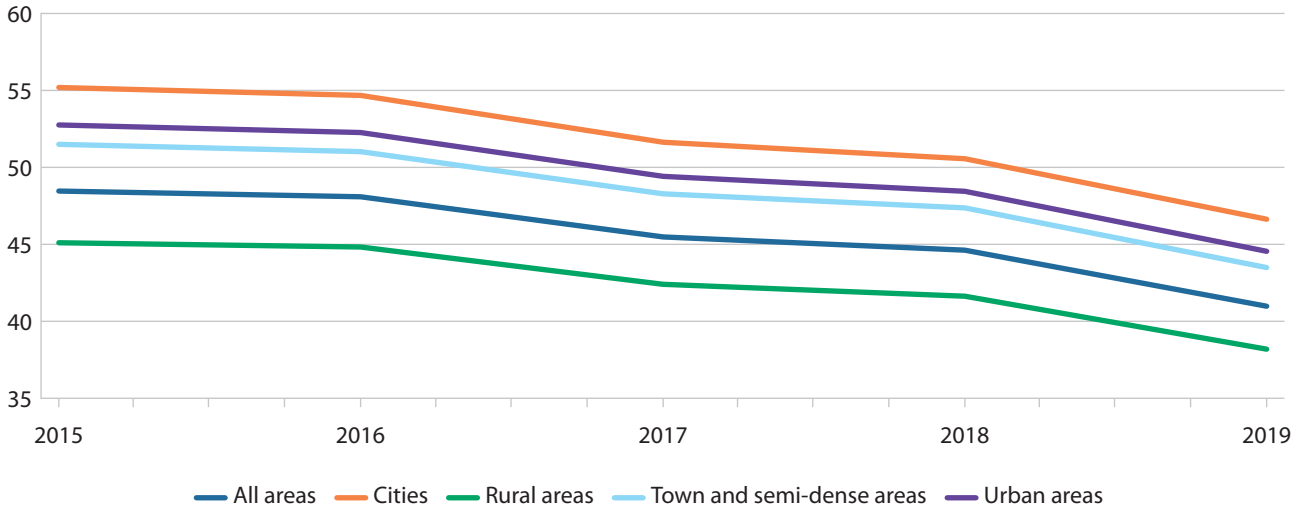
Uzbekistan is increasingly embedding environmental safeguards into urban planning and construction as part of efforts to reduce air pollution and enhance urban resilience. The 2019 Concept of environmental protection until 2030 calls for greater energy efficiency in buildings and wider adoption of low-carbon technologies in households. Recent regulatory reforms, including the 2025 Decree of the President No. 16, mandate the creation of a national "Green Building" certification system, while the 2024 Resolution of the President No. 338 requires environmental modelling in urban master plans, especially for large settlements. With construction accelerating in cities like Tashkent, the Government is also tightening oversight of construction practices to manage dust and preserve urban airflow, including through terrain-based modelling and stricter enforcement of standards.

Tashkent has emerged as a national leader in air quality management with the adoption of its own city-level Urgent Action Plan for Improving Air Quality, a major milestone that sets it apart from other cities in Uzbekistan. This plan, approved by the 2024 Resolution of the President No. 338, outlines 17 concrete measures targeting pollution control, infrastructure upgrades and urban resilience. Among its key actions are the installation of over 25 automated air monitoring stations across Tashkent and surrounding industrial zones by 2026, alongside public display boards to provide residents with real-time air quality and meteorological data. Daily inspection raids are carried out during the peak pollution season, reinforcing on-the-ground monitoring.

The Plan also aligns with and actively supports the measuring of SDG indicator 11.6.2 on reducing urban air pollution by improving the availability and accessibility of $PM_{2.5}$ and PM_{10} data. Uzbekistan has nationalized the SDG indicator 11.6.2, which measures the annual mean levels of fine particulate matter (i.e., $PM_{2.5}$ and PM_{10}) in cities (population-weighted), in alignment with the global SDG indicator 11.6.2. This indicator supports the measurement of progress towards SDG target 11.6, which aims to reduce the adverse per capita environmental impact of cities by 2030, with a focus on air quality and waste management. As of July 2025, the development of the national SDG indicator 11.6.2 is underway. At the global level, WHO data for Uzbekistan from 2015 to 2019 indicate a steady decrease in the annual mean levels of fine particulate matter across all locations, including cities (see figure 1.5).

Urban planning in Tashkent has also advanced significantly: the updated 2024 Master Plan integrates airflow modelling and introduces higher standards for green space allocation to improve natural ventilation and mitigate urban heat. Green infrastructure is a core component, with a 441-hectare "green belt" and "green gardens" planned around the city between 2025 and 2030. The action plan also mandates tighter construction site regulations, enhanced energy efficiency through the national "Green Building" certification system and the elimination of fuel oil in power and heat generation by 2030. Industrial emissions are being tackled with mandatory dust and gas filtration systems for over 1,200 suburban greenhouses, supported by targeted subsidies.

Figure 1.5: Annual mean levels of fine particulate matter (population-weighted), by location, 2015–2019, µg/m³



Source: United Nations Statistics SDG Indicators Database, 2025.

Note: Data are estimated by WHO.

Uzbekistan is addressing the air quality threat posed by sand and dust storms through the implementation of its National Programme for Combating Sand and Dust Storms for the period 2024–2030 (2024 Resolution of the President No. 338). This Programme focuses on improving monitoring, forecasting and early warning systems by expanding the air quality monitoring network and modernizing meteorological infrastructure. It also tackles the root causes of sand and dust storms through large-scale land restoration, afforestation and the establishment of green buffer zones, particularly in vulnerable areas such as the Aral Sea region. Measures include the use of innovative land management practices and dust suppression technologies, as well as strengthened regulations for construction and transport. Complementing these efforts, the Yashil Makon (Green Space) Initiative supports the development of green belts around cities such as Tashkent, Bukhara and Nukus, to serve as natural barriers against dust intrusion.

Waste and agriculture are under-addressed sources of air pollution in Uzbekistan. Open burning of waste, though subject to small-scale fines, continues to contribute to local air quality degradation, while untreated landfills emit hazardous pollutants into the atmosphere. Although there are plans to develop waste-to-energy treatment facilities through public-private partnerships, implementation remains limited. Similarly, agricultural activities release substantial amounts of ammonia, a key precursor to particulate matter formation. Despite their impact, both sectors are currently overlooked in national air quality management policies, and research to understand and address their contributions to air pollution is lacking.

1.2 WATER

Photo 1.4: River water filtration in the Amu Darya floodplain

Photo credit: Press Service, National Committee on Ecology and Climate Change of Uzbekistan

Status and trends in water resources

Since 2018, Uzbekistan has progressed in collecting, assessing and publishing data, in print and online, on the status of its water resources. The 2023 National State of the Environment Report provides indicator-based information on water resources, emphasizing the complex nature of water-related challenges.[10] These challenges stem from a combination of geographical, climatic, economic and management factors. Natural water scarcity is exacerbated by high annual water consumption in agriculture and industry, often considered as overuse. Climate change, particularly the increasing frequency and severity of droughts, further intensifies the pressure on water resources. Pollution of both surface and groundwater is largely attributed to inefficient wastewater treatment systems. Additionally, Uzbekistan's reliance on transboundary water sources and the growing impact of climate change present urgent environmental and economic incentives to prevent pollution and invest in water purification.

According to the National State of the Environment Report, most medium- and long-term trends and indicators for water are negative. The exception is the adoption of water-saving technologies, where recent investments are beginning to yield positive results.[11] However, widespread pollution and rising salinity levels in both surface and groundwater continue to pose serious challenges. The Water Pollution Index (WPI),[12] which is an aggregated national indicator used as national SDG indicator 6.3.2,[13] illustrates this trend. It is calculated as the arithmetic mean of six hydrochemical indicators, expressed as fractions of model predictive control values: dissolved oxygen content, biological oxygen demand and the four pollutants with the highest concentrations relative to established norms. Discussions are underway to revise and improve the WPI methodology. WPI has seven quality classes (very clean ≤ 0.3; clean >0.3 to 1.0; moderately polluted >1.0 to 2.5; contaminated >2.5 to 4.0, dirty >4.0 to 6.0; very dirty >6.0 to 10.0 and extremely dirty >10.0).[14] WPI increased from 1.21 in 2016 to 1.54 in 2018 and then declined to 1.18 in 2024 (see figure 1.6).

10 Ministry of Ecology, Environmental Protection and Climate Change (2024b).

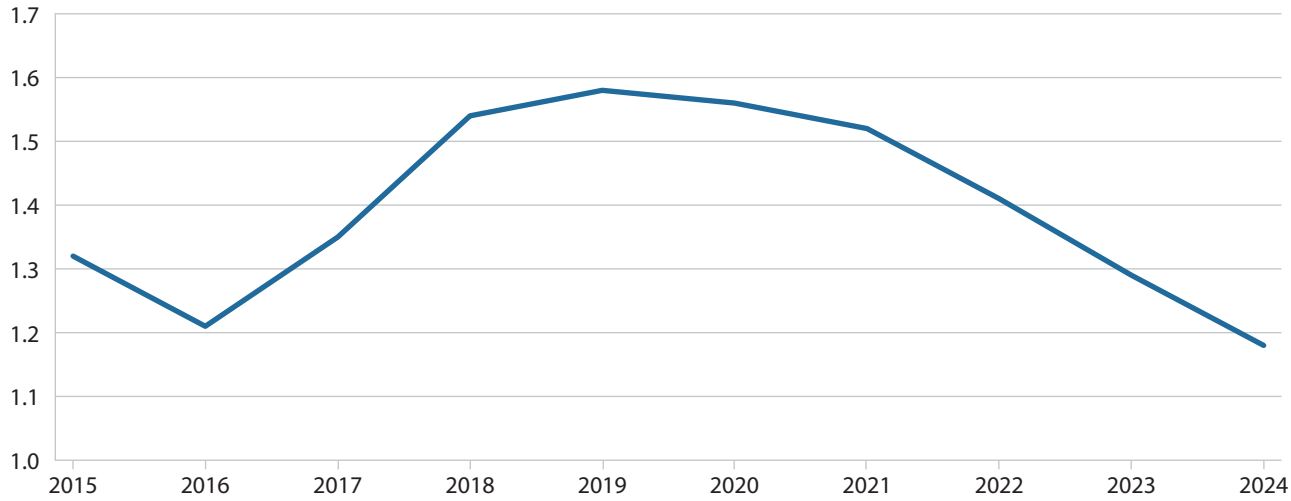
11 Ibid., Table 14.

12 Uzbek Agency for Technical Regulation DS-140 from 31.05.2019 GOST 17.1.3.07-82 Nature protection. Hydrosphere. Rules for monitoring the quality of water in reservoirs and watercourses.

13 SDG 6 Ensure availability and sustainable management of water and sanitation for all (https://nsdg.stat.uz/en/goal/9).

14 Ministry of Ecology, Environmental Protection and Climate Change (2024b), Table 17.

Figure 1.6: Water Pollution Index, 2015–2024, number



Source: National Statistics Committee (National SDGs Data Portal), 2025.

Despite these efforts, the lack of a comprehensive information system with reliable data on surface and groundwater continues to hinder effective monitoring and pollution control. As of 2025, Uzbekistan is developing a State Water Cadastre, though public access remains restricted. The Concept for the Development of the Water Sector (2020–2030) sets a strategic goal to improve forecasting, accounting and database development for water resources, with a strong emphasis on transparency. A key measure is the modernization of the State Water Cadastre and its databases using information and communication technologies. This modernization is expected to ensure public accessibility and systematic reporting of water quality data.

Surface water

According to the Annual Report for 2024 of the Agency of Hydrometeorological Service, surface water bodies and watercourses are mainly characterized by satisfactory water quality. Based on WPI, 48 per cent of monitored waters fall under class II (clean), another 48 per cent under class III (moderately polluted) and 4 per cent under class IV (contaminated), primarily located near major urban centres and industrial zones. The Salar Bozsu and Western Arnasay rivers are registered as the most polluted.[15] Water quality monitoring is conducted by analysing 43 parameters across 59 water bodies, 86 water points and 109 sections. Each year, a total of 912 samples are collected and analysed at these monitoring points.[16] As of August 2025, the Agency of Hydrometeorological Service faces several challenges:

- Sparse monitoring network coverage, limiting spatial data resolution;
- Inconsistent parameter tracking, affecting long-term trend analysis;
- Analytical limitations, including outdated methodologies;
- Laboratory constraints, with equipment not meeting ISO/IEC 17025 standards for testing and calibration.

Uzbekistan is intensifying its efforts to safeguard surface water from pollution, recognizing its critical impact on drinking water quality, agricultural productivity, biodiversity and aquatic ecosystems. Despite a 20 per cent population increase between 2015 and 2025, along with rising industrial and agricultural activity, data from the Ministry of Ecology, Environmental Protection and Climate Change and the Agency of Hydrometeorological Service indicate that surface water quality has not significantly declined.

However, the Ministry of Agriculture warns that pollution in both water and soil continues to negatively affect crop yields and the quality of agricultural products.

15 Agency of Hydrometeorological Service (2025).

16 Ibid.

Groundwater

As of May 2025, no publicly accessible data on groundwater quality and pollution are available on the websites of the Ministry for Mining Industry and Geology or its Institute of Hydrogeology and Engineering Geology. Although the third EPR of Uzbekistan references a groundwater database and an annual information bulletin from the former State Committee for Geology and Mineral Resources, these resources remain unavailable to the public.

The declining quantity of groundwater is widely recognized as a critical issue. However, there is a significant gap in knowledge regarding groundwater quality and the impacts of pollution on the remaining—and increasingly valuable—reserves. The most pressing concern is the rising level of salinity, which is largely irreversible. Groundwater with salinity levels exceeding 3.0 g/l now lies under more than 50 per cent of the country's territory, indicating a high degree of stress on aquifers.[17] Additional sources of contamination include:

- Agricultural runoff, where the use of fertilizers and pesticides leads to elevated levels of nitrates and pesticide residues;[18]
- Mining activities, with increased concentrations of heavy metals and mineralization observed near sites with tailings;[19]
- Oil and gas development, where phenols and petroleum products have been detected in groundwater at levels 2–3 times above the MACs;[20]
- Waste disposal, where all dumpsites, except the modern landfill in Akhangaran district (Tashkent region), lack effective containment systems, posing a serious threat to groundwater due to leaching of toxic substances and organic decomposition byproducts.[21]

Groundwater management in Uzbekistan remains complex and fragmented. A review of scientific literature highlights structural uncertainty and the coexistence of multiple, poorly integrated knowledge systems, which contribute to inefficiencies and governance gaps.[22] Key issues include disconnected monitoring and reporting systems across state institutions; inconsistent data between national and local levels; limited public access to groundwater data; and insufficient integration of groundwater-related research into policy and practice.

Major sources of water pollution

Agriculture remains the dominant consumer of water resources, accounting for approximately 90 per cent of total usage.[23] While a portion of this water is lost through evaporation, the remainder, often contaminated, re-enters surface and groundwater systems. Key agricultural contributors to water pollution include excessive use of fertilizers and pesticides, wastewater discharge from livestock complexes and inefficient irrigation practices that lead to soil salinization.

The use of river water for irrigation typically leaves minimal residual flow, yet improvements in irrigation efficiency have helped reduce pollution levels. According to the Basin Irrigation System Administration in Tashkent, 15 per cent of the basin's water is allocated for environmental purposes, which is considered an indicator of good water quality and a proactive step toward mitigating pollution from irrigation systems.

However, the use of artesian wells by farms has contributed to both groundwater depletion and increased soil salinity.[24] In the Aral Sea region, return flows—water that leaches minerals and chemicals from the soil—further intensify anthropogenic pollution, threatening aquifers and drinking water supplies.[25]

Industry is widely regarded as the primary source of water pollution, with its expansion exacerbating the issue. Data from the Agency of Hydrometeorological Service reveal that the most heavily polluted sites are located near industrial zones, where typical industrial contaminants are detected. Most industrial wastewater is neither properly collected nor adequately treated, whether through dedicated facilities or combined systems for domestic and industrial effluents.

17 Ministry of Ecology, Environmental Protection and Climate Change (2024b), p. 32.
18 Schmidt (2024).
19 Turayeva (2024).
20 Turayeva (2024); Schmidt (2024).
21 Ministry of Ecology, Environmental Protection and Climate Change (2024b).
22 Schmidt (2024).
23 Ministry of Ecology, Environmental Protection and Climate Change (2024b).
24 Toshboeva (2025).
25 World Bank (2024b).

Photo 1.5: Water-saving technologies in irrigated agriculture

Photo credit: Press Service, Ministry of Water Management of Uzbekistan

The mining sector also poses other risks, requiring large volumes of water and frequently interacting with groundwater, especially in open-pit operations. Tailings—by-products of metal extraction—present a specific hazard due to their potential to cause serious environmental accidents.[26]

The 2024 Annual Report of the Agency of Hydrometeorological Service highlights a widespread decline in the sanitary condition of riparian zones, largely due to the emergence of "spontaneous illegal" dumpsites for industrial and municipal waste.[27] In general, landfills and the storage of hazardous chemicals—particularly liquids—continue to pollute both surface and groundwater. This issue is especially acute at legacy sites established before the implementation of modern environmental standards.

Municipal wastewater also contributes significantly to water pollution. Despite some data uncertainty, it is widely acknowledged that sewage collection and treatment remain inadequate. Investments have historically prioritized drinking water infrastructure over effective wastewater treatment. Nonetheless, access to sewage systems has improved noticeably in recent years—from 36.9 per cent of households in 2010 and 37.3 per cent in 2020 to 50.1 per cent in 2024.[28] This progress in wastewater collection needs to be matched by improvements in purification systems to fully address domestic pollution.

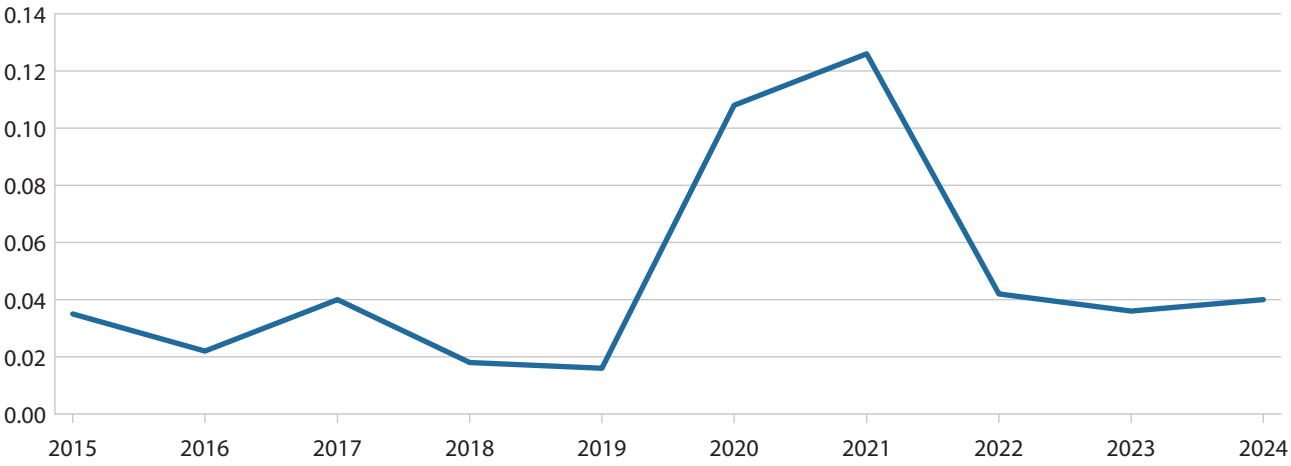
SDG target 3.9, nationalized as "Reduce the number of deaths and illnesses from water and air pollution, hazardous chemicals, including chemical production and disposal sites," is measured by three national indicators, including 3.9.2 (Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services) per 100,000 population) retaining the same wording as the global indicator 3.9.2. The national indicator is calculated based on the ratio of the number of deaths from the lack of safe water, safe sanitation and hygiene (from the lack of safe water, sanitation and hygiene services for all) to the average annual population in the reporting year, per 100,000 people. Data available on the national SDG platform show a fluctuating trend in the period 2015–2024 with a marked worsening in 2020 (0.108) and 2021 (0.126) (see figure 1.7). These results confirm the necessity to continue and expand measures to improve surface water quality, especially sanitation and sewage treatment.

26 Toshboeva (2025).

27 Agency of Hydrometeorological Service (2025)

28 National Statistics Committee (2025).

Figure 1.7: Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene, 2015–2024, per 100,000 population



Source: National Statistics Committee (National SDGs Data Portal), 2025.

As of June 2025, based on data from WHO Global Health Observatory, the United Nations Statistics SDG Indicators Database provides estimated data for 2019 on mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene from diarrhoea, intestinal nematode infections, malnutrition and acute respiratory infections (deaths per 100,000 population). For Uzbekistan this rate is 2.9 (global SDG indicator 3.9.2, data series). Morocco, which has a similar sized population and GDP per capita at purchasing power parity, has a rate of 4.6 deaths per 100,000 population.

Measures to control water pollution

Since 2018, Uzbekistan has advanced water pollution control through legal and institutional reforms. The Inspectorate for Water Safety under the Ministry of Water Resources oversees water use compliance and enforcement. Governmental decisions in 2024–2025 expanded its powers and provided incentives for reporting violations. The 2025 Law No. 1062 on Amendments and Additions to Certain Legislative Acts introduced stricter groundwater protection, with penalties for unauthorized drilling, pollution and unmetered abstraction. These reforms are recent and their practical impact remains to be seen.

1.3 SOIL

Status and trends in soil contamination

As of August 2025, Uzbekistan lacks a comprehensive soil monitoring and protection system. There is no integrated framework that consolidates data from all state services, complements it with scientific research and ensures public accessibility. Key areas such as preventive soil protection—addressing salinization, pollutant input and land consumption—and soil restoration through the detection and rehabilitation of polluted sites remain underdeveloped.

Uzbekistan's diverse landscapes, geological formations and climatic conditions result in a wide variety of natural soils. Despite the challenges, preserving soil quality is essential for environmental sustainability and national development. Between 2018 and 2025, soil quality has been affected by land use changes, the Aral Sea crisis, water scarcity and climate change. The National State of the Environment Report attributes poor soil formation primarily to the country's arid climate.[29] Approximately 70 per cent of Uzbekistan consists of desert sandy soils. Much of the country has arid soil, characterized by poor texture, high salinity and low humus content. However, mountainous regions and areas near rivers and lakes exhibit richer biological diversity.

Climate change is expected to exacerbate desertification, making it a central challenge for soil protection. Rising temperatures and declining precipitation contribute to the expansion of sandy deserts, wind erosion and increased dust storms. Wind erosion affects around 50 per cent of cultivated land, while water erosion impacts up to 20 per cent. Although human activities contribute to soil degradation and pollution, efforts to restore and improve soil quality are gradually increasing. However, soil responds slowly, making restoration a complex and time-consuming process.

[29] Ministry of Ecology, Environmental Protection and Climate Change (2024b).

Photo 1.6: Grazing sheep

Photo credit: Flock of sheep on a background of mountains, Uzbekistan, by Shchipkova Elena/stock.adobe.com

From 2018 to 2025, desertification and anthropogenic land use have had the most significant impact on soil quality. The National State of the Environment Report highlights population growth, urbanization, industrial expansion and the development of reserve lands as key drivers of land category changes. The Report classifies the indicator for land in agricultural production as stable in both the medium and long term.[30] Notably, agricultural land area increased by 30 per cent between 2018 and 2022, constituting a substantial expansion over a short period. This growth presents mixed outcomes: while it increases fertile land, it also risks overuse of fertilizers and pesticides. The indicator for land reclamation is stable in the medium term and positive in the long term, reflecting a promising trend amid rapid land development. However, soil salinity of land remains a pressing issue, rising from 51.4 per cent in 2012 to 55.8 per cent in 2022. The indicator for mudflow occurrence, linked to climate change and soil degradation, is forecast to experience a 19–25 per cent increase between 2030 and 2050. Droughts continue to harm soil fertility, with a negative medium-term and stable long-term outlook.

The Agency of Hydrometeorological Service monitors soil pollution in agricultural lands and around major industrial cities. Soil sampling for agricultural toxicants is conducted twice a year at 261 sites across 107 districts and 212 farms, covering a total area of over 4,000 ha. More than 520 samples are analysed annually for defoliant levels, soil acidity and humus content.

Soils around 14 major cities are tested for industrial toxicants across 20 parameters, including gross and mobile forms of heavy metals (copper, zinc, lead, cadmium, mercury, arsenic), water-soluble fluorides, petroleum products, nitrate nitrogen, ammonium nitrogen and sulfates, as well as acidity and humus content. More than 90 samples are analysed annually. The Agency compiles reports and shares the results with relevant ministries to support soil pollution control efforts.

In 2024, the average humus content was 1.25 per cent, with the highest value recorded in the Andijan region (1.57 per cent). Other regions, such as Namangan (1.2 per cent), Samarkand (1.6 per cent), Fergana (1.6 per cent), Bukhara (1.1 per cent) and Tashkent (1.1 per cent), had average values.[31] Studies in the Kashkadarya, Samarkand and Fergana regions revealed the presence of defoliants (magnesium chlorate). Investigations into industrial toxicants identified contaminants such as copper, sulfates, ammonium nitrogen and petroleum products. Key findings on contaminants include:

- Andijan: oxygen-soluble form of copper and sulfates;
- Bekabad: ammonium nitrogen, petroleum products and sulfates;
- Namangan: acid-soluble forms of copper and zinc, petroleum products and sulfates.[32]

30 Ibid.

31 The source reports a "highest value" in Andijan region that is lower than the value in Samarkand and Fergana regions.

32 The Agency of Hydrometeorological Service (2025).

Mercury, water-soluble fluorides and nitrates in these cities remain below MACs.[33]

Recent research highlights growing concerns over pollution, particularly from heavy metals such as vanadium, chromium, manganese, cobalt, nickel, copper, zinc, arsenic, molybdenum, cadmium, mercury, lead, tungsten and iron.[34] Among these, mercury, lead, cadmium, arsenic and selenium are especially hazardous, with mercury, lead and cadmium posing extreme risks.

Heavy metals negatively affect soil health by reducing biological activity and depleting essential nutrients like ammonium and nitrate nitrogen, which are vital for plant growth and soil fertility. Their accumulation also threatens ecosystems and human health due to potential entry into the food chain.[35]

Studies show that contamination by copper, lead, zinc, iron and nickel exceeds MACs in cities such as Akhangaran and Angren.[36] These results underscore the urgent need for more comprehensive and targeted soil monitoring in high-risk areas. Limited data sharing and coordination hinder a full understanding of soil pollution across the country.

Major sources of soil pollution

The degradation of the Aral Sea remains a major environmental concern. Decades of water loss have transformed the former sea into a vast desert-like area, with far-reaching effects such as expanding desertification and frequent sandstorms. The primary drivers of this transformation are agricultural activities and the expansion and mismanagement of irrigation systems in the river inflows. Restoration of the Aral Sea to its original size is no longer feasible. However, in response to increasing water scarcity and the advancing impacts of climate change, new mitigation and adaptation measures are being implemented.

Agricultural land accounts for 58.44 per cent of Uzbekistan's territory, making agriculture a major contributor to soil pollution.[37] Key factors include irrigation practices, the use of fertilizers and pesticides and pastoral activities. Irrigation is essential for cultivation, but it also contributes to soil salinization and pollution, especially when water quality is poor. Although modern water-saving irrigation technologies cover 23 per cent of irrigated land,[38] large areas still suffer from inadequate irrigation practices that degrade soil quality.

Pesticides, both historical and current, are a major source of contamination. Their extensive use, particularly in cotton-growing regions, has caused long-term soil pollution. Many sites still contain unused and obsolete pesticide stockpiles. Despite improvements and reduced application rates, the continued use of fertilizers and pesticides still impacts soil health.

Overgrazing in arid pasturelands is another major driver of desertification.[39] Already stressed by rising temperatures and drought, approximately 70 per cent of pastures have been degraded in recent years due to unbalanced grazing practices, erosion and overuse in remote areas. These conditions contribute to increased stormwater runoff, mudflow recurrence and landslide activity. A striking example is the contrast in vegetation between areas inside and outside the Nuratao Sanctuary, even during springtime.

Industrial activities, mining and gas field development also contribute significantly to soil pollution. These sectors release heavy metals and other pollutants, such as petroleum residues near oil fields and refineries.[40] Open-pit mining and energy extraction disturb surrounding soils, with contaminated excavation materials and tailings storing numerous pollutants. Other sources of soil degradation include:

- Land consumption with urban expansion and construction leading to landscape loss and soil degradation at building sites;
- Vehicle emissions with car exhaust contributing to soil pollution, particularly along major roads, with lead being a prominent contaminant;
- Waste sites with landfills, brownfields from former industrial activities and stockpiles of old pesticides and toxic substances.

33 Agency of Hydrometeorological Service (Monitoring of soil pollution).
34 Kenzhibaeva (2024).
35 Mirkhaydarova (2024).
36 Turayeva (2024).
37 Ministry of Ecology, Environmental Protection and Climate Change (2024b), page 41.
38 Ibid., page 40.
39 Ibid., page 40.
40 Omarova (2024).

Measures to control soil pollution

Uzbekistan has taken steps to address soil and land degradation through a range of policy instruments and initiatives. In recent years, substantial legislative progress has laid the groundwork for more effective soil protection in the future. While the Aral Sea crisis was the initial catalyst, it has since fostered broader awareness of soil degradation risks across the country, particularly in desertification-prone areas and agricultural zones.

Afforestation and the expansion of green and protected areas are also central to Uzbekistan's soil protection strategy. The goal of the Yashil Makon Initiative, launched by the President in 2021, is to increase the country's green cover from 8 per cent in 2021 to 30 per cent by 2030, thereby preserving natural resources and promoting ecological diversity (2024 Resolution of the Cabinet of Ministers No. 144). The initiative is also expected to support preserving and restoring soil quality.

1.4 BIODIVERSITY

Photo 1.7: Bukhara deer *(Cervus hanglu bactrianus)* in its natural habitat

Photo credit: Natalya Marmazinskaya

Status and trends in biodiversity affected by pollution

Uzbekistan features a rich diversity of ecosystems, including desert, mountain, forest and wetland ecosystems. Its species diversity includes 11,000 species of plants, fungi and algae, and more than 16,000 animal species.[41] The 2018 Sixth National Report[42] to the Convention on Biological Diversity (CBD) concluded that pollution is one of the central threats to the country's biodiversity. This aligns with the findings of the International Panel on Biodiversity and Ecosystem Services, which has concluded that, globally, pollution is one of the five main drivers of biodiversity loss.[43] Pollutants can have direct toxic and lethal effects on living organisms, as well as indirect effects on ecosystem health and habitat degradation through bioaccumulation, eutrophication and acidification.

Both the 2024 Fourth National Communication to the United Nations Framework Convention for Climate Change (UNFCCC)[44] and the Sixth National Report to CBD emphasize the strong interlinkages between pollution, ecosystem degradation, climate adaptation and water stress. Due to its arid climate, Uzbekistan's ecosystems are highly vulnerable to land degradation and desertification. Pollution further undermines the adaptive capacity of these ecosystems. Increased

41 Ministry of Ecology, Environmental Protection and Climate Change, 2025.
42 UNDP (2018).
43 IPBES (2019).
44 Uzbekistan (2024).

recurrence of droughts is likely to lower water availability, leading to higher concentrations of water pollutants. As a result, reducing pollution was identified as a critical climate adaptation measure.

However, accurately assessing the impact of pollution on species and ecosystems remains a complex endeavour, given the diversity of pollution sources and pathways, their interactions with other drivers of biodiversity loss and scientific uncertainties in quantifying and understanding the interactions between pollutants and ecosystems processes. Given these challenges, the status and trends in biodiversity and ecosystem integrity as affected by pollution could only be approximated, based on available documents and assessments.

The 2019 edition of the Red Book lists 314 threatened species of plants and 206 threatened animal species (national SDG indicator 15.5.1.2);[45] the country's Red List Index is 0.96 (SDG indicator 15.5.1, 2023).[46] For 33 animal species, the Red Book documents pollution as a threat, including 15 invertebrates (13 affected by water pollution, 2 by soil pollution), 17 fish and 1 bird species.

Regarding water pollution, the 2023 National State of the Environment Report indicates negative mid- and long-term trends.[47] The country's Water Pollution Index identifies most water courses as moderately polluted, potentially impacting aquatic and riparian biodiversity.[48] The middle and lower courses of the main rivers show the highest levels of mineralization and pollution, seriously endangering ecosystem integrity and public health.

In 2024, Uzbekistan undertook a hydrobiological assessment on 10 of its watercourses.[49] This assessment indicates that pollution causes significant changes to aquatic ecosystems, particularly downstream of major pollution sources and in rivers flowing through agricultural areas. Mineralized collector-drainage water from agriculture also impacted the composition of aquatic micro-organisms.

Soil samples for agricultural and industrial toxins show the continued presence of various harmful substances, including ammonium nitrogen, nitrate nitrogen, copper, zinc and petroleum products. The latest analysis shows that residual amounts of dichloro-diphenyl-trichloroethane (DDT) in soil continues to exceed MAC in many sites.[50]

Major sources impacting biodiversity

Agriculture

In 2024, the country's agricultural sector, which accounts for about a fifth of its economic output (19.2 per cent for Gross Value Added of industries) and employment (22.8 per cent), is a major source of pollution, particularly affecting river ecosystems.[51] For instance, agriculture accounts for up to 90 per cent of pollution in the Syr Darya River basin.[52] For the Zarafshan River, the impacts of agricultural pollution, particularly fertilizer impacts, are well-documented.[53] Similarly for the Chirchiq River, scientific analyses have linked an increase in nitrogen compounds to agricultural and industrial pollution.[54]

Fertilizer use is particularly high, at 237.2 kg per hectare of arable land in 2022, compared with 134.2 kg as the global average and 55 kg as the average of all low- and middle-income countries of Europe and Central Asia.[55] Excess fertilizer not taken up by plants leads to nutrient imbalances, soil salinization, acidification and eutrophication of water bodies, ultimately resulting in a decline in ecosystem health and biodiversity.

Highly hazardous pesticides continue to impact the environment. Excessive use of certain current pesticides has resulted in residue levels that exceed regulatory limits, leading to the rejection of some agricultural exports by European Union countries. Both legacy and currently used pesticides have been detected in the Syr Darya River downstream of the Ferghana Valley, affecting aquatic life.[56]

45 Academy of Sciences (2019).
46 National Statistics Committee (National SDGs Data Portal), 2025.
47 Ministry of Ecology, Environmental Protection and Climate Change (2023).
48 Agency of Hydrometeorological Service (2024).
49 Ibid.
50 Ministry of Ecology, Environmental Protection and Climate Change (2023).
51 National Statistics Committee.
52 ECE (2023).
53 Gapporov (2025).
54 Karimov (2020).
55 World Bank Data (Fertilizer consumption (kilograms per hectare of arable land)).
56 Snow (2020).

Salinization is a critical issue, with around 50 per cent of agricultural land affected. Farmers leach their fields to reduce salt content, but this saline water being directed back to canals, rivers and lakes, increasing downstream salinity. This exacerbates the natural salinization process. The Red Book of Uzbekistan lists seven invertebrates and four fish species for which increased salinization is a major threat. Soil salinity may worsen further, given its strong link to climate change and water scarcity. The trend for soil salinity is assessed as negative for the medium term and stable for the long term, and water scarcity is expected to increase significantly because of climate change.[57]

Waste, including wastewater

Unmanaged landfills and dumpsites contribute to habitat degradation and pollution, affecting both terrestrial and aquatic ecosystems. Leachate from landfills and dumpsites may contaminate soil and water, leading to toxic environments for plants and animals. Insufficiently treated wastewater introduces harmful substances into water bodies, disrupting aquatic life and reducing biodiversity.

Uzbekistan primarily disposes of its waste through landfilling, as the country currently lacks waste incineration facilities and established recycling systems. There are over 200 registered landfills and waste disposal sites for municipal solid waste, industrial waste, construction debris, mining waste and hazardous materials. Except for the modern landfill opened near Tashkent in 2024, most landfills do not meet essential environmental standards. They lack impermeable liners, leachate and gas collection systems and other safeguards. Irregular and illegal dumping, often in fields or near watercourses, poses significant environmental challenges. There is no comprehensive monitoring system in place to assess the environmental impacts of landfills. However, exploratory analyses suggest that leachate is a relatively minor problem, particularly in rural areas where organic waste is commonly used as animal feed, leaving mostly dry waste for disposal.

No assessment has been conducted on the impact of landfills and dumpsites on biodiversity. Landfills and dumpsites containing waste harmful to local flora and fauna, or those located near water bodies or areas of high biodiversity value, such as Key Biodiversity Areas or protected areas, could have disproportionately negative effects on biodiversity and ecosystems.

Most municipal wastewater treatment plants (WWTPs) were built before 1991. Many are now severely degraded or non-operational. Periodic emergency discharges further exacerbate pollution, affecting both biodiversity and human health. Industrial WWTPs often release insufficiently treated wastewater into the collector system. In Uzbekistan, inadequate wastewater treatment is recognized as a major source of water pollution, with strong links to the presence and condition of industrial and municipal WWTPs.

Potential impact from small hydropower plants

Uzbekistan plans to build 3,000 small hydropower plants (SHPPs) on its watercourses, which are expected to achieve a total capacity of around 160 MW. The World Bank's "Uzbekistan Small Hydropower Development Project" supports the development of up to 100 MW of SHPP capacity with a loan of US$150 million. While this initiative aims to enhance energy production, it may pose significant threats to aquatic biodiversity if no adequate biodiversity protection measures are taken. By interrupting water flow with barriers, SHPPs pose risks to migratory fish species and their habitats, while regulated flows and extended water storage can alter water temperature, reduce oxygen levels and increase evaporation. The installation of cascades of SHPPs on a water course may lead to a cumulation of these risks to ecosystem integrity and water flow. Civil society and scientists have expressed concerns about the potential environmental risks associated with SHPP development in Uzbekistan.[58]

As of 2025, the country does not apply strategic environmental assessment (SEA) to plans and programmes related to SHPPs. Given the scale and potential cumulative environmental impacts of SHPP development, it is essential to introduce SEA to ensure that environmental considerations are integrated early in the decision-making process. SEA is a valuable tool for identifying cumulative effects and guiding the sustainable siting and design of multiple SHPPs.

Similarly, the country does not use environmental impact assessment (EIA) to examine the cumulative impact of cascades of SHPPs on the same water body in order to identify and mitigate site-specific environmental risks. Furthermore, environmental audits of existing SHPPs are yet to be conducted to assess their actual environmental impact, verify compliance with environmental standards and support adaptive management strategies.

57 Ministry of Ecology, Environmental Protection and Climate Change (2023).

58 Kosimova (2025).

Measures to mitigate pollution's impact on biodiversity

Monitoring

Uzbekistan has a comprehensive system for monitoring pollution of air, water and soil, which supports pollution reduction and mitigation efforts. However, hydrobiological monitoring is limited, which hinders a deeper understanding of water pollution impacts on biodiversity. Indicators are assessed for periphyton and zoobenthos, with macrophytes as auxiliary indicators, but aquatic fauna is not assessed. Additionally, hydrobiological indicators are only assessed for 10 water bodies, whereas chemical composition is assessed at 59 water bodies. This limited analysis presents an impediment to a better understanding of pollution impacts on aquatic biodiversity.

Protected areas

By limiting or prohibiting harmful activities, including those that cause pollution, protected areas are essential to safeguarding Uzbekistan's biodiversity. For instance, research suggests that the Zarafshan Nature Reserve likely plays an important role in decreasing pesticide impacts on the Zarafshan river ecosystem.[59] Uzbekistan has increased protected areas to 14.08 per cent of the country (a threefold increase since 2016),[60] with a goal to protect 30 per cent by 2030. This includes 20 per cent through stricter protection zones (IUCN categories I–IV) and 10 per cent through other effective area-based conservation measures.[61]

Furthermore, the protected area system increasingly covers the country's Key Biodiversity Areas. The average proportion of freshwater Key Biodiversity Areas covered by protected areas increased from 9.8 per cent in 2000 to 19.2 per cent in 2023; correspondingly the average share of terrestrial Key Biodiversity Areas covered by protected areas increased from 13.2 per cent in 2000 to 20.5 per cent in 2023 (SDG indicator 15.1.2).[62] Additionally, the protected natural areas cover the habitats of 83 per cent of vertebrate animal species and 89 per cent of plant species currently listed in the Red Book.

However, this substantial size increase has not been matched by a similar increase in financial and personnel resources to manage and monitor these protected areas. The 2024 Biodiversity Expenditure Review of the United Nations Development Programme (UNDP) identified that the most significant financing gap in biodiversity expenditure is for managing and expanding protected area coverage.[63] This includes capacity building needs, appropriate remuneration of staff and the provision of equipment and technology.

Photo 1.8: Short-toed snake eagle *(Circaetus gallicus)* in its natural habitat

Photo credit: Natalya Marmazinskaya

59 Mamanazarova (2024).
60 This number includes areas according to IUCN categories I–IV as well as two biosphere reserves.
61 Ministry of Ecology, Environmental Protection and Climate Change and UNDP (2024).
62 UNDESA (n.d.).
63 UNDP (2024).

Agriculture

A variety of measures are being undertaken in the country to support more sustainable and less-polluting agricultural practices.

In line with the country's 2019 Strategy for the Development of Agriculture for 2020–2030 (2019 Decree of the President No. 5853), Uzbekistan developed principles of Good Agriculture and Environmental Practices (GAEP) in 2022, which include provisions on proper application of pesticides and fertilizers.[64] Uzbekistan set a goal that, by 2030, 20 per cent of farmers would use either GAEP or international management quality systems. In 2023, an action plan for the implementation of GAEP was prepared, which included the development of learning materials, training seminars, consulting services and monitoring of the implementation of GAEP. However, GAEP are barely known among agricultural and environmental policy stakeholders. There are no publicly available data on the state of implementation of the action plan, the funding provided for it or the number of farmers who have adopted GAEP.

Uzbekistan promotes organic agriculture. According to data from the Ministry of Agriculture, organic agriculture accounted for 4,215 ha in 2024. However, with 2025 having been designated "Year of Environmental Protection and Green Economy", the country set the goal of increasing the area of organic agriculture to 10,000 ha. According to statements by the President of Uzbekistan in 2024, the area with organic agriculture will be further increased to 100,000 ha in the next three years. According to international comparisons, organic farming in 2025 is estimated around 0.01 per cent of the country's agricultural area, significantly lower than the global average of 2.1 per cent, indicating substantial room for expansion.[65] Since 2025, agricultural producers can receive cost reimbursement for organic certification from the Trade Promotion Fund.

The Government is improving pesticide management with support from an ongoing Food and Agriculture Organization of the United Nations (FAO) project financed by the European Union.[66] Since 2022, six highly hazardous pesticides have been prohibited, including some with well-documented hazardous impacts on biodiversity. Efforts are ongoing to identify and ban more. The project also supports the creation of an inventory of obsolete pesticide storage sites and contaminated sites as well as efforts to strengthen integrated pest management. Uzbekistan also has a support programme to strengthen the use of biological methods of pest control. Though no data were provided on the current amount of financial support under this programme, the Ministry of Agriculture stated that plans are envisaged to allocate 40 billion soums to cover part of the costs of using biological plant protection products.

Regarding fertilizer use, the 2019 Strategy for the Development of Agriculture for 2020–2030 sets the goal to work towards efficient and more targeted fertilizer use by expanding the operations of mobile soil analysis laboratories. With the declaration of the Year of Environmental Protection and Green Economy in 2025, the Ministry of Agriculture set the target to acquire 10 additional portable mobile laboratories for agrochemical analysis of the soil. Additionally, the Ministry of Agriculture launched the land degradation geoinformation portal, which also includes results of soil quality assessments and agrochemical analyses to enable farmers to make evidence-based decisions on fertilizer application.

Uzbekistan is investing in water-saving technologies, which account for up to 30 per cent of overall agricultural subsidies. Efficient irrigation systems, such as drip and sprinkler systems, reduce evaporation and runoff, thereby reducing further soil salinization and the need for salt leaching. The Government also incentivizes the use of laser-levelling technologies, which creates even agricultural surfaces, leading to more uniform water distribution, reduced irrigation needs and increased leaching efficiency. Experimental data suggest that laser-levelling can reduce irrigation water needs by 20–30 per cent.[67]

A variety of measures is being undertaken to adapt agriculture to increasing salinization of soils, also in collaboration with international partners, thus reducing the need for salt leaching. These measures include researching and cultivating salt-tolerant plants like Quinoa and Amaranth, building farmers' capacity to analyse and address soil salinity, and improving methods to assess soil salinity. For instance, the recently concluded FAO- Global Environment Facility (GEF) Project on integrated natural resource management in drought-prone and saline agricultural production landscapes in Central Asia and Türkiye provided over 100 tons of seeds of drought- and salt-tolerant crops.[68]

64 2022 Order of the Director General of the Technical Regulation Agency No. DSt 3619:2022.
65 Willer (2025).
66 FAO (2023).
67 FAO (2018).
68 GEF (2017).

Government subsidies to agriculture have reached US$120 million in 2023, with approximately 70 per cent being identified as potentially harmful to biodiversity.[69] Uzbekistan has announced plans to review and repurpose subsidies harmful to biodiversity and to assess agricultural subsidies as part of this endeavour.[70]

Waste, including wastewater

Uzbekistan is currently undertaking a variety of measures to improve waste management. A key aspect is the closing of unsanitary landfills, with 50 landfills closed by 2025. As the biodiversity impacts of landfills have not been assessed, biodiversity considerations currently do not play a role in the management of landfill closures.

In June 2025, Uzbekistan revised regulations for pollutants in surface water bodies and has adopted new standards on pollutant discharge standards for municipal wastewater treatment plants. Regarding wastewater discharge from industrial sources, Uzbekistan recently increased requirements for wastewater treatment facilities, mandated updates to these facilities and introduced financial incentives for their adoption.

Energy from small hydropower plants

Regarding the installation of SHPPs, a significant share of the envisioned installations, up to 100 MW of the totally planned 160 MW, will be financially supported by a World Bank loan. Regarding the SHPPs financed through the World Bank loan, the Bank has published guidelines for sustainable SHPPs. These include technical guidance for risk screening as part of EIAs, an exclusion list for SHPPs on natural rivers and for those causing substantial biodiversity impacts as well as a commitment to consider cumulative risks in EIAs.[71]

However, as of July 2025, Uzbekistan has not yet specified which measures will be applied to mitigate the environmental impacts of SHPPs that are not financially supported by the World Bank. The 2025 Presidential Decree No. 129 mandating the installation of 3,000 SHPPs does not explicitly consider potential impacts on aquatic biodiversity or the integrity of freshwater ecosystems. In addition, the 2025 Law on Ecological Expertise, Environmental Impact Assessment and Strategic Environmental Assessment does not contain specific provisions for assessing cumulative impacts. Since the Law revises the previous four risk categories to a new three-category system, it remains unclear which EIA requirements apply to SHPPs. Given that SHPP development is a relatively new undertaking in Uzbekistan and that the 2025 Law will modify procedural obligations, national capacity to conduct comprehensive environmental assessments and to incorporate effective risk-mitigation measures into SHPP design and implementation remains limited.

1.5 MUNICIPAL AND INDUSTRIAL WASTE MANAGEMENT

Municipal solid waste

Municipal solid waste (MSW) generation in Uzbekistan has been growing since 2018. According to 2023 data,[72] MSW generation increased from 7.151 million tons in 2018 to 7.425 million tons in 2020 and then decreased to 6.817 million tons in 2022. Since then, MSW generation increased to approximately 10 million tons in 2023 and 14 million tons in 2024 according to newer estimation methods and data from the Agency for Waste Management and Circular Economy Development (see table 1.1).

Table 1.1: MSW generation, 2018–2024, million tons

2018	2019	2020	2021	2022	2023	2024
7.151	7.283	7.425	7.108	6.817	10.000	14.000

Source: Agency for Waste Management and Circular Economy Development, 2025.

69 BIOFIN (Uzbekistan); BIOFIN (2025).
70 BIOFIN (2025).
71 World Bank (2025a).
72 Ministry of Ecology, Environmental Protection and Climate Change (2023).

Photo 1.9: Recycling bins in the city park in Samarkand

Photo credit: Recycling bins in the city park, Samarkand, Uzbekistan; by Mieszko9/stock.adobe.com

According to the 2023 National State of Environment Report, average MSW generation rate per capita was 0.775 kg/day in 2022.[73] As of August 2025, preliminary research carried out by the Agency for Waste Management and Circular Economy Development indicates that the average MSW generation rate is about 1.1 kg per capita, showing an upward trend in MSW generation per inhabitant.

Maxsustrans and Toza Hudud enterprises, previously involved in waste collection, transport and disposal, are now only responsible for MSW collection and transport, with disposal having been centralized by the Agency for Waste Management and Circular Economy Development since 2024. Now under the jurisdiction of the Agency for Waste Management and Circular Economy Development, these enterprises remove MSW from waste collection points and individual house waste bins. According to 2023 data from the Republican Centre for Organization of Sanitary Cleaning Works, the level of geographical coverage of MSW collection has been growing from 32.35 per cent in 2018 to 86.06 per cent in 2022. More recent data from the Agency for Waste Management and Circular Economy Development indicate that geographical coverage of MSW collection was 87.12 per cent in 2023 and 88.36 per cent in 2024, keeping the same upward trend (see table 1.2).

Regarding the national SDG indicator 11.6.1 (Proportion of municipal solid waste collected and managed in controlled facilities out of total municipal waste generated, by cities) of the SDG target 11.6 (By 2030, reduce the adverse environmental impact of cities on population, including by paying special attention to air quality and municipal and other waste management), there are no data available for 2018–2021 at the national SDGs data portal hosted by the National Statistics Committee.[74] For 2022 and 2023, the proportion of solid waste collected and managed in controlled facilities is, respectively, 70.1 per cent and 75.0 per cent. As of August 2025, the modern landfill in Akhangaran district of Tashkent region is the only fully controlled facility that meets modern international standards. However, ongoing reforms in the national waste management system, including the expansion of controlled facilities and planned investments in waste-to-energy systems, provide a strong basis for achieving this target by 2030 with respect to its waste management aspects. As of August 2025, the United Nations Statistics SDG Indicators Database provides data on MSW collection coverage, with that for Samarkand estimated at 100 per cent by UN-Habitat for the period 2018–2021. The National Statistics Committee reported MSW collection coverage of 70.1 and 75.0 per cent for 2022 and 2023, respectively, for the whole country.

73 Ibid.

74 National Statistics Committee (National SDGs Data Portal).

Table 1.2: Level of coverage of MSW removal services 2018–2024, percentage

2018	2019	2020	2021	2022	2023	2024
32.35	53.36	85.57	..	86.06	87.12	88.36

Source: Agency for Waste Management and Circular Economy Development, 2025.

Waste segregation in Uzbekistan is done at waste collection stations, collection trucks and waste disposal facilities. Recyclable components of MSW include polyethylene, paper, glass, textiles, used oils, metals, car tyres and rubber products. Despite some progress, recycling rates remain relatively low. While estimates suggested an increase from 5–10 per cent[75] in 2018 to approximately 32.4 per cent in 2023,[76] this latter figure may be an overestimation. Following the establishment of the Agency for Waste Management and Circular Economy Development in 2024, a series of studies were conducted in collaboration with a specialized research centre to evaluate the current state of waste recycling in the country. These studies revealed that a total of 766,000 tons of MSW were recycled in 2024, corresponding to a recycling rate of 5.2 per cent.[77] The Agency is actively working to increase the volume of waste recycled nationwide, alongside efforts to improve the accuracy and reliability of waste recycling data.

According to the National SDGs Data Portal, data for the national SDG indicator 12.5.1 (National recycling rate, tons of material recycled) of the SDG target 12.5 (By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse) are available for 2017–2023, which is an improvement since the third EPR of Uzbekistan did not report any data available. There is an upward trend in total waste recycling (see table 1.3). However, recycling rates remain relatively low in comparison with European Union countries, with an average municipal waste recycling rate of 49 per cent in 2022.

Table 1.3: National recycling rate, tons of material recycled, 2017–2023, thousand tons

2017	2018	2019	2020	2021	2022	2023
631.4	1 370.1	1 399.9	1 025.9	1 698.2	2 200.0	2 619.0

Source: Agency for Waste Management and Circular Economy Development, 2025.

A draft framework for establishing an extended producer responsibility system is currently under development by the Agency on Waste Management and Circular Economy Development. The Agency is leading this initiative in close collaboration with other relevant government institutions as part of its broader efforts to advance the circular economy agenda.

Non-recycled MSW in Uzbekistan is predominantly disposed of in landfills. In the capital city, Tashkent, approximately 3,000 tons of MSW are generated daily, with around 80 per cent still ending up in landfills. According to a 2025 World Bank assessment on the circularity potential of biodegradable waste management in Tashkent city,[78] an estimated 1,900–2,300 tons of biodegradable waste are generated daily. Most of this waste is landfilled together with other MSW, without any form of treatment or reuse, placing additional pressure on the city's landfill capacity.

To address this challenge, the Agency for Waste Management and Circular Economy Development has launched a pilot project in the Tashkent region aimed at producing biogas from biodegradable waste. The initiative targets the annual production of 76,000 m^3 of biogas from 1,000 tons of biodegradable waste. Building on the results of this pilot, the Agency plans to scale up similar projects nationwide. These will focus on producing biogas and organic fertilizers through the composting of household waste collected from designated containers, as well as food and organic waste, leaves, sewage sludge and other biodegradable materials generated by catering establishments, markets, livestock farms and municipal enterprises. Composting sites will be established in each region. The resulting biogas will be used for domestic energy

75 ECE (2020).
76 Ministry of Ecology, Environmental Protection and Climate Change (2023).
77 Ministry of Ecology, Environmental Protection and Climate Change (2025f).
78 World Bank (2025c).

needs, electricity and heat generation for sale to the power grid, as an alternative energy source for greenhouses, and, after purification, will be fed into the national gas supply system.[79]

Tashkent city is served by the only modern sanitary landfill currently operating in Uzbekistan, located in Akhangaran district. It comprises approximately 30 ha of land located south of the Akhangaran dumpsite, which had exhausted its space and was closed in 2023. Financed under an Asian Development Bank (ADB) project started in 2014, the new modern sanitary landfill was designed and constructed in accordance with international environmental standards and started operating in 2024. The landfill is the only one currently in the country that includes provisions for landfill gas monitoring and wastewater treatment. However, though it was designed to serve the city until at least 2060, it risks being filled up within the next 10 years given increasing rates of disposal. Elsewhere, MSW is disposed of in more than 40 dumpsites previously operated by Toza Hudud enterprises but now under the jurisdiction of the Agency for Waste Management and Circular Economy Development. In 2024, the Agency also took over more than 30 other dumpsites that are either being closed or rehabilitated. More than 70 per cent of these sites are of small size (1–2 ha) and are overwhelmed; as such, they are being prioritized for closure.

In 2024 alone, a total 29 MSW dumpsites across Karakalpakstan, Andijan, Bukhara, Kashkadarya, Namangan, Samarkand, Fergana, Khorezm and Tashkent regions were closed and remediated, amounting to an approximate total area of 81.2 ha.[80] Also, within the framework of the Yashil Makon Initiative, green belts have been created at approximately 130 waste dumpsites, including recently closed and remediated sites, and sites that are still operating following improvements.[81]

Improvements in operating dumpsites include the progressive installation of weighbridges, GPS and video surveillance cameras, completed already in 60 sites across the country. Once completed at all sites, these improvements are expected to deliver geo-located waste collection data at national level by 2027. Also, the Agency for Waste Management and Circular Economy Development is progressively implementing a new system for collecting more reliable and accurate waste data, starting with waste collection operators and the deployment of a new digital information system for MSW management and electronic billing of waste collection services that was launched in November 2024. The Toza Makon system is integrated with the "One ID" unified information system for user identification within the "Digital Government" infrastructure, as well as with the database of the State Personalization Agency under the Ministry of Justice, the databases of the Ministry of Internal Affairs and the Cadastral Agency. This system enables the automatic generation of cadastral data for each residence where waste service subscribers live and the retrieval of information about individuals registered at the address. Based on this information, waste generation data are estimated together with water and electricity consumption data, and waste collection service fees are then calculated accordingly. As of 2025, the average waste collection fee per household in Uzbekistan is approximately 5,000 to 8,400 soums per month, depending on the region. The Toza Makon system has been integrated with all electronic payment systems as well as the Central Bank's "Munis" platform, so that citizens can make payments for waste collection services at any time. Data on 3,400 waste collection points have been entered into the system, which is also available to all legal entities. As a result, charges are applied only for services provided by GPS-equipped vehicles.[82]

These actions are part of a comprehensive governmental initiative, financed by IFIs and other resources, aimed at: (i) improving the country's MSW collection and disposal systems, including through the rehabilitation of approximately 100 dumpsites to upgrade them to controlled dumpsites; (ii) closing over half of the existing 228 registered dumpsites as well as all unregistered open dumpsites; and (iii) progressively developing new MSW sanitary landfills nationwide. According to the Agency for Waste Management and Circular Economy Development, as of August 2025, out of the total 228 waste dumpsites, which include 199 MSW dumpsites, 15 hazardous chemicals waste dumpsites and 14 construction waste dumpsites, 54 are currently operational while 74 have now been closed. 41 MSW dumpsites have been upgraded and 29 have been remediated, returning 81 ha of land to nature These sites are managed by the Directorate for Waste Landfill Management under the Agency for Waste Management and Circular Economy Development.

In parallel, the Government started to explore the deployment of waste-to-energy systems to reduce the amount of MSW disposed of in landfills and dumpsites. In March 2024 the Government launched a series of large-scale investment projects to generate electricity by incinerating municipal solid waste.[83] These projects are going to be implemented in Tashkent city and Tashkent, Andijan, Namangan, Fergana, Samarkand and Kashkadarya regions between 2025 and 2027. The construction of the first of these MSW incineration plants was launched in the Khodjaabad district of Andijan region

79 Ministry of Ecology, Environmental Protection and Climate Change (2025n).
80 Ministry of Ecology, Environmental Protection and Climate Change (2025h).
81 Ministry of Ecology, Environmental Protection and Climate Change (2025d).
82 Ministry of Ecology, Environmental Protection and Climate Change (2025n).
83 Invest Uzbekistan (2025).

on 7 July 2025.[84] This MSW incineration plant is expected to process 1,500 tons of waste daily, and the annual electricity production is expected to be 240 million kWh. Located on a 17-hectare plot in the Khidirsha *mahalla*[85] of Khodjaabad district, the plant is expected to be built between 2025 and 2027. Additionally, construction of another MSW incineration plant has also begun in the Navruz *mahalla* of the Khushrav residential area in Samarkand, on a 15-hectare site. Similarly, this plant will process 1,500 tons of waste per day and generate 240 million kWh of electricity annually and is expected to create between 150 and 200 new jobs once finalized in 2027. For both these plants, the electricity produced will be purchased by Uzenergosotish JSC under a guaranteed 30-year buyback arrangement.[86]

Construction is also underway in the other regions, with respective investment, waste supply and power purchase agreements having been signed for each of six new waste-to-energy plants planned. Located in the proximity of existing landfill sites and expected to be operational in 2027, these six waste-to-energy plants will have a total combined processing capacity of over 10,000 tons of MSW per day (3.6 million tons of MSW/year) and will produce 1.6 billion kWh of electricity annually. Negotiations are underway with private sector partners for the development of similar waste-to-energy projects in five other regions: Jizzakh, Syrdarya, Surkhandarya, Bukhara and Navoi.[87]

These activities are being carried out within the framework of the implementation of the 2025 Resolution of the President No. 116.

Industrial waste

According to the 2023 National State of Environment Report,[88] annual industrial waste generation was estimated at approximately 115 million tons. More recent estimates indicate that the total of industrial waste generated in 2023 was higher (over 149 million tons) and in 2024 even higher (over 160 million tons). Industrial waste generation shows an upward annual trend (see table 1.4).

Table 1.4: Industrial waste generation, 2018–2024, million tons

2018	2019	2020	2021	2022	2023	2024
128.690	108.606	125.647	125.275	136.240	149.600	160.300

Source: Ministry of Ecology, Environmental Protection and Climate Change (2024).

Primarily generated by industrial and mining activities located in Navoi, Tashkent and Fergana regions, and in the current absence of industrial waste treatment facilities, industrial waste is stored on-site at the facilities where it was generated. In 2023 the amount of waste accumulated at 20 industrial sites with a total area of 286.3 ha was estimated to be 41 million tons. The industrial waste stored at 21 sludge storage sites with an area of 985.1 ha, was estimated to be 257 million tons, and at 15 tailing ponds with an area of 7,751 ha to be 3 billion tons.[89] These industrial waste disposal sites are owned by the waste-generating entities themselves. However, they operate under the supervision and control of the Ministry of Ecology, Environmental Protection and Climate Change, specifically through the Directorate for Waste Landfill Management under the Agency for Waste Management and Circular Economy Development.

Industrial waste is classified according to hazard classes I–IV, based on hazard or toxicity of substances:

- Class I – extremely hazardous;
- Class II – highly hazardous;
- Class III – moderately hazardous;
- Class IV – low hazardous.

These hazard classes are assigned based on chemical laboratory tests, LD_{50} (Lethal Dose for 50 per cent of the test population) toxicity indicators and hygiene standards. Following recommendations from the third EPR of Uzbekistan to introduce a waste classification system based on chemical-physical characteristics and abandon the system of four hazard

84 Ministry of Ecology, Environmental Protection and Climate Change (2025i).

85 A *mahalla* is a community-based institution made up of residents within a defined neighbourhood. It plays an important role in organizing social life, supporting families, preserving traditions and handling certain local administrative matters.

86 Ministry of Ecology, Environmental Protection and Climate Change (2025o).

87 Ministry of Ecology, Environmental Protection and Climate Change (2025n).

88 Ministry of Ecology, Environmental Protection and Climate Change (2023).

89 Ibid.

classes, provisions to transition to a new system based on chemical and physical characteristics were included in the draft law on waste management, which is however in development following consultations, as of August 2025. In 2025, the Ministry of Ecology, Natural Resources and Climate Change developed a project for the classification of waste of hazard classes I –V.

According to the National SDGs Data Portal, data for 2018–2023 for the national indicator 12.4.2.2 (share of neutralized production waste of hazard classes 1–3 in total volume of generated production waste of hazard classes 1–3) of the SDG target 12.4 (By 2030, achieve the environmentally sound use of chemicals and all waste throughout their life cycle in accordance with agreed international principles, and reduce their release into the air, water and soil by half to minimize their negative impact on human health and the environment) show an upward trend from 0.12 per cent in 2018 to 2.7 per cent in 2023 with a peak at 7.6 per cent in 2022.

Energy sector waste

According to the 2023 National State of Environment Report,[90] annual generation of ash and slag from two coal-fired thermal power plants in Uzbekistan – Angren and Novoangren – is estimated to be 600,000–700,000 tons per year. The ash and slag are stored in four dumpsites with a total volume of 15 million tons. Some of these energy sector wastes are used in the production of cement and building materials. The Agency for Waste Management and Circular Economy Development is undertaking a process to collect updated data and conducting detailed assessments to gain a clearer understanding of the current situation regarding industrial waste management, including ash and slag from the energy sector.

There are no data on the use of polychlorinated biphenyls (PCBs) and PCB-containing equipment in the energy sector and other industrial sectors. Nor there are currently any plans for the elimination or safe disposal of PCBs.

Medical waste

According to the 2023 National State of Environment Report,[91] an average of 42,411 tons of medical waste is generated annually in Uzbekistan at 7,950 medical facilities, of which 1,668 tons is hazardous medical waste.

Until recently medical waste was either destroyed by autoclaving at the sites where it was generated or sometimes disposed of along with MSW. The Agency for Waste Management and Circular Economy Development has been working with private companies for the disposal and treatment of medical waste and is currently moving toward centralized medical waste incineration options. As of August 2025, two centralized medical waste incinerators are operating in the Tashkent region and generating thermal energy, and the Agency has plans to build more across the country: two in Samarkand region and one in each of the other regions, enabling the processing of up to 90,000 tons of medical waste per year and the generation of 300 GWh of thermal energy annually.[92]

Construction waste

According to the 2023 National State of Environment Report,[93] 1.3 million tons of construction waste were generated in 2021–2022, of which approximately 2 per cent (26,415 tons) were recycled. The remaining volume of 1.27 million tons was disposed in construction waste disposal sites or MSW dumpsites. According to the Agency on Waste Management and Circular Economy Development, an estimated 1.9 million tons of construction waste was generated in 2024, pointing to an upward trend in construction waste generated.

In 2023 there were six construction waste disposal sites with a total area of 80.8 ha. As of May 2025, this number has increased to 14 construction waste landfills with a total area of 120 ha.

Specific waste streams

According to the International Telecommunication Union estimates, in 2022 Uzbekistan generated 128 million kg of e-waste, with a per capita generation of 3.7 kg. The 2024 National E-Waste Monitor of Uzbekistan of United Nations Institute for Training and Research (UNITAR) states that official information on e-waste collection and recycling in the country is not

90 Ibid.
91 Ibid.
92 Ministry of Ecology, Environmental Protection and Climate Change (2025n).
93 Ministry of Ecology, Environmental Protection and Climate Change (2023).

available, nor there are official reporting or statistics covering e-waste.[94] According to the same report, e-waste generation projections point to an annual increase of approximately 5 kilotons/year.

According to the 2023 National State of Environment Report,[95] until recently used batteries were usually collected and disposed of together with MSW. To address this issue, special containers were deployed at waste collection points in 2020 to promote separation at source and collection for further recycling. Nonetheless, in 2023 recycling systems were not yet in place.

As of August 2025, no comprehensive batteries recycling system is in place at national level. However, the following initiatives have been carried out recently aimed at fostering batteries recycling. Since 2024, the Batareykalar.uz project, implemented by a non-governmental organization (NGO) in partnership with the Ministry of Ecology, Environmental Protection and Climate Change, the Agency for Waste Management and Circular Economy Development, the Korzinka supermarket chain and Murad Buildings, installed 100 battery collection containers and 28 collection points across the country. In Tashkent, there are 72 collection containers, half of which are in Korzinka supermarkets, while the others are situated in government institutions and educational facilities.[96]

Plastic waste constitutes a growing share of the total waste stream and was recently estimated to represent around 10.3 per cent of total MSW, or roughly 1 million tons annually.[97] In 2022, plastic waste volumes reached 249,241 tons, reflecting a 147 per cent increase since 2013, according to an earlier source.[98] Packaging accounts for the largest share, followed by waste from transport and construction. Polymer waste, including PET containers, constitutes a significant portion, with 1.6 million tons of polymer waste, including 0.44 million tons of PET, disposed of in landfills.[99]

A new plastic waste recycling system is expected to be implemented starting in 2026 under which manufacturers and importers of plastic products, as well as recycling companies, will be responsible for the collection, sorting and recycling of plastic waste.[100] Also, the Government is planning to introduce an environmental fee for six categories of waste: batteries and accumulators, used technical and food oils, tyres, vehicles, packaging and glass. A special fund will be established under the Agency for Waste Management and Circular Economy Development that will support recycling companies through "green subsidies" from the fund.[101]

1.6 CHEMICALS MANAGEMENT

Trends in chemicals

Uzbekistan's chemical industry is undergoing rapid transformation, driven by Government-backed investments aimed at increasing domestic value-added production. While this growth supports economic diversification, it also introduces environmental and health risks. The expansion of facilities producing fertilizers, synthetic polymers and industrial solvents, such as PVC, melamine, formaldehyde resins and catalysts, raises concerns over hazardous emissions, improper storage of toxic intermediates and insufficient capacity for safe handling and disposal. The increased production of chemicals used in agriculture and heavy industry, particularly without fully developed environmental safeguards, presents a significant challenge in ensuring compliance with international best practices in chemical safety and pollution control.

Simultaneously, legacy contamination from obsolete pesticide stockpiles and chemical waste continues to impact soil and groundwater quality, especially around former Soviet-era airfields and rural storage sites. Although remediation efforts are underway, including multilateral projects targeting over 450 pesticide burial sites, the lack of an integrated chemicals and waste inventory system hinders effective monitoring and enforcement. Emerging issues also include growing concerns over illegal or unregulated use of imported[102] agrochemicals, gaps in national risk assessment frameworks and limited public access to information on chemical hazards, all of which underscore the need to modernize institutional coordination and chemical safety governance in line with international standards.

94 UNITAR (2024).
95 Ministry of Ecology, Environmental Protection and Climate Change (2023).
96 Ministry of Ecology, Environmental Protection and Climate Change (2025k).
97 Ministry of Ecology, Environmental Protection and Climate Change (2025s).
98 Ministry of Ecology, Environmental Protection and Climate Change (2023).
99 Ibid.
100 Ministry of Ecology, Environmental Protection and Climate Change (2025a).
101 Ministry of Ecology, Environmental Protection and Climate Change (2025n).
102 Zoi Environment Network (2013).

Photo 1.10: Distant view of Angren's open pit coal mine

Photo credit: Distant view of Angren's open pit coal mine with access ramp in Uzbekistan, by MotionStockVideo/stock.adobe.com

Many industrial sites still operate with ageing equipment and limited containment systems, contributing to chronic soil and groundwater pollution, especially near former pesticide storage and burial sites. Although initiatives supported by international partners, such as the European Union and FAO, have enabled the remediation of select high-risk locations, a comprehensive national strategy for legacy cleanup is still needed.

At the same time, the country's shift toward value-added chemical production, underpinned by the national chemical industry development programme, is not accompanied by the modernization of safety standards, waste management practices and lifecycle tracking mechanisms. The absence of an integrated chemicals information system, combined with limited cross-sectoral coordination, constrains Uzbekistan's capacity to ensure environmentally sound management throughout the chemical lifecycle and to prevent further accumulation of risks for human health and ecosystems. The attention is growing regarding chemical safety in consumer products, including cosmetics, plastics and electronics. Use of industrial chemicals and pesticides is increasing, particularly in agriculture and textiles.[103] Uzbekistan is implementing Integrated Pest Management approaches with support from FAO and UNEP.[104] There are capacity constraints in chemical safety monitoring, storage and labelling, particularly for obsolete pesticides.

Production and use of chemicals

Uzbekistan has traditionally relied on raw material exports for revenue. However, the Government is now shifting toward building domestic processing capacity to produce higher value-added goods, with the chemical industry playing a central role (2019 Resolution of the President No. 4124). A national development programme for the chemical sector outlines US$12.1 billion in investments from 2019 to 2030, including foreign direct investments and institutional loans (2018 Resolution of the President No. 3983). These funds aim to establish or expand production of a wide range of chemical and polymer products, from fertilizers and synthetic rubbers to resins, catalysts and chemical additives for key industries like metallurgy, oil and gas and textiles.[105]

[103] Natural Resources Institute (2024); Karim (n.d.).

[104] FAO (n.d.).

[105] Ismailov (2023a).

To modernize the sector and attract foreign investment, the Government partnered with the International Finance Corporation (IFC) in 2021. One major reform effort includes the privatization of key state-owned enterprises, such as JSC Fargonaazot, a major nitrogen fertilizer and chemical producer, with Deloitte serving as the lead advisor. The Dehkanabad Potash Plant is also slated for privatization in 2022–2023. These steps are part of a broader strategy to modernize Uzbekistan's chemical industry, improve efficiency and integrate into global value chains.

Uzbekistan was the 80th largest importer of organic chemicals globally in 2022, with US$253 million in imports (see table 1.5).[106] Imports primarily come from China (~US$105 million), the Russian Federation (~US$50.5 million), Türkiye, the Islamic Republic of Iran and others. Water treatment chemicals have generated US$212.7 million in revenue in 2024, with a projected growth to US$293.4 million by 2030 (Compound Annual Growth Rate 5.5 per cent). In 2023, Uzbekistan imported potassic fertilizers (HS 3104) for about US$1.3 million, mainly from Belgium, Germany, Italy, the Russian Federation and Türkiye.

Table 1.5: Uzbekistan's chemical imports, 2019–2023

Year	Total chemical imports (billion US$)	Miscellaneous chemical products (million US$)	Organic chemicals (million US$)	Mineral fertilizers (HS 3104) (million US$)
2019	2.69			
2020	2.88			
2021	3.65			
2022	3.90 (est.)	389.7	253	1.11
2023	3.68	487.2		

Source: Trading Economics (n.d.). Export Genius (n.d.).

Projected growth and diversification

The chemicals sector is moving toward high-value, diversified production, supported by infrastructure investment, import substitution and export growth. Production capacity is expanding, especially in fertilizer and polymer lines, while digitalization, sustainability and advanced solutions for water treatment emerge as key strategic priorities.[107] Over the next decade, the sector is poised to evolve from legacy commodity outputs into a modern, technologically advanced and environmentally responsible industry. The chemicals market in Uzbekistan has consistently expanded since 2020, with total net market size over US$5 billion annually (see table 1.6). Sub-sector trade figures highlight increasing reliance on organic chemicals, mineral fertilizers and specialized applications, including water-treatment solutions. The sharp rise in both production and imports reflects ongoing industrial modernization and growing domestic demand.

A mid-2020s forecast and new private-sector projects indicate a significant ramp-up in domestic chemical production. The Karakulkimiyo nitrogen fertilizer complex (US$600 million) is expected to produce approximately 495 kt ammonia and approximately 594 kt urea annually once operational in 2026.[108] Broader investment in chemical technology parks (Chirchiq, Navoi, Fergana and Karakalpakstan) includes US$ 9.9 billion under the 2022–2027 Target Programme, encompassing 44 projects to address methanol, PET, PVC, soda ash and other key product lines.[109]

106 Observatory of Economic Complexity (n.d.).
107 Ismailov (2023a); Rashidov (2023).
108 Ismailov (2023a).
109 Rashidov (2023).

Table 1.6: Chemical market size, 2019–2022, US$ million

	2019	2020	2021	2022
Local production	1 951	2 082	2 599	3 000
Exports	837	821	1 130	1 200
Imports	2 688	2 881	3 648	3 900
Market size*	3 802	4 142	5 116	5 700
Exchange rates**	8 839	10 056	10 610	11 100

Source: National Statistics Committee, 2025.
Notes: Data for 2022 were estimated by Post using company project implementation progress reports.
*Total market size = (total local production + imports) - exports.
**Exchange rates = Uzbek soums per US$1

By 2023, Uzbekistan had developed 30 new chemical products (from a baseline of ~170 in 2016), with 2022 production valued at US$1.2 billion.[110] Growth driven by technology park investment and import substitution strategies is expected to continue, adding further product lines and export capacity.

Technology park-driven investments are incorporating sustainable models such as bio-fertilizers, combustion catalysts and green plastics. Sector modernization aligns with global decarbonization trends, including potential adoption of renewable-powered electrolysis techniques.[111]

High-level directives (e.g., 2021 Resolution of the President No. 4992) have mandated digitalization, energy efficiency and green technologies at chemical enterprises.[112] Simultaneously, oil and gas downstream operations are modernizing with gas-to-liquids (US$2.62 billion) and refinery upgrades, creating synergies across petrochemical industry value chains, enabling greater integration of feedstocks and fostering the shift toward higher-value chemicals production.

Chemicals emergency preparedness, response and follow-up

Uzbekistan has substantially strengthened its framework for chemical emergency preparedness, response and follow-up through targeted governmental decisions, legislative reforms and institutional enhancement. In 2017, the Government mandated the radical improvement of the early warning and emergency response systems across sectors, including for technogenic and chemical risks (2017 Decree of the President No. 5066). Building on that foundation, the Ministry of Emergency Situations was assigned a central role in coordinating the safe storage, transport, use and disposal of high-risk chemicals, including establishing specialized radiation-chemical protection units and a centralized database for tracking such substances across the country (2023 Resolution of the President No. 357 amended in 2024 by Decree of the President No. 79).

Since August 2025, the Government has enhanced oversight by requiring mandatory licensing for activities related to explosive and toxic substances, tightening inter-agency controls including environmental, health and transport authorities, and mandating real-time data sharing from the Customs Committee to the Ministry of Emergency Situations (2025 Resolution of the Cabinet of Ministers No. 397).

Since 2021, the Government has enhanced the safe disposal and storage of toxic chemicals, regular environmental monitoring by public health authorities, and maintenance of specialized facility infrastructure under the State's Ecology and Waste Management Fund (2021 Resolution of the Cabinet of Ministers No. 647).[113]

However, limited investment in infrastructure, early warning systems and joint emergency response protocols hinders timely and effective responses to chemical incidents in line with the Sendai Framework for Disaster Risk Reduction, and SDG target 3.9 on reducing deaths and illnesses from hazardous chemicals and pollution.[114]

110 Daryo.uz (2023).
111 Rashidov (2023).
112 Plastex.uz (2025).
113 One.uz (2025).
114 World Health Organization (The Global Health Observatory – SDG Target 3.9 Mortality from environmental pollution).

1.7 LEGAL, POLICY AND INSTITUTIONAL FRAMEWORK

Photo 1.11: Eurasian eagle-owl *(Bubo bubo)* in its natural habitat

Photo credit: Natalya Marmazinskaya

Legal framework

Under the principle of sustainable development, the 2003 Constitution mandates the State to implement measures aimed at improving, restoring and safeguarding the environment while maintaining ecological balance. It also requires the State to protect and rehabilitate the ecological system and promote socioeconomic development in the Aral Sea region. Furthermore, the Constitution declares that land, minerals, water, flora, fauna and other natural resources constitute national wealth and must be used rationally and protected by the State.

Environmental impact assessment

The 2025 Law on Ecological Expertise, Environmental Impact Assessment and Strategic Environmental Assessment entered into force on 25 August 2025. It is applicable to all components of the environment, with particular importance for water, land and soil protection in procedures for certain permits, plans or economic activities listed in three categories according to the Law. Successful implementation requires that the assessments orient themselves on the standards in the environmental legislation applicable to the project or the plan. Experience shared from other countries is showing that intensive information dissemination about the new rules and support for all actors (investors, planners, environmental experts and administration) with guidelines, best practices and training is beneficial. An example is the model project "Support for the Realization of a Pilot Strategic Environmental Assessment" in cooperation with the Global Green Growth Institute (GGGI) and the French Development Agency.[115]

Air

Uzbekistan's legal framework for air quality is anchored in the 1996 Law No. 353-I on the Protection of Atmospheric Air (as amended by 2019 Law No. 529). The Law establishes the principles, responsibilities and enforcement mechanisms for preserving ambient air. It requires that stationary and mobile sources comply with emission norms and provides state authorities with the power to suspend polluting activities. It mandates enterprises to adopt cleaner technologies, monitor emissions and compensate for environmental damage, while also granting citizens access to air quality information and a role in environmental oversight.

[115] GGGI (2025).

Complementary legislation, such as the 1992 Law No. 754-XII on Nature Conservation and the 2013 Law No. 363 on Environmental Control reinforce these provisions, while legal acts of the President and the Cabinet of Ministers ensure that selected air quality measures carry legal weight.

Water

The 1993 Law No. 837-XII on Water and Water Use entrusts the State, through authorized agencies, with the management and oversight of water use and protection. Specific state bodies are designated to regulate different types of water bodies: surface water, groundwater and thermal or mineral water. The Law establishes prohibitions and restrictions to prevent water pollution and outlines a range of regulatory instruments, including licensing requirements, fees, compensation obligations, administrative and penal sanctions and civil liability. These instruments are enforced by control institutions spread across several ministries. Since 2018, oversight mechanisms have been expanded to include key ministries.

The 2023 Decree of the President No. 81 on measures to transform the sphere of ecology and environmental protection and the organization of the activities of the authorized state body, highlights serious shortcomings caused by past negligence among regional leaders and environmental and law enforcement agencies. In some cases, this has led to irreparable harm to nature and society.

Between 2018 and 2025, Uzbekistan enacted a series of legislative measures to enhance the management and protection of surface and groundwater. These laws are typically preceded by detailed analyses of existing challenges, followed by clearly defined objectives, priority areas, specific measures, assigned responsibilities and monitoring frameworks. Many are accompanied by roadmaps and summary reports. The main legislation includes:

- 2019 Decree of the President No. 5863 on approval of the Concept of environmental protection until 2030;
- 2022 Law No. 745 on Hydrometeorological Activities;
- 2022 Law No. 784 on Drinking Water Supply and Wastewater Disposal;
- 2024 Decree of the President No. 74 on the establishment of priority areas for the introduction and development of a modern management system in water management;
- 2025 Law No. 1036 on Ecological Expertise, Environmental Impact Assessment and Strategic Environmental Assessment;
- 2025 Law No. 1062 on Amendments and Additions to Certain Legislative Acts.

The 2024 Resolution of the Cabinet of Ministers No. 783 on measures to reduce the harmful impact of industrial enterprises on the environment, requires highly polluting enterprises to install or upgrade wastewater treatment facilities. It also introduces financial incentives to encourage the adoption of technologies that reduce industrial pollutants.

The 2025 Water Code (Law No. 1076), effective from 31 October 2025, aims to consolidate and advance legal norms governing water relations. It reaffirms water as a national asset and establishes principles for its rational and targeted use, alongside enhanced protective measures by the State.[116]

As part of the project "Strengthening Action in Uzbekistan on Water and Sanitation and Protection of Water Resources from Accidental Pollution in the Face of Climate Change",[117] the Ministry of Ecology, Environmental Protection and Climate Change, in collaboration with national and international partners, is developing updated regulations for the classification and protection of surface water bodies. A report covering the period from October 2024 to February 2025 outlines key recommendations for this initiative.

Soil

The 2024 Law No. 903 on Soil Protection and Increasing its Fertility replaced the fragmented regulations previously covered by the 1998 Land Code.[118] The Law outlines comprehensive measures for soil protection and fertility enhancement, including requirements for the rational use of soil in urban planning and other non-agricultural activities. The Law also addresses financing mechanisms and state support. Responsibilities are clearly distributed among the Cabinet of Ministers, the Ministry of Agriculture, the Ministry of Water Resources and the Ministry of Ecology, Environmental Protection and Climate Change. Soil monitoring is entrusted to the Institute of Soil Science and Agrochemical Research. Overall, the

116 Zamin (2025).
117 ECE (n.d.); ECE (2025).
118 Kholdorov (2023).

law provides a robust framework for the protection, restoration and sustainable use of all soil types, incorporating both preventive and remedial instruments.

In agriculture, the focus is on improving soil fertility, reducing pollution impacts and combating land degradation. The 2022 Resolution of the President No. 277 on Measures to create an effective system to combat land degradation, is focused on promoting sustainable land management, preventing desertification and drought, preserving biodiversity and restoring degraded lands. Subsequently, in 2024, the Resolution of the Cabinet of Ministers No. 914 on approval of the Regulation on the procedure for the rational use of agricultural land, emphasized soil preservation and fertility improvement. The 2025 Resolution of the Cabinet of Ministers No. 97 on additional measures to increase the productivity of agricultural land, introduced subsidies for landowners adopting practices that enhance agricultural productivity.

The 2024 Law No. 987 on Subsoil updated the legal framework for subsoil use. The scope of the law excludes matters related to land, water (except industrial groundwater use), flora, fauna and atmospheric air arising from subsoil exploitation. For certain permits, the law mandates ecological expertise in accordance with national standards. Key principles include:

- Ensuring environmental safety by using eco-friendly methods;
- Preventing subsoil pollution and minimizing environmental harm;
- Defining the powers of the Ministry of Ecology, Environmental Protection and Climate Change in overseeing subsoil use;
- Protecting subsoil areas of special natural, scientific, or cultural significance;
- Requiring all subsoil activities to comply with environmental protection standards.

The 2023 Decree of the President No. 81 on measures to transform the area of ecology and environmental protection and the organization of the activities of the authorized state body, provides a detailed list of measures to implement the Yashil Makon Initiative. The Initiative is complemented by other measures on forest and protected area management. The Initiative is supported by various projects, on matters such as master planning and innovative financial solutions, with UNDP, ECE and United Nations High Commissioner for Refugees (UNHCR).[119]

With the updated legislation on soil and subsoil, Uzbekistan has established a comprehensive legal foundation for environmental stewardship, if implemented successfully. These laws are expected to significantly enhance soil protection and combat desertification. The 2025 Law on Ecological Expertise, Environmental Impact Assessment and Strategic Environmental Assessment is expected to further ensure that decisions are grounded in rigorous environmental standards. Active engagement by the responsible ministries is essential during the initial implementation phase, as stakeholders navigate new regulatory challenges and opportunities.

Biodiversity

Uzbekistan has adopted and is implementing a variety of legal measures to reduce the impact of environmental pollution on biodiversity by expanding protected areas, promoting safer agricultural practices, regulating pesticide use and improving wastewater treatment.

The 2004 Law No. 710-II on Protected Natural Areas provides the legislative framework for the designation and management of protected areas.

The 2022 Law No. 766 on Organic Products establishes the legal foundation for the production and certification of organic agricultural production.

The 2023 Law No. 877 on Plant Protection sets the legal foundation for the regulation and registration of plant protection measures, prioritizing biological methods to minimize chemical pesticide use. It declares health and environmental safety as priorities.

The 2023 Decree of the President No. 81, on measures to transform the sphere of ecology and environmental protection and organize the activities of the authorized state body, strengthens requirements on water treatment facilities of the most polluting industries.

In accordance with the 2024 Decree of the President No. 85 on further measures to accelerate market reforms and bring the national legislation in line with the agreements of the World Trade Organization, the word "export" has been excluded and changed to "Promote the use of biological protection methods in the production of agricultural products".

[119] UNDP (2023e).

The 2025 Resolution of the President No. 136, on additional measures to increase the export potential of agricultural products and develop the processing chain, provides cost reimbursement for organic certification from the Trade Promotion Fund for agricultural producers cultivating certified organic products.

The 2024 Resolution of the Cabinet of Ministers No. 481, on the approval of certain regulatory legal acts related to the issuance of licences and licensing documents in the field of plant protection, strengthens legal requirements for issuing permits to import pesticides and mineral fertilizers, ensuring safer agricultural practices.

The 2022 Resolution of the Cabinet of Ministers No. 460, on measures to promote the use of biological protection methods in the cultivation of export-oriented agricultural products, establishes state support for promoting biological protection methods in the cultivation of export-oriented agricultural products.

The 2024 Resolution of the Cabinet of Ministers No. 783, on measures to reduce the harmful impact of industrial enterprises on the environment, requires the most polluting companies to install or update wastewater treatment facilities, introducing financial incentives for adopting facilities to reduce industrial pollutants.

The 2025 Resolution of the Cabinet of Ministers No. 361, on measures to improve the surface water protection system, revises permissibility standards for wastewater discharge from municipal wastewater treatment plants and permissible pollutant concentrations in surface water bodies.

Waste

The 2002 Law No. 362-II on Waste describes the responsibilities of authorities on the State, regional and local levels and the rights and duties of companies and citizens in the sphere of waste management. Further, it introduces waste norms; environmental certification of waste; the requirement to keep national records of imported, exported and generated waste; a national list of sites where waste is treated or disposed of; and waste passports. The Law defines compensation payments for disposal of waste, which are like a landfill tax.[120] A draft law on waste management has been developed and submitted to Parliament for consultations in 2024 and, as of August 2025, is still being refined. The draft law includes basic concepts not captured in the Law on Waste, such as differentiation between solid and liquid household waste. It specifically regulates medical waste which is absent from the Law on Waste. It also includes changes in the classification, import, transboundary movement and processing of waste. Furthermore, it includes additional provisions related to maintaining a state cadastre of waste disposal sites.

The 2014 Resolution of the Cabinet of Ministers No. 295 on approval of the Regulation on the procedure for implementing state accounting and control in the field of waste management requires waste generators to keep records of toxic and non-toxic waste and report this information to the now National Statistics Committee.

The 2019 Decree of the State Committee for Ecology and Environmental Protection No. 3197 on approval of the Instruction on the design and operation of landfills for solid waste determines the national standards currently in use for siting, construction, operation, closure and reclamation of municipal solid waste disposal sites.

The 2023 Decree of the President No. 158 on Strategy Uzbekistan – 2030 which includes strategic environmental reforms in several domains and the improvement of the quality of services for the collection and removal of municipal solid waste. The Decree foresees increasing the coverage of solid waste collection and removal services to 95 per cent of the territory, increasing the level of municipal waste recycling to 6 per cent, increasing the share of energy production through waste incineration to 35 per cent, reducing municipal solid waste landfills by at least 50 per cent, and implementation of eco-industrial zones aimed at municipal solid waste recycling and waste-to-energy production.

The 2023 Decree of the President No. 81, on measures to transform the sphere of ecology and environmental protection and the organization of the activities of the authorized state body, provides for transition to separate collection and disposal of municipal solid waste depending on its type. It is planned to introduce circular economy practices: newly generated waste is expected to be recycled or incinerated to the maximum level without sending it to landfills. It is planned to gradually achieve full recycling and incineration of waste.[121]

The 2024 Decree of the President No. 5 on measures to improve the waste management system and reduce its negative impact on the environmental situation aims to increase the level of waste recycling; prevent the accumulation of waste in landfills and minimize the negative impact of waste disposal on the environment; achieve the "zero waste" principle; and

120 ECE (2020).

121 Ministry of Ecology, Environmental Protection and Climate Change (2023).

implement a series of measures to promote the development of a circular economy. Among other measures, the Decree transferred the management of several landfills previously managed by Toza Hudud enterprises to new management modalities by business entities under public-private partnerships. It also introduced fees for waste removal (including MSW, municipal liquid waste, industrial waste, construction waste, medical waste and hazardous chemical waste) and the licensing of waste transporters, which included the requirement for waste removal and transport vehicles to have GPS and cameras to enable monitoring of waste services.

The 2024 Decree of the President No. 149, on measures to ensure transparency and further improve the management system in the areas of ecology and environmental protection, established the Agency for Waste Management and Circular Economy Development under the Ministry of Ecology, Environmental Protection and Climate Change. The Agency, which replaced the Republican Centre for Organizing Sanitary Cleaning Works, integrates the Directorate for Waste Landfill Management.

The 2024 Resolution of the President No. 263, on measures to implement the investment project "Production of alternative thermal energy from medical waste", aims to reduce the negative impact of medical waste on the environment and public health, by promoting the implementation of modern medical waste treatment solutions and technologies. This Resolution approved an investment project that will, in a first stage (2024–2025), enable the thermal treatment of 6,000 tons/year of medical waste generated in medical institutions of all types (including pharmaceutical, biological and veterinary waste) in Tashkent and in Samarkand and Bukhara regions, generating 20 GWh/year. In a second stage (2026–2030) the project will enable the thermal treatment of 90,000 tons/year of medical waste generated in other regions of the country, generating 300 GWh/year.

The 2025 Decree of the President No. 56, on measures for further improvement and comprehensive systematization of the waste recycling sector, aims to increase waste recycling and incineration including through the creation of eco-industrial zones in the territories of waste landfills aimed at promoting material recycling and waste-to-energy generation. The overall objectives of the Decree are to improve the standards of existing MSW landfills, reduce the overall number of MSW landfills by 50 per cent, maximize waste recycling or incineration instead of directing it to landfills, and introduce circular economy practices.

The legal framework for launching large-scale investment projects to generate electricity by incinerating municipal solid waste was established by the 2025 Resolutions of the President No. 116 on measures for the implementation of the investment project "Electricity generation through incineration of solid household waste in the city of Tashkent, Tashkent region, and Andijan region", No. 117 on measures to implement the investment project "Electricity generation through incineration of solid household waste in Namangan and Fergana regions", and No. 118 on Measures for the implementation of the Investment project "Production of electrical energy by burning solid municipal waste in the Kashkadarya and Samarkand regions".

Chemicals

Chemical regulations are primarily focused on protecting human health and the environment from hazardous chemicals, including pesticides and persistent organic pollutants (POPs). Uzbekistan has strengthened its legal and institutional framework to improve the sound management of chemicals in recent years. National legal instruments regulate chemicals through laws on environmental protection, public health, labour safety and industrial activity.

The 1992 Law No. 754-XII on Nature Conservation serves as the fundamental legal act for environmental governance, including provisions for pollution prevention and control, hazardous substances and public health.

The 2002 Law No. 362-II on Waste establishes regulatory procedures for the management of hazardous and industrial waste, including chemical waste.

The 2016 Customs Code and 2021 Law No. 701 on Licensing, Permitting and Notification Procedures establishes licensing procedures for the import and export of toxic substances and chemicals, ensuring alignment with international obligations.

The 2015 Law No. 393 on the Sanitary and Epidemiological Wellbeing of the Population regulates health-related aspects of chemical exposure and mandates sanitary oversight of hazardous chemicals in consumer products and workplaces.

The 2023 Law No. 877 on Plant Protection enhances the regulation and handling of chemicals used for the protection of plants, including pesticides. The Law mandates the Ministry of Ecology, Environmental Protection and Climate Change to: carry out an assessment of the environmental impact of plant protection products submitted for registration; conduct state ecological expertise of chemicals and plant protection products; participate in the process of burying unusable chemicals and plant protection products and containers from them; carry out state control over compliance with environmental

protection requirements during the production, transportation, storage, use, disposal, recycling, burial and destruction of chemicals and plant protection products; and regulate the activities of special facilities for the storage or disposal of poisonous chemicals and other toxic substances in Uzbekistan. The Law also mandates the Agency for Quarantine and Plant Protection under the Ministry of Agriculture, together with the Committee for Sanitary and Epidemiological Welfare and Public Health under the Ministry of Health and the Ministry of Ecology, Environmental Protection and Climate Change, to identify active and inactive ingredients of plant protection products that are prohibited or restricted in use, and to maintain and monitor the Register of active and inactive ingredients of plant protection products that are prohibited or restricted in use.

The 2018 Resolution of the Cabinet of Ministers No. 647, on measures to regulate the activities of special facilities for the burial and storage of pesticides and other toxic substances, defines institutional responsibilities and technical requirements for the operation of facilities handling toxic chemicals and mandates an inventory of such sites across the country.

The 2017 Decree of the President No. 5066, on measures to radically increase the efficiency of the system of prevention and elimination of emergency situations, mandated the improvement of early warning and emergency response systems across sectors, including for technogenic and chemical risks, enhancing the country's preparedness for chemical emergencies.

The 2023 Resolution of the President No. 357, on improving the effectiveness of measures to prevent emergencies involving highly flammable and explosive chemicals, assigned the Ministry of Emergency Situations a central role in coordinating the safe storage, transport, use and disposal of high-risk chemicals, including establishing specialized radiation-chemical protection units and a centralized database for tracking such substances across the country.

The 2025 Resolution of the Cabinet of Ministers No. 397 on measures to improve the regulation of the circulation of chemical substances that may create explosive and flammable environments, as well as certain toxic substances, enhanced oversight by requiring mandatory licensing for activities related to explosive and toxic substances, tightening inter-agency controls including environmental, health and transport authorities, and mandating real-time data sharing from the Customs Committee to the Ministry of Emergency Situations.

A unified system for the voluntary environmental labelling of "Yashil Belgi" products and services is being established in line with the provisions of the 2025 Resolution of the Cabinet of Ministers No. 20 on measures to improve the system of voluntary environmental labelling of products and services.[122]

Policy framework

Strategy Uzbekistan – 2030, as the guiding path for the whole development of the State, is accompanied by thematic strategies which define objectives and measures more in detail. The strategies 2020–2030 are updated regularly to react on new developments and the achieved results. This policy approach reveals a comprehensive strategy that is increasingly substantiated, follows a rational and holistic approach and is implemented with a strict scheme. Together with international cooperation it is also the grounding for the rapid progress and the achievements since the third EPR of Uzbekistan.

Air

The policy framework for air quality management is centred around the 2019 Concept of environmental protection until 2030, which sets out a comprehensive agenda to reduce emissions, transition to cleaner technologies and improve monitoring. This cross-sectoral strategy mandates the use of BAT, calls for sectoral emission inventories and requires automated monitoring systems at high-impact industrial sites. The 2023 Strategy Uzbekistan – 2030 builds on this foundation with a concrete target of reducing air pollutant emissions by 10.5 per cent and modernizing over 249 industrial facilities, while also introducing performance-based accountability for local authorities through mandatory environmental audits starting in 2025.

A range of supporting policies and financial mechanisms reinforce these efforts, such as the National Green Taxonomy (see chapter 2), which recognizes air quality projects as eligible for sustainable investment, helping to promote the use of advanced air purification technologies. Measures such as green tariffs for renewables, bans on outdated fuels and targeted subsidies for dust suppression further operationalize the Government's emission reduction goals. The 2024 National Programme for Combating Sand and Dust Storms for the period 2024–2030 includes measures to address non-anthropogenic air pollution. At the capital level, the 2024 Urgent Action Plan for Improving Air Quality in Tashkent integrates sectoral measures to reduce air pollution in the city.

[122] Ministry of Ecology, Environmental Protection and Climate Change (2025q).

Looking forward, Uzbekistan is finalizing a national strategy on air protection through 2035, expected to be adopted by the end of 2025. This strategy will be designed to integrate current efforts across energy, transport, construction and industry. With targets such as a 20 per cent reduction in industrial and transport emissions, and detailed implementation roadmaps, it is poised to provide a comprehensive and unified framework for future action.

Water

Aligned with these constitutional objectives, Strategy Uzbekistan – 2030 includes the conservation of water resources and environmental protection as one of five priority areas. The new Constitution and the Strategy form the foundation for legislative activities and government programmes related to water. Increasing water scarcity necessitates actions to prevent pollution and treat contaminated water. The State Programme for the implementation of Strategy Uzbekistan – 2030 and the "Year of Environmental Protection and Green Economy" (2025 Decree of the President No. 16) define the general policy and include measures for 2025 such as careful and rational use of water and the development of environmental standards and regulations aimed at reducing pollution of the atmosphere, land, underground and water resources.

The Concept of Development of the Water Sector for 2020–2030 (2020 Decree of the President No. 6024) aims at improving compliance with water protection regulation. Thereby it also reacts to criticism of insufficient control.[123] The 2024 Decree of the President No. 74 determines one of the priorities of the Concept, as it highlights the improvement of water quality and the preservation of the ecological balance of the environment. Important organizational decisions followed in 2023 and 2024 to implement this priority objective.

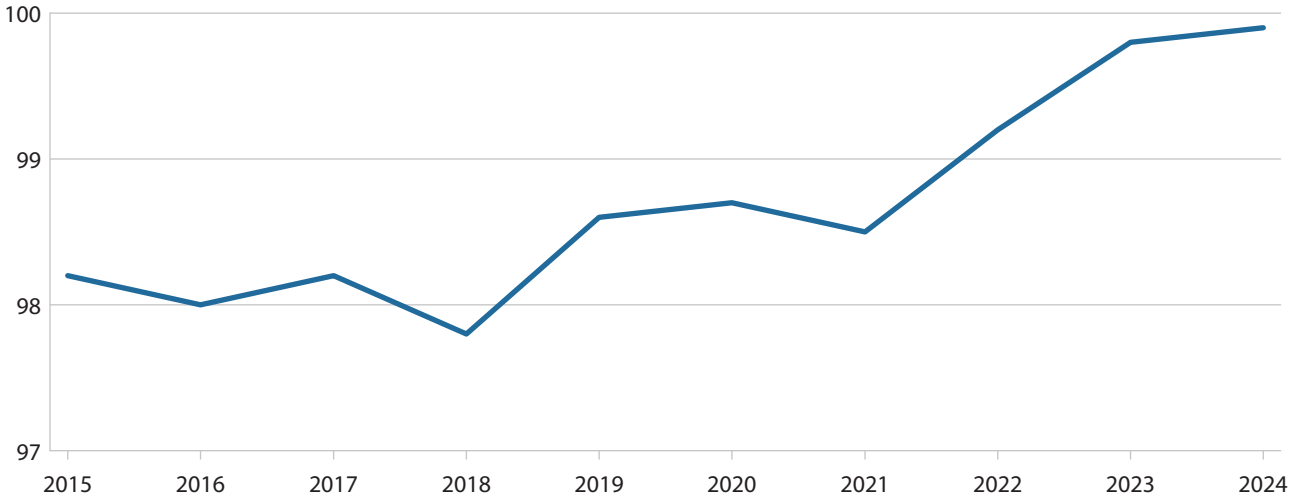
Advancing sustainable management of water and sanitation through delivering on SDG 6

Uzbekistan has nationalized selected SDG targets and indicators, adapting them to national needs. Information on the status of implementation of the national SDG targets and indicators, including water-related ones, is available on a dedicated web platform hosted by the National Statistics Committee.

Most targets under SDG 6 were nationalized: 6.1–6.6 and 6.b. Many of the global SDG indicators were retained at the national level. On the national SDG platform, data are available for all except targets 6.6 and 6.b.

Progress towards SDG target 6.1, nationalized as "By 2030, ensure universal and equitable access to clean drinking water for all", and measured by the national indicator 6.1.1 "Proportion of population using safely managed drinking water services", which are the same as the global target and indicator, shows improvement from 97.8 per cent in 2015 to 99.9 per cent in 2024 (see figure 1.8).

Figure 1.8: Proportion of population using safely managed drinking water services, 2015–2024, per cent

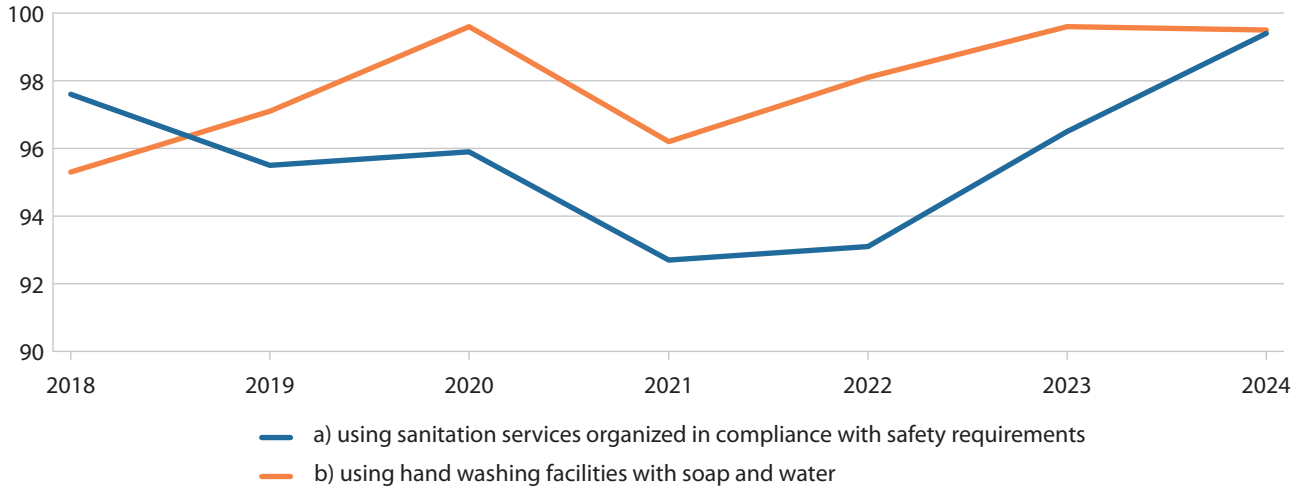


Source: National Statistics Committee (National SDGs Data Portal), 2025.

[123] Turayeva (2024).

Progress towards SDG target 6.2, nationalized as "By 2030, ensure universal and equitable access to adequate sanitation and hygiene for all, paying special attention to the needs of those in vulnerable situations," and measured by the national indicator 6.2.1 "Proportion of population using (a) sanitation services organized in compliance with safety requirements, (b) hand washing facilities with soap and water," shows uneven trends in the period 2018–2023 (see figure 1.9). For point (a), the trend was an overall increase in the period 2018–2024. For point (b), the trend also showed an overall improvement in the same period.

Figure 1.9: Proportion of population using (a) sanitation services organized in compliance with safety requirements, (b) hand washing facilities with soap and water, 2018–2024, per cent



Source: National Statistics Committee (National SDGs Data Portal), 2025.

Progress towards SDG target 6.3, nationalized as "By 2030, significantly reduce any pollution of the aquatic environment, including as a result of land activities, and increase the scale of safe reuse of wastewater," is measured by the national indicators 6.3.1 (Proportion of wastewater safely treated) and 6.3.2 (Water Pollution Index).

The trend of the national indicator 6.3.1 fluctuated between 2015 and 2024 showing a small overall decrease from 93.5 per cent in 2015 to 93.4 in 2024, with the highest proportion of 94.1 per cent of wastewater safely treated in 2016 (see figure 1.10). The share of safely treated wastewater is determined as the ratio of the volume of normatively treated wastewater at treatment facilities to the total amount of wastewater passed through the sewer system as a percentage.[124] This approach is regarded as implausible; there is no definition and verification of the safe treatment and the wastewater outside the sewage system is not taken into account although it is an important source of pollution. The Ministry of Construction and Housing and Communal Service confirmed a ratio of 20.9 per cent, and the Ministry of Ecology, Environmental Protection and Climate Change estimated about 37 per cent. The National Statistics Committee explained that the indicator is based only on certain obligatory declarations of companies and other institutions without verification of the content. Thus, this indicator does not reflect data provided by different ministries.

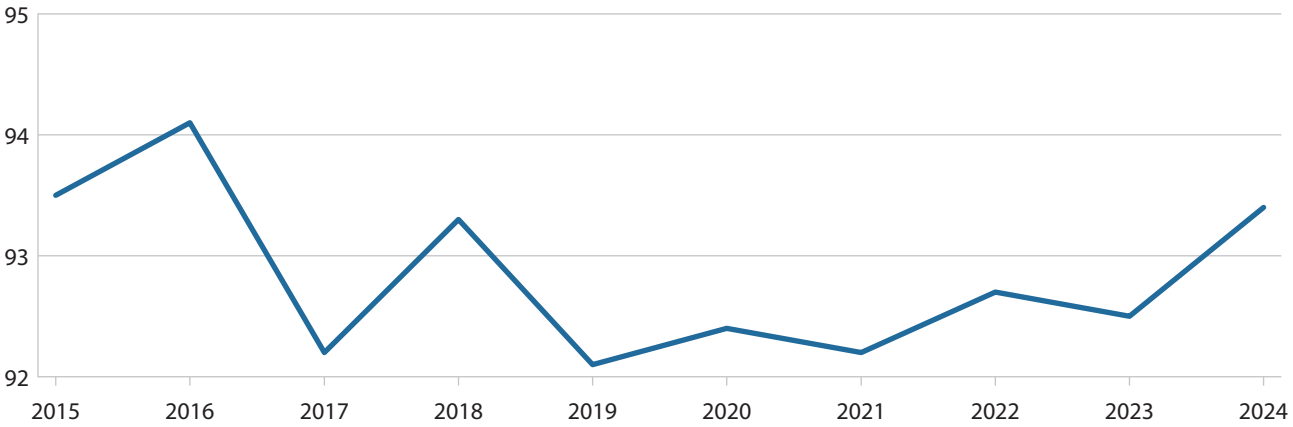
Progress towards SDG target 6.4, nationalized as "By 2030, substantially increase water-use efficiency across all sectors of the economy," is measured by two indicators retained in the same formulation as the global ones, 6.4.1 (Change in water-use efficiency over time) and 6.4.2 (Level of water stress: freshwater withdrawal as a proportion of available freshwater resources).

The definition of indicator 6.4.1 is: "Water use efficiency shows the change in the ratio of value added to the volume of water used over a certain period. Water use efficiency is defined as the value added per unit volume of water used that is produced over a given period in a single major sector of the economy. Water use is the use of water resources and (or) the impact on water bodies when carrying out economic and other activities".[125] The indicator was stable at 1.1431 between 2018 and 2020 and rose steadily to 2.1 in 2024 showing a considerable gain in water efficiency (see figure 1.11).

[124] Definition in "Passport" (https://nsdg.stat.uz/en/databanks/indicator-table?id=6.3.1).

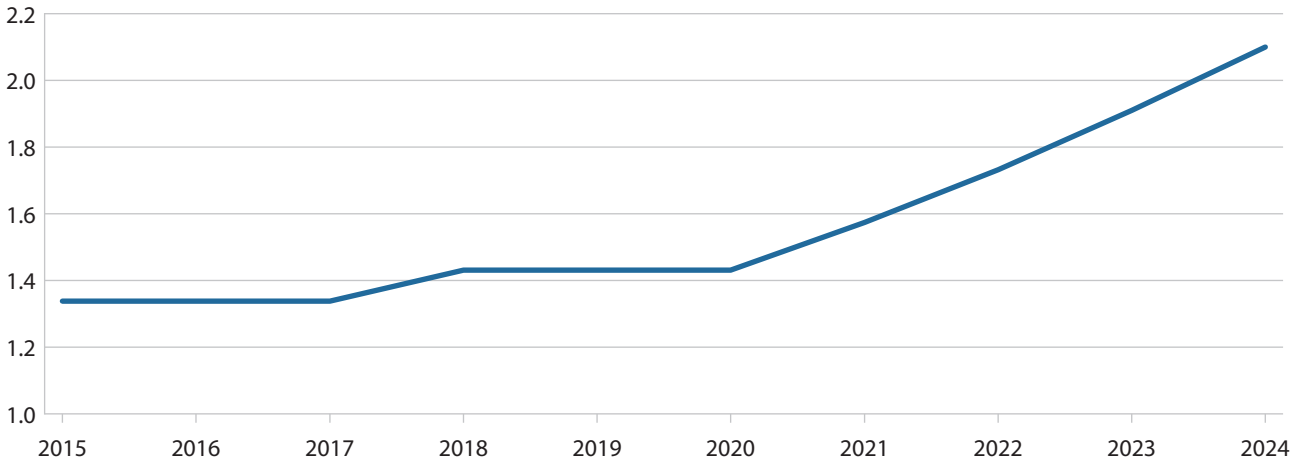
[125] Definition in "Passport" (https://nsdg.stat.uz/en/databanks/indicator-table?id=6.4.1).

Figure 1.10: Proportion of wastewater safely treated, 2015–2024, percentage



Source: National Statistics Committee (National SDGs Data Portal), 2025.

Figure 1.11: Change in water-use efficiency over time, 2015–2024, index

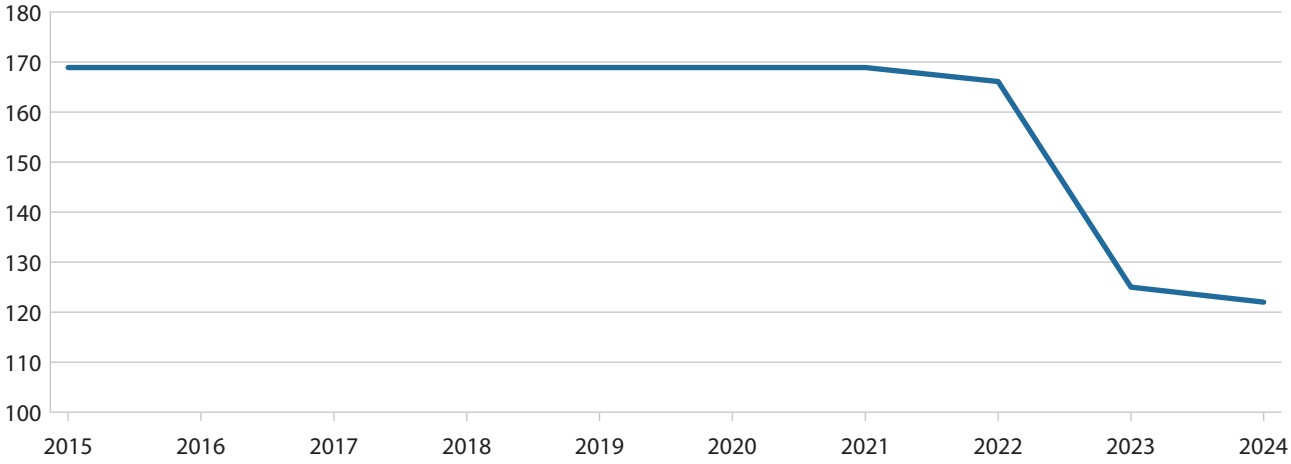


Source: National Statistics Committee (National SDGs Data Portal), 2025.

National indicator 6.4.2 on the level of water stress is defined as: "Level of water stress: Freshwater withdrawal as a share of available freshwater resources is the ratio between the total amount of freshwater withdrawn by all major sectors and the total renewable freshwater resources, considering environmental flow requirements. Major industries include agriculture, forestry and fisheries, production, the electric power industry and services".[126] The data show stability between 2018 (168.9) and 2022 (166.1) followed by a strong decline to 122.0 in 2024 (see figure 1.12). Despite this progress, the level of water stress remains significant in Uzbekistan. Combined, the two indicators show a gain in water efficiency combined with less water stress. This result is plausible regarding the strong engagement of a more efficient water use especially in agriculture and the improvements in the irrigation system.

[126] Definition in "Passport" (https://nsdg.stat.uz/en/databanks/indicator-table?id=6.4.2).

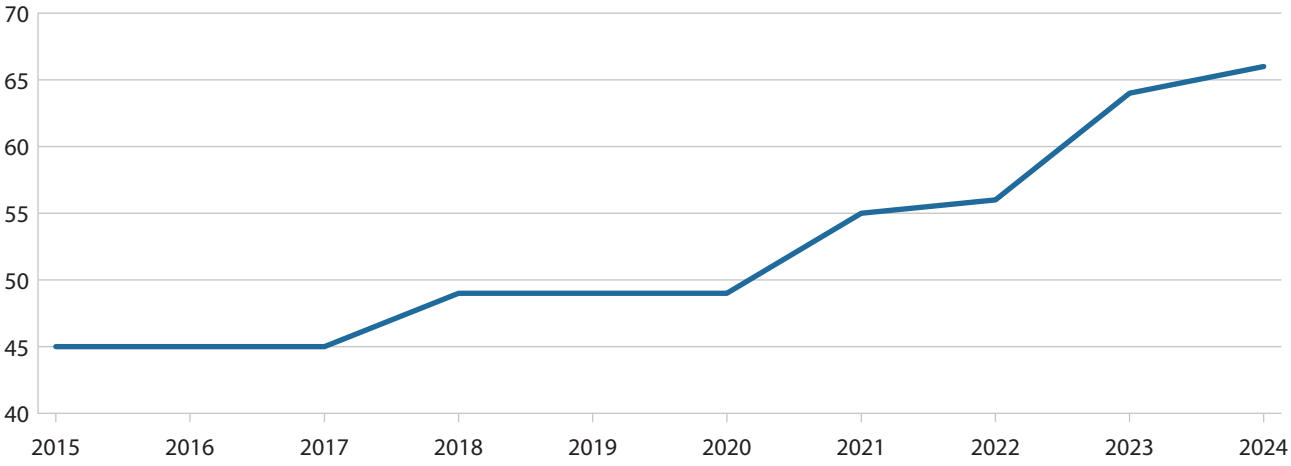
Figure 1.12: Level of water stress: freshwater withdrawal as a proportion of available freshwater resources, 2015–2024, percentage



Source: National Statistics Committee (National SDGs Data Portal), 2025.

Progress towards SDG target 6.5, nationalized as "By 2030, ensure integrated water resources management at all levels, including transboundary cooperation where appropriate," is measured by the national indicator 6.5.1 (Degree of integrated water resources management (from 0 to 100)). Integrated water resources management (IWRM) is a process that promotes the coordinated development and management of water, land and related resources to maximize economic and social well-being in an equitable manner, without compromising the sustainability of critical ecosystems. The indicator is calculated based on the results of a country self-assessment questionnaire compiled by UNEP.[127] The indicator remained stable between 2018 and 2020 at 49, then rose steadily to 66 in 2024 (see figure 1.13). Considering the significant legislative and administrative efforts for introducing water resources management, the documented progress is plausible.

Figure 1.13: Degree of integrated water resources management (from 0 to 100), 2015–2024, degree



Source: National Statistics Committee (National SDGs Data Portal), 2025.

Progress towards SDG target 6.6, nationalized in the same formulation as the global target "By 2030, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers, and lakes," is measured by the indicator 6.6.1 (Change in the extent of water-related ecosystems over time), which is also the same as the global indicator. As of May 2025, data are still in the development stage on the national SDG platform. Due to the large target, it might be difficult to develop an indicator, but there is an urgent need for it, because the target concerns the critical point in the State's water management, as the most precious ecosystems are concerned and the high demand for the use of water and the growing scarcity are serious threats. As an intermediate stage, partial indicators especially for wetlands (Ramsar and others), free flowing rivers and forests could be helpful. The United Nations Statistics SDG Indicators Database provides data for the series "Lakes and rivers permanent water area (% of total land area)" for the global SDG indicator 6.6.1. The area decreased from 2.1 per cent in 2018 to 1.9 per cent in 2022.

[127] Definition in "Passport" (https://nsdg.stat.uz/en/databanks/indicator-table?id=6.5.1).

Progress towards SDG target 6.b (Support and strengthen the participation of local communities in improving water and sanitation management), nationalized as "Support and strengthen the participation of citizens self-government bodies in improving water and sanitation management", is measured by the national indicator 6.b.1 (Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management) retained in the same formulation as the global indicator. As of 2025, this indicator remains at the development stage.

Soil

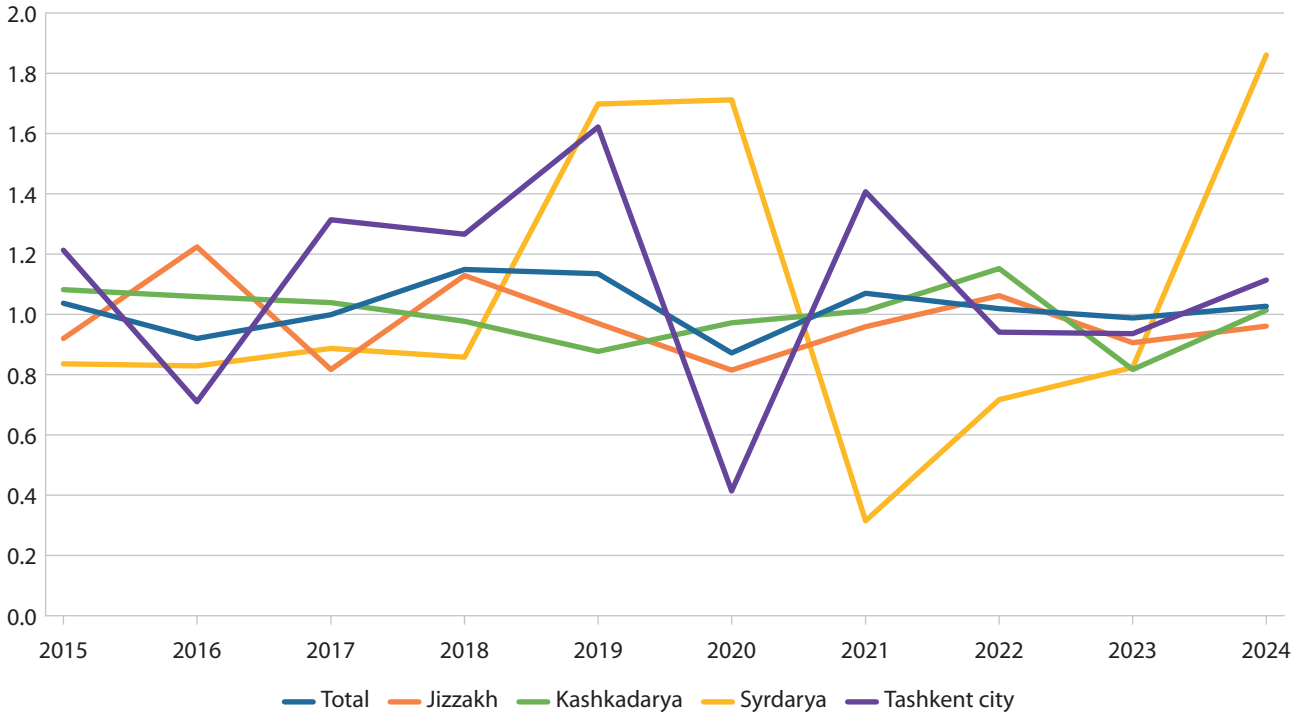
The State Programme for the implementation of Strategy Uzbekistan – 2030 lists concrete measures for 2025, such as restrictions in construction to preserve the fertile soil layer and protect green areas.

Soil management lacks a comprehensive concept to better implement the legislation on soil and subsoil. However, an ambitious programme of measures especially in agriculture and forestry is underway. This programme would be supported by continuous cooperation with neighbouring countries and the international community, efficiency gains and investing funds. However, there is less awareness and knowledge about soil pollution and soil consumption as growing problems.

Achieving SDG targets 11.3 and 15.3 for soil conservation

The national SDG target 11.3, nationalized as "By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management," is measured by the national SDG indicator 11.3.1, retained in same wording as the global indicator, i.e., the ratio of land consumption rate to population growth rate. A ratio of 1 means that growth rates are equal while a ratio greater than 1 shows that land consumption exceeds population growth. Data available on the national SDG platform show a fluctuating ratio in the period 2015–2024 (see figure 1.14). Within the country at regional level, Syrdarya region followed by Tashkent City have the highest fluctuation, while Kashkadarya region followed by Jizzakh region have the lowest fluctuation. The country has potential to reduce land consumption despite population growth.

Figure 1.14: Ratio of land consumption rate to population growth rate, 2015–2024, ratio



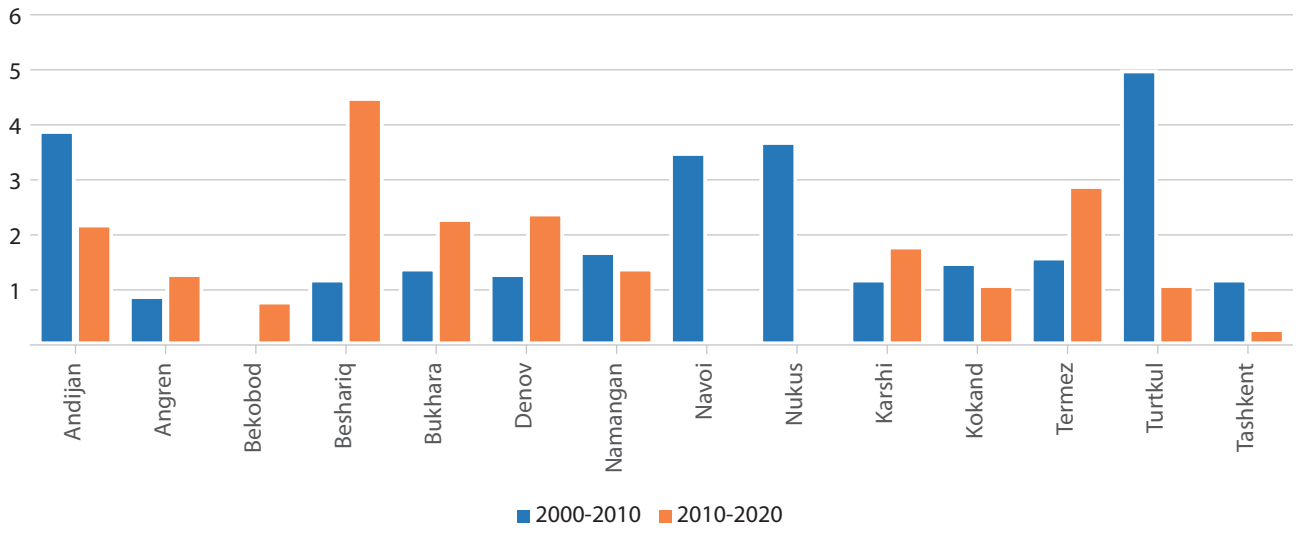
Source: National Statistics Committee (National SDGs Data Portal), 2025.

Note: To assess the degree of fluctuation in regional values over the 2000–2023 period, a Volatility Index was calculated for each region. This index is defined as the standard deviation of annual values divided by the mean, expressed as a percentage. It provides a normalized measure of variability, enabling comparison across regions regardless of scale. Higher values indicate greater instability or inconsistency over time, while lower values suggest more stable trends. This metric supports the identification of regions where interventions may be needed to enhance resilience or address systemic fluctuations.

The United Nations Statistics SDG Indicators Database provides estimated data for 14 cities in Uzbekistan for the global SDG indicator 11.3.1 based on the data from the UN-Habitat Urban Indicators Database. The timeframe covers two decades, 2000–2010 and 2010–2020 (see figure 1.15).

Uzbekistan did not retain at the national level the global SDG indicator 11.3.2 (Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically), thereby making it difficult to assess progress made in attaining the global SDG target 11.3.

Figure 1.15: Ratio of land consumption rate to population growth rate, selected cities, 2000–2010 and 2010–2020, ratio



Source: National Statistics Committee (National SDGs Data Portal), 2025.

Notes: Data are estimated by UN-Habitat. No data are available for Bekobod for 2000–2010 or for Navoi and Nukus for 2010–2020. City/urban area used in the analysis has been generated using a classification approach based on the Degree of Urbanization concept to city definition. As a result, the urban/city area used for the indicator computation in this data table may be larger or smaller than the official municipality boundaries. Designation and data estimated by UN-Habitat based on the global indicator methodology. The designations employed do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The national SDG target 15.3, nationalized as "By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world," is measured by national SDG indicator 15.3.1 (Proportion of land that is degraded (irrigated and non-irrigated) over total land area). The data on the national SDG platform are at the development stage. On the United Nations Statistics SDG Indicators Database, the global SDG indicator 15.3.1 (Proportion of land that is degraded over total land area) has data provided by the then State Committee on Forestry for the period 2000–2015 (30.22 per cent) and for 2016–2019 (26.14 per cent). Thus, trends as of 2019 show an improvement in land protection.

Biodiversity

The State Programme for the implementation of Strategy Uzbekistan – 2030 in the "Year of Environmental Protection and Green Economy" (2025 Decree of the President No. 16) aims to increase organic agriculture to 10,000 ha and acquire 10 additional portable mobile laboratories for agrochemical analysis of soils.

The Concept of Environmental Protection until 2030 (2019 Decree of the President No. 5863) is the national cross-sectoral environmental strategy providing strategic guidance on environmental protection, rational resource use and environmentally sustainable economic development. It acknowledges water pollution as a severe threat to the country's flora and fauna.

The Strategy for the Transition to a Green Economy for the period 2019–2030 (2019 Resolution of the President No. 4477) aims to green the country's economy. Regarding more sustainable agriculture, it sets the goal to prevent pollution of water sources by agricultural waste.

Photo 1.12: Yellow ground squirrel *(Spermophilus fulvus)* in its natural habitat

Photo credit: Natalya Marmazinskaya

The Strategy for the Conservation of Biological Diversity for the period 2019–2028 (2019 Resolution of the Cabinet of Ministers No. 484) provides the core guidance on biodiversity policy, aiming to increase protected areas to 12 per cent and strengthen biodiversity integration in all economic sectors. An updated National Biodiversity Strategy and Action Plan (NBSAP) is planned for 2027.

The 2024 New National Biodiversity Conservation Targets[128] align with the 2023 Kunming-Montreal Global Biodiversity Framework. Reflecting global target 7, Uzbekistan's national target 7 sets the ambitious goal of reducing pollution impacts to levels not harmful to biodiversity and ecosystem functions and services by 2030. National target 7 also identifies the priority sectors agriculture, industry and waste (see box 1.1). National Target 10 sets the goal to sustainably manage agriculture, pasture, forestry and fisheries. National targets 18a and 18b are dedicated to identification of key subsidies harmful to biodiversity and to initiate efforts to address and reform these subsidies, whereas 18c suggests scaling up positive incentives for sustainable use and protection of biodiversity.

Box 1.1: Reducing pollution from all sources to levels that are not harmful to biodiversity and ecosystem functions

Target 7 of the 2022 Kunming-Montreal Global Biodiversity Framework calls for the reduction of pollution risks and the negative impact of pollution from all sources by 2030, to levels that are not harmful to biodiversity and ecosystem functions and services, considering cumulative effects, including by:

- Reducing excess nutrients lost to the environment by at least half, including through more efficient nutrient cycling and use;
- Reducing the overall risk from pesticides and highly hazardous chemicals by at least half, including through integrated pest management, based on science, considering food security and livelihoods;
- Preventing, reducing, and working towards eliminating plastic pollution.

Uzbekistan has adapted the new global biodiversity target to national circumstances, committing to reduce pollution risks and the negative impact of pollution from all sources by 2030, to levels that are not harmful to biodiversity and ecosystem functions and services, considering cumulative effects, including pollution originating from:

- Agriculture (nutrients from fertilizer, pesticides, saline water);
- Industry (chemicals);
- Waste (sewage, other waste, particularly plastics).

Sources: CBD (2022). Ministry of Ecology, Environmental Protection and Climate Change and UNDP (2024). UNDP (2025).

[128] Ministry of Ecology, Environmental Protection and Climate Change and UNDP (2024).

The Biodiversity Finance Plan introduces a variety of measures to improve biodiversity financing, including a new national blended finance facility, repurposing of harmful subsidies, and an elaboration of payment for ecosystem services pilot for water and soil conservation in agricultural lands.[129]

The Strategy for the Development of Agriculture for 2020–2030 (2019 Decree of the President No. 5853), providing the strategic framework for agricultural policy, includes a chapter on the rational use of natural resources and environmental protection. It introduces Good Agriculture and Environmental Practices (GAEP), and it aims to improve fertilizer use and strengthen institutional capacity regarding biosafety, pesticides, chemicals and control of natural resources.

Uzbekistan is advancing towards SDG target 15.9 (By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts), nationalized as "Ensure that the value of ecosystems and biological diversity is taken into account in the development of national strategies and programmes for the development of industries and sectors of the economy". According to the national SDG indicator 15.9.1.1 measuring the number of national, sectoral, sectoral and regional policies and programmes that consider the value and conservation of biodiversity and ecosystems, the number of such strategies increased from 5 in 2019 to 13 in 2023. This development reflects a strengthened commitment to integration of biodiversity considerations into policy and planning processes across various sectors.

Waste

The overarching objective of the Strategy for municipal solid waste management for the period 2019–2028 (2019 Resolution of the President No. 4291) is to integrate all MSW management activities to: (i) minimize public health and environmental impacts; (ii) create effective, reliable and socially acceptable MSW management systems; (iii) maximize the reduction, reuse and recycling of waste; and (iv) promote new technologies and financing mechanisms. The strategy includes a detailed action plan with 36 actions to be completed in a phased approach between 2019 and 2028. The actions aim to (i) update the legislative framework; (ii) strengthen the asset and technical base; (iii) improve organizational capacity; (iv) introduce waste segregation and promote recycling; (v) mainstream MSW education, awareness and advocacy; (vi) update tariffs and improve cost recovery; and (vii) strengthen environmental monitoring and compliance.

Chemicals

The overarching national policy is aligned with international commitments such as the Strategic Approach to International Chemicals Management (SAICM), the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, the Stockholm Convention on Persistent Organic Pollutants and the 2030 Agenda for Sustainable Development. Steps have been taken toward ratifying the Minamata Convention on Mercury.

Uzbekistan has initiated development of a cross-sectoral national strategy on chemicals and waste in line with the SAICM objectives and in preparation for the implementation of the post-2020 Global Framework on Chemicals.[130]

The Development Strategy of New Uzbekistan for 2022–2026 emphasizes industrial modernization, including cleaner production in the chemical sector and environmental safety. The Programme for the Development of the Chemical Industry of Uzbekistan (2019–2030) envisages US$12.1 billion in investments to modernize and expand the chemical sector while improving safety standards and environmental compliance.

Chemicals management and the Sustainable Development Goals

Uzbekistan shows slight fluctuations in the mortality rate attributed to unintentional poisoning per 100,000 population (SDG indicator 3.9.3), an indicator that tracks progress toward SDG target 3.9 (By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination), which is nationalized as "Reduce the number of deaths and illnesses from water and air pollution, hazardous chemicals, including chemical production and disposal sites". According to national data for 2018–2024, the mortality rate was 1.1 deaths per 100,000 population in both 2018 and 2024. The lowest rate was recorded in 2020 (0.8), while the highest was in 2022 (1.6). Despite these variations, the country has made progress compared to 2000, when the rate stood at 1.9.

Uzbekistan has made incremental progress in strengthening chemicals management in alignment with its international commitments, including the Stockholm, Basel and Rotterdam Conventions, as well as the 2030 Agenda for Sustainable

129 BIOFIN (2025)

130 Global Framework on Chemicals.

Development. These efforts contribute directly to SDG target 12.4, which calls for the environmentally sound management of chemicals and all wastes throughout their life cycle. Relevant indicators, 12.4.1 (number of parties meeting their international agreements on hazardous waste and chemicals) and 12.4.2 (hazardous waste generated and treated, by type of treatment), are only partially monitored due to data limitations and institutional fragmentation. No data are available on the United Nations Statistics SDG Indicators Database for the global SDG target 12.4. However, on the National SDG Data Portal, the Ministry of Ecology, Environmental Protection and Climate Change reports 44.4 per cent for the period 2019–2021 and 46.7 per cent for the period 2022–2023 for national SDG indicator 12.4.1. Uzbekistan has added two national SDG indicators: SDG indicator 12.4.2.1 (Formation of toxic waste products of hazard classes 1–3 per capita) and Indicator 12.4.2.2. (share of neutralized production waste of hazard classes 1–3 in total volume of generated production waste of hazard classes 1–3) (see table 1.7).

Table 1.7: Toxic waste products and neutralized production waste, 2018–2023

	2018	2019	2020	2021	2022	2023
Indicator 12.4.2.1 (kg)	13.7	13.1	10.6	8.5	0.8	0.9
Indicator 12.4.2.2 (percentage)	0.12	0.2	0.2	0.29	7.6	2.7

Source: National Statistics Committee (National SDGs Data Portal), 2025.

The country has developed preliminary inventories of POPs and obsolete pesticides and has participated in several regional and global projects aimed at capacity-building and technical assistance, including with support from the GEF and UNEP.

The lack of an integrated national chemicals management strategy and limited cross-sectoral coordination, waste tracking systems and investment in laboratory infrastructure and workforce training impede meeting SDG targets and improving compliance with international obligations.[131]

Institutional framework

Air

The institutional framework for air quality management is anchored in the Ministry of Ecology, Environmental Protection and Climate Change. It leads on policy development, legislation, emissions regulation, permitting and enforcement. Its work is supported by several specialized agencies:

- The Agency of Hydrometeorological Service is responsible for ambient air quality monitoring and forecasting (2019 Resolution of the Cabinet of Ministers No. 737);
- The Atmospheric Air Protection Department oversees air quality policy coordination and state control;
- The Centre for State Ecological Expertise reviews emission permits and sets emission limits;
- The Centre for Specialized Analytical Control monitors emissions at the source.

Regional branches of the Ministry conduct inspections, implement air protection measures and manage monitoring systems.

Other actors contribute to specific aspects of air quality management. The Ministry of Health, through the State Sanitary and Epidemiological Service, plays a key role in protecting human health by setting air quality standards, assessing pollution-related health risks and monitoring compliance at enterprises. The Ministry of Internal Affairs monitors vehicle emissions and carries out inspections to ensure compliance with fuel and emissions standards.

Municipalities also play a growing role by integrating air quality considerations into urban planning, heating infrastructure and traffic regulation. They are formally mandated to participate in national and territorial air protection efforts, reinforcing a multilevel approach to air quality governance. However, except big cities, there is no example of a local government actively participating in air protection efforts.

Despite the wide range of actors involved, Uzbekistan lacks a dedicated coordination body to align air quality mandates across ministries. This contributes to fragmented implementation and dispersed data collection, resulting in siloed information and limited integration for policy- and decision-making.

131 ECE (2024).

Water

Since 2018, Uzbekistan has intensified efforts to combat water pollution through regulatory and institutional reforms grounded in national legislation. The establishment of the Ministry of Water Resources and the Ministry of Ecology, Environmental Protection and Climate Change has elevated the political and scientific profile of water governance. Other ministries, such as those responsible for agriculture, energy, health, emergency situations, construction, mining and trade, also contribute to water protection, requiring cross-sectoral cooperation and shared data systems, often facilitated through interministerial working groups.

The 2023 Decree of the President No. 101 on improving public administration in water management outlines the organizational structure and legal framework for water governance. The Ministry of Water Resources is responsible for developing departmental regulations, drafting legal acts, and overseeing implementation and control functions. Its territorial divisions carry out state control measures at the local level.

A key institution in this framework is the Inspectorate for Control over the Safety of Water Management Facilities and Water Use, operating under the Ministry of Water Resources. Its responsibilities include monitoring compliance with regulations on rational water use; overseeing water consumption in surface water facilities; and enforcing rules among water management entities, farmers, and other users. The transfer of control functions from the Ministry of Agriculture to the Inspectorate has helped reduce conflicts of interest and streamline oversight.

The 2024 Decree of the President No. 74 on the Establishment of priority areas for the introduction and development of a modern management system in water management, reaffirmed the importance of strengthening state control over water use and protection. It expanded the Inspectorate's powers, including the authority to implement incentive systems for individuals reporting violations. This was formalized through the 2025 Resolution of the Cabinet of Ministers No. 352 on additional measures to improve the efficiency of state control over the use and protection of water resources.

Groundwater management has also gained attention. The 2025 Law No. 1062 on Amendments and Additions to Certain Legislative Acts introduced stricter controls to prevent and detect groundwater pollution, including: legal liability for unauthorized drilling; penalties for non-compliance with geological safety guidelines; a fivefold tax surcharge for groundwater abstraction without metering; and improved procedures for issuing drilling permits.

The Ministry of Ecology, Environmental Protection and Climate Change also plays a key role in water protection. Its Inspection of Supervision of Ecology and Environmental Protection, established by the 2018 Resolution of the President No. 3956, enforces environmental legislation related to water and other natural resources. The Inspectorate engages with citizens, civil society and the media to support public environmental control. A 2025 announcement from the Ministry highlighted an inspection initiated in response to social media reports, demonstrating the growing role of public engagement in enforcement.[132]

Soil

Uzbekistan has strengthened its institutional framework for soil protection through the Ministry of Agriculture, which established the Department for Combating Land Degradation Processes in 2022. The Department monitors land degradation and desertification, conducts soil studies and maintains a unified database on land degradation.

Also in 2022, the Institute of Soil Science and Agrochemical Research was created under the Ministry of Agriculture by the Resolution of the President No. 277 on Measures for the creation of an effective system for combating land degradation. The Institute develops standards for assessing soil condition and quality; conducts soil monitoring; manages the national soil data fund; and produces thematic soil maps. The Institute supports a more science-based and coordinated approach to soil protection and sustainable land management.

Biodiversity

The Ministry of Ecology, Environmental Protection and Climate Change is responsible for nature protection, the rational use of natural resources, waste management and climate change. It oversees monitoring and reducing environmental pollution and protecting biodiversity. The Agency of Hydrometeorological Service, under the Ministry, handles hydrometeorology and pollution monitoring. The Ministry lacks a dedicated unit or focal point to coordinate policies on the environmental impacts of agriculture. As a result, institutional capacity to address environmental issues in agricultural practices is insufficient. This is especially relevant given that the State Committee for Environmental Protection, the

[132] Ministry of Ecology, Environmental Protection and Climate Change (2025m).

Ministry's predecessor, is designated as co-responsible for numerous actions in the environmental chapter of the Strategy for the Development of Agriculture 2020–2030.

The Academy of Sciences, through its Institutes of Botany and Zoology, conducts biodiversity research and monitoring.

The institutional framework for pesticide management involves three agencies. The Ministry of Agriculture, through the Agency for Plant Quarantine and Protection, regulates plant quarantine, plant protection and agrochemistry, including the permitting of pesticides and fertilizers. The Centre for Specialized Analytical Control, under the Ministry of Ecology, Environmental Protection and Climate Change, monitors emissions at source for air pollutants and wastewater as well as assessing pesticide residues in soil and water. The Committee of Sanitary and Epidemiological Well-Being and Public Health under the Ministry of Health coordinates activities in public health and disease prevention, ensuring compliance with sanitary rules, norms and hygiene standards. Whilst the overall responsibility for issuing permits lies with the Agency for Plant Quarantine and Protection, the expertise of the environmental and health authorities is considered as well, and a negative conclusion regarding public health or environmental impacts can result in the refusal of a permit. The process of balancing competing policy goals of food security, food safety and environmental protection has slowed decision-making regarding the issuance of pesticide permits between the three agencies.

Waste

The Ministry of Ecology, Environmental Protection and Climate Change is the lead governmental authority for waste management in Uzbekistan. Within the Ministry, the Department for the Improvement and Management of Waste Landfills is responsible for developing and implementing waste-related policies.

Until 2024, the Republican Centre for Organization of Sanitary Cleaning Works managed household waste collection and removal services, promoted waste sorting and recycling and developed electronic payment systems for waste collection and removal services.

In 2024, Uzbekistan strengthened its institutional framework by establishing the Agency for Waste Management and Circular Economy Development, based on the former Centre. The Agency now coordinates all national waste management activities, including collection, disposal and landfill operations. It also leads efforts to promote the transition to a circular economy, focusing on material and energy recovery from waste. As part of its mandate, the Agency is developing eco-industrial zones at existing landfill sites to support integrated waste management, including sorting, treatment, recycling and incineration for energy production.

Chemicals

Chemicals management is governed by a multi-agency framework led by the Ministry of Ecology, Environmental Protection and Climate Change, which serves as the central coordinating authority. The Ministry oversees environmental policy implementation, hazardous chemical licensing and compliance monitoring through its regional branches and inspectorates. It manages chemical-related environmental data, including pollutant release and transfer registers, and coordinates national reporting under international conventions such as the Basel, Stockholm, Rotterdam and Minamata Conventions.

The Ministry of Health is responsible for toxicological assessments, hygienic standards, and chemical approvals for consumer products, agriculture and public health. It monitors population exposure to hazardous substances and conducts epidemiological surveillance. Through its Sanitary and Epidemiological Wellbeing and Public Health Service, it assesses health risks, monitors chemical residues in food and water, and regulates exposure limits. It plays a vital role in implementing preventive measures regarding chemical exposure and toxicity, particularly pesticides and industrial pollutants.

The Ministry of Emergency Situations leads chemical accident prevention, preparedness and response. It monitors high-risk industrial facilities, oversees chemical safety in storage and transport and coordinates emergency operations. Its division for protection against emergencies involving highly flammable and explosive chemical substances conducts risk assessments, emergency drills and public awareness campaigns.

The State Committee of Industrial Safety regulates hazardous chemical operations, licenses storage and disposal sites, and enforces safety standards. It conducts risk-based inspections and collaborates with other agencies on early warning systems.

The Ministry of Agriculture manages pesticide and agrochemical registration and promotes integrated pest management and safer alternatives.

The National Statistics Committee collects and disseminates data on chemical production, imports and exports, supporting SDG monitoring and MEA reporting.

The Customs Committee monitors cross-border chemical movements and enforces import and export regulations under relevant international frameworks, including the Rotterdam Convention.

Uzbekistan's chemicals governance reflects the complexity and cross-sectoral nature of chemical risks, with responsibilities distributed across institutions. The framework aims to ensure environmental and public health safety through regulation, monitoring and emergency response. Science-based risk assessment and alignment with international conventions are increasingly central as the country modernizes its industrial and chemical sectors.

Remaining institutional challenges include fragmented mandates hindering data exchange and enforcement; lack of a unified national chemicals inventory and centralized data system; limited adoption of risk-based approaches to chemical regulation; and capacity constraints in monitoring infrastructure, toxicological expertise and waste treatment technologies. Strengthening inter-agency coordination, clarifying institutional roles and investing in data systems and technical capacity are essential to improve chemical safety and governance.

International cooperation

Air

Uzbekistan is also advancing its alignment with MEAs (see annex III). The country is a longstanding party to the Vienna Convention for the Protection of the Ozone Layer and Montreal Protocol on Substances that Deplete the Ozone Layer, and has ratified several key amendments, including the London, Copenhagen, Montreal and Beijing Amendments. In March 2025, Uzbekistan ratified the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, further strengthening legal guarantees for public participation and transparency in environmental matters. However, the country did not accede to the Protocol on Pollutant Release and Transfer Registers. A feasibility study for accession to the Convention on Long-range Transboundary Air Pollution (Air Convention) has been completed, and the draft regulation on accession to the Convention has been submitted to the Administration of the President.

Water

International cooperation plays a decisive role in the water policy framework of Uzbekistan. The country continues to engage closely with neighbouring countries on all water-related issues, with a central focus on improving the Aral Sea situation and addressing transboundary water concerns.

Since 2007, Uzbekistan has been a party to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention). A significant step forward was joining in 2023 the Protocol on Water and Health, thereby implementing the Recommendation 6.2(f) of the third EPR of Uzbekistan (2023 Resolution of the President No. 362) (see annexes I and III). Uzbekistan continues to leverage international cooperation to improve its water management. To operationalize the Convention and its Protocol, the country is implementing the project "Strengthening Action in Uzbekistan on Water and Sanitation and Protection of Water Resources from Accidental Pollution in the Face of Climate Change" in the period December 2023–December 2026. Carried out in cooperation with other Central Asian countries and ECE and funded by the Swiss Agency for Development and Cooperation, the objective is to improve governance and capacities in the areas of water and sanitation, prevention of accidental water pollution, and resilience to climate change, including through transboundary cooperation and regional exchange.

Additionally, Uzbekistan participates in the "Multi-Donor-Action EU4SustainableCentral Asia initiative: Joint Action and Coordination on Water, Energy and Climate Change". This initiative is implemented with support from the European Union and the German Federal Ministry for Economic Cooperation and Development, as part of the project "Climate-Sensitive Water Resources Management in Asia".

Soil

The Aral Sea crisis also spurred international cooperation, leading to the creation of regional institutions like the Interstate Commission for Water Coordination (ICWC) and the International Fund for Saving the Aral Sea (IFAS). Uzbekistan actively engages in global and regional environmental efforts, including the United Nations Convention to Combat Desertification (UNCCD). Bilateral and multilateral partnerships support projects to restore degraded lands and promote sustainable landscape management across the Aral Sea Basin. The 89th ICWC meeting in April 2025 reaffirmed the continuity of this collaboration.

Uzbekistan has been a party to the UNCCD since 1995 (see annex III). At the UNCCD Conference of the Parties in December 2024 in Riyadh, the Samarkand Declaration on Sand and Dust Storms was adopted. The Declaration emphasizes the need for scientific research, data sharing and international and regional cooperation. It calls on countries to integrate sand and dust storm mitigation into national strategies, develop early warning systems and mobilize financial and technical resources. The overarching goal is to protect ecosystems through sustainable land use, afforestation, urban greening, public awareness and capacity building.[133]

On a bilateral level, Uzbekistan and Kazakhstan ratified an agreement in 2024 to coordinate environmental protection efforts, particularly in the Aral Sea Basin. Since 2018, the International Innovation Centre for the Aral Sea Basin has been active in supporting these efforts.

The first European Union–Central Asia Summit, held on 4 April 2025, marked a new phase of cooperation. In the Joint Declaration, both sides committed to improving environmental conditions in the Aral Sea region.[134] The European Union is preparing to launch a major environmental project in 2025 to restore degraded lands in the lower Aral Sea Basin, with financial support from the European Investment Bank and the French Development Agency.[135]

In April 2025, the Ministry of Ecology, Environmental Protection and Climate Change and the World Bank launched the Uzbekistan Resilient Landscapes Restoration Project, part of the broader Resilient Landscapes in Central Asia Programme. This initiative aims to expand sustainable landscape management, restore degraded forest lands and enhance regional cooperation on transboundary landscape restoration.[136]

Biodiversity

Uzbekistan is party to several biodiversity-related conventions such as the Convention on Biological Diversity and its Cartagena Protocol on Biosafety, the Ramsar Convention on Wetlands of International Importance, the Convention on the Conservation of Migratory Species of Wild Animals (CMS) and its Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA), and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (see annex III). In addition, Uzbekistan is party to various environmental agreements addressing climate change and transboundary waste transportation. The implementation of these agreements helps reduce the impact of environmental pollution on biodiversity (see annex III). However, Uzbekistan has not yet acceded to certain key agreements, such as those on air pollution, pollutant release and transfer registers (PRTRs) and industrial accidents. Joining these treaties would further enhance the country's efforts to safeguard biodiversity from environmental pollution (see annex III).

Uzbekistan is collaborating with its neighbouring countries on the protection of migratory species and management of transboundary protected areas and ecosystems, for instance by joining the initiative for the Central Asian Flyway and as a signatory of the Saiga Antelope Memorandum of Understanding with all five range countries.

The country is implementing a variety of projects with international partners that address the protection of biodiversity, and the reduction of pollution impacts on biodiversity, including with FAO, UNDP and ECE.

Waste

During Eco Expo Central Asia 2025, held in Tashkent from 19 to 21 June, more than 40 memorandums of understanding (MoUs) were signed aimed at advancing environmentally sustainable development and circular economy practices. For example, the Agency for Waste Management and Circular Economy Development and the Kazakh company "ReBin" signed an MoU on developing modern solutions for enhancing waste recycling. Other similar agreements were signed during the event aimed at improving recycling rates across the country.[137]

In June 2025,[138] the Ministry of Ecology, Environmental Protection and Climate Change signed a cooperation agreement with Saudi Arabia's Vision International Investment Company and France's Suez International to jointly implement a project aimed for improving hazardous industrial waste management in the country. The agreement outlines the collaborative development and implementation of a project that will create industrial waste stabilization facilities, dedicated landfills and regional transfer stations. The project will include a pilot testing of equipment for producing refuse-derived fuel, and the construction of a full-scale refuse-derived fuel production and waste-to-energy facility.

133 Ministry of Ecology, Environmental Protection and Climate Change (2024c).
134 Council of the European Union (2025).
135 Delegation of the European Union to Uzbekistan (2025).
136 CAREC (2025).
137 Ministry of Ecology, Environmental Protection and Climate Change (2025g).
138 Ministry of Ecology, Environmental Protection and Climate Change (2025j).

Chemicals

Uzbekistan is working to align with international best practices on sustainable chemicals and waste management.[139] Uzbekistan is a party to the Stockholm and Basel Conventions (see annex III). Since June 2024, the country is in the process of ratifying the Rotterdam Convention and it has signed but not ratified the Minamata Convention. The country's active participation in related environmental initiatives and its commitment to aligning with international treaties suggest a positive trajectory towards ratification.[140]

The country has developed a National Chemicals Profile on Chemical Management, supported by UNEP and the Strategic Approach to International Chemicals Management (SAICM), to assess chemicals risks and regulatory gaps.[141] The National Profile provides Uzbekistan with a comprehensive overview of chemical production, use and hazards, supporting evidence-based policymaking, risk management and emergency preparedness. It also strengthens regulatory coordination, supports compliance with international conventions and guides sustainable development and capacity-building efforts. The country is participating in regional SAICM activities and has expressed interest in strengthening its national chemicals strategy post-2025.

Uzbekistan receives support from UNEP, FAO, UNDP and UNITAR through projects funded by GEF and other donors, including those targeting pesticide risk reduction, mercury inventory development and environmentally sound management of POPs.

Green chemistry and pollution prevention are being discussed in academic and policy circles, with pilot initiatives in collaboration with GEF and UNEP.

1.8 ASSESSMENT, CONCLUSIONS AND RECOMMENDATIONS

Assessment

Air

Uzbekistan has made tangible and commendable progress in advancing air quality management in the period 2018–2025. A major step forward has been the revision of national air quality standards to include $PM_{2.5}$, aligning national regulatory measures more closely with international health protection norms. The expansion of the air quality monitoring network represents another major achievement, with the number of automatic and manual monitoring stations significantly increased across the country. A landmark accomplishment in public environmental transparency is the launch of the national air quality monitoring website, which provides live data from multiple locations and enhances the public's access to environmental information. Additionally, the first city-level air quality assessments for Tashkent and Termez have been conducted, offering a more localized understanding of pollution sources and population exposure, and the action plan on air quality measures in Tashkent is being implemented.

A national strategy on air protection through 2035 is under development, indicating a shift toward a long-term and more strategic approach to air quality governance. Uzbekistan is planning to accede to the Air Convention. The Government has introduced stricter regulatory measures in the transport sector to curb vehicle emissions, and policy attention to industrial emissions control through BATs has increased in recent years. This includes the adoption of policies to incentivize technological modernization in energy-intensive sectors. Non-anthropogenic pollution is addressed by the 2024 National Programme for Combating Sand and Dust Storms for the period 2024–2030. Furthermore, recent health impact studies and improved data collection have strengthened the country's capacity to report on SDG indicators 3.9.1 and 11.6.2, reflecting enhanced institutional awareness of the link between air pollution and public health.

However, several systemic challenges continue to constrain Uzbekistan's ability to manage air quality effectively. While monitoring coverage has improved, quality assurance and control of data from automatic stations remains insufficient; there are too few trained local specialists capable of operating and maintaining this equipment. Moreover, historic air quality data are not fully accessible—not only to the public, but even to key decision-makers within the Ministry of Ecology, Environmental Protection and Climate Change, undermining evidence-based policymaking. Public communication on natural pollution events, particularly sand and dust storms, is still insufficient to help vulnerable groups take preventive action. Fuel quality standards remain relatively weak and have not been further tightened to reduce harmful emissions.

139 FAO (n.d.).
140 UNITAR (n.d.).
141 Uzbekistan (2012).

As of July 2025, although the use of BATs is more promoted, their implementation remains underfunded and limited, and enforcement mechanisms are not strengthened.

Tashkent has developed a formal air quality management plan while other cities remain without strategic frameworks to tackle urban air pollution. Burning of low-quality coal, unclean fuels and household or agricultural waste continues to be a widespread practice, contributing significantly to local ambient particulate matter pollution. While the country has made progress in basic assessments, it lacks scientifically robust, peer-reviewed studies that can fully characterize the composition, sources and spatial distribution of both anthropogenic and non-anthropogenic air pollution. Recent policy advances do not translate yet into measurable improvements in air quality and public health.

Water

Uzbekistan progressed in data collection and reporting on water resources. Water scarcity and pollution and the Aral Sea crisis persist in the country. Water pollution poses a challenge to environmental quality and sustainable development, affecting both surface and ground water. Agriculture, industry, mining and domestic sewage are major sources of water pollution. Agriculture, which uses up to 90 per cent of water resources, contributes to pollution through inadequate agricultural practices, such as excessive use of fertilizers and pesticides, inefficient irrigation and wastewater from livestock. Industry exacerbates pollution with inadequate sewage treatment. Mining activities continue to contaminate water resources. Domestic sewage collection and purification remain insufficient.

Uzbekistan has implemented measures to control water pollution through enhanced legal and institutional frameworks, including new laws, the Water Code and the establishment of several ministries with specific mandates related to water resources, including the Ministry of Water Resources. The country engages in international cooperation, focusing on the Aral Sea and transboundary water issues, and has joined the Protocol on Water and Health. The 2023 Constitution and Strategy Uzbekistan – 2030 prioritize water conservation and environmental protection. The State Programme for the implementation of Strategy Uzbekistan – 2030 outlines specific measures to reduce pollution, involving multiple ministries and emphasizing data sharing and cooperation. Ongoing projects with ECE and other Central Asian countries aim to strengthen water governance and resilience to climate change, with additional regulations being developed to address specific concerns like tailings management. Uzbekistan has adapted selected SDG targets and indicators related to water to national needs, with information available on a dedicated web platform hosted by the National Statistics Committee.

Soil

Soil is a central issue for Uzbekistan due to the risks of desertification and pollution. This challenge coincides with a period of rapid change, marked by a 30 per cent increase in agricultural area, population growth, expansion of settlements, industry and mining, all contrasted by water scarcity and climate change, which also affect soil quality. The risks of desertification are well analysed. Targeted measures in areas at risk and better protection and rehabilitation measures in areas with serious soil contamination lack adequate monitoring and open data. Soil monitoring by competent agencies is limited, and data from scientific research and extending public information are not integrated.

Biodiversity

Uzbekistan's diverse ecosystems and species face threats from pollution. The country's arid climate and climate change already increase ecosystem vulnerability, with pollution undermining their adaptive capacity even further. Major rivers are polluted, affecting biodiversity and public health, while soil contamination remains a concern.

Uzbekistan is taking various measures to monitor and mitigate pollution's impact on biodiversity, including increasing protected areas, improving management of pesticides, waste and wastewater as well as first steps towards environmentally sustainable agriculture, such as the introduction of Good Agriculture and Environmental Practices and support for organic agriculture. Waste and wastewater management improvements are ongoing.

However, financial and personnel resources for protected areas are insufficient, and gaps in monitoring aquatic biodiversity and understanding pollution impacts limit tailored policy responses. Small hydropower plant development could impact aquatic biodiversity. The complex institutional framework for pesticide management slows decision-making.

Waste

Population growth and socioeconomic development in Uzbekistan have led to increasing MSW generation. In response, the Government has taken considerable steps to address both current challenges and legacy issues, including numerous rapidly filling registered and unregistered dumpsites that pose environmental and health risks. Key actions include: centralization of waste management responsibilities, including landfill oversight, under the newly established Agency for

Waste Management and Circular Economy Development within the Ministry of Ecology, Environmental Protection and Climate Change; rehabilitation and improvement of several dumpsites, alongside the progressive closure and remediation of remaining sites; and improved waste data collection, transitioning from estimates to more accurate measurements through the installation of weighbridges and GPS during collection and disposal.

These efforts have been accompanied by a gradual expansion of MSW removal service coverage; the promotion of recycling schemes and plastic waste reduction initiatives; and the launch of waste-to-energy investments, including plans for MSW incineration plants as part of an integrated waste management system. However, these measures have not been matched by sufficient efforts to enhance circularity, particularly for e-waste, batteries, plastics and biodegradable waste. This limits progress in material recovery and recycling and increases the volume of organic waste destined for incineration.

Despite infrastructure investments, recycling rates remain low, and extended producer responsibility schemes are still under development. Most MSW continues to be landfilled, and illegal dumping persists. As of 2025, waste data largely remains estimate-based, although the shift toward weighing waste at disposal and recycling sites is a promising development.

Industrial waste management, mostly stored on-site, remains a persistent challenge. A positive development is a new investment project aimed at establishing dedicated industrial waste landfills, stabilization facilities, transfer stations and waste-to-energy plants. Similarly, the centralization of medical waste treatment is a welcome initiative. If scaled up and integrated with a unified system for storage, transport and disposal, it could significantly improve medical waste management. There is no evidence of an investigation into the use of PCBs or PCB-containing equipment in industrial sectors. As of 2025, no plan exists for the elimination or safe disposal of PCBs, representing a significant gap in hazardous waste management. The rising volume of construction waste calls for targeted initiatives to promote reuse and recycling prior to disposal. Among specific waste streams, plastics have received the most policy attention, with bans on certain single-use items and the planned launch of a new plastic recycling system in 2026.

While pilot projects for battery recycling have been initiated, most e-waste remains unaccounted for, often managed together with MSW. Nonetheless, new investment projects targeting these sub-streams are promising. If scaled and supported by robust extended producer responsibility schemes, they could lead to substantial improvements and support the transition to a circular economy. The ongoing development of a framework for extended producer responsibility is a critical step in this direction.

Chemicals

Since the third EPR, Uzbekistan has made notable institutional and regulatory advancements in chemicals management. A key milestone was the establishment of the Division for protection against emergencies involving highly flammable and explosive chemical substances under the Ministry of Emergency Situations, which has strengthened the country's capacity to respond to chemical accidents.

Uzbekistan has also demonstrated its commitment to sound chemicals governance and international compliance through progress in implementing the Stockholm, Basel and Rotterdam Conventions. National initiatives, such as the development of inventories of POPs and obsolete pesticides, have contributed to improved baseline data collection.

Despite these advances, several challenges persist. Institutional coordination remains weak, hindered by overlapping mandates across multiple ministries, including the Ministry of Ecology, Environmental Protection and Climate Change, the Ministry of Health, the Ministry of Agriculture and the Ministry of Emergency Situations. While coordination mechanisms were introduced, they remain informal and lack clearly defined mandates, resulting in duplicated efforts and oversight gaps. The Division for protection against emergencies involving highly flammable and explosive chemical substances has improved emergency response capacity, but resource limitations and insufficient inter-agency coordination continue to constrain effective and timely incident management.

Data systems for chemicals and hazardous waste monitoring are still in early stages of development. Although progress has been made in compiling chemical inventories, the absence of a unified national chemicals database hampers comprehensive reporting for SDG indicator 12.4.2 and limits evidence-based policy development.

Laboratory infrastructure and hazardous waste treatment facilities require modernization. Many analytical laboratories operate with outdated equipment and lack proper accreditation. Hazardous waste treatment capacity remains limited, leading to unsafe disposal practices in some regions. The lack of coordination may also contribute to uncontrolled emissions, including methane, dioxins and furans, which are classified as POPs.

Public awareness of chemical hazards is limited, reducing community engagement and limiting the effectiveness of risk prevention efforts. Information dissemination and stakeholder engagement remain weak, with limited public access to safety data or opportunities for participation in decision-making processes.

Conclusions and recommendations

Addressing air pollution

As of July 2025, Uzbekistan does not have a dedicated national strategy on air quality management. While the 2019 Concept of Environmental Protection until 2030 and other strategic documents outline sectoral interventions, these efforts are not consolidated into a unified, cross-sectoral framework.

Air quality governance involves numerous ministries, agencies and local authorities. However, the country lacks an efficient mechanism to oversee and coordinate the implementation of air quality policy. Limited coordinated implementation and unavailability of detailed local epidemiological data hamper progress toward reducing concentrations of the most harmful pollutants.

City-level capacities for air quality management are limited; Tashkent remains the only city with an approved air quality plan. Most local governments lack the institutional mandate and technical capacity to design and implement localized measures, despite substantial variation in pollution sources and population exposure across regions.

Recommendation 1.1:

The Government should:

(a) Finalize and adopt a national strategy on air protection through 2035 with concrete action plans, prioritizing action on pollutants that are most harmful to human health, and with clear interministerial coordination for the implementation of air quality policy;

(b) Ensure that municipal governments are given the institutional capacity to define and implement local air quality measures;

(c) Also ensure that municipal governments develop city-level air quality management plans in accordance with the national air quality policy and tailored to local sources of pollution and population exposure patterns.

Policy decisions are often made without comprehensive assessments of pollution sources and health impacts. Assessments of air quality impacts on health are lacking, particularly in distinguishing natural from anthropogenic emissions and identifying vulnerable population groups.

Recommendation 1.2:

The Ministry of Health and the national authority in charge of the environment in cooperation with the National Statistics Committee, the WHO Country Office and other relevant stakeholders, should:

(a) *Define appropriate air quality indicators, ensure their measurement, conduct source apportionment studies and air pollution assessments, and, based on the data obtained, assess the exposure of populations by age group, region and pollutant and cross-reference them with health data;*

(b) Based on the above-mentioned assessments, establish an action plan to carry out health prevention and environmental protection measures.

There is a shortage of specialized human resources for air quality management in Uzbekistan, both at national and local levels. Staff across relevant ministries and agencies often lack the technical training or dedicated roles needed to implement and monitor air quality measures effectively. Without investments in capacity building and professional development, the implementation of ambitious national targets remains limited. The potential of institutions such as the Central Asian Green University, along with other relevant academic and training bodies, to provide targeted education and training in this field has yet to be fully utilized.

Recommendation 1.3:

The national authority in charge of the environment should:

(a) Establish formal training and education programmes on air quality management, including with the Central Asian Green University and other relevant institutions;

(b) Enhance capacity in air quality management in its regional offices.

Addressing water and soil pollution

Funding for drinking water supply and sewerage infrastructure remains insufficient to accelerate surface water protection. Allocations for sewerage and wastewater treatment are too low to meet standards for residential-grade treatment plants and maximum allowable concentrations of pollutants in surface water bodies. Industrial wastewater treatment outside municipal networks is also inadequately addressed.

The most polluted surface water bodies and soils in Uzbekistan are heavily impacted by industrial and mining activities. However, mitigation efforts remain limited. International experiences, such as those from the International Council on Mining and Metals, UNEP, the 2020 Principles for Responsible Investment and the Global Industry Standard on Tailings Management, could serve as useful references for improving practices.

Recommendation 1.4:

The Government should:

(a) Increase funding for drinking water supply and sewerage infrastructure and management, including by allocating a higher share of funding to wastewater treatment, to comply with regulatory standards for pollutant concentrations in surface water bodies;

(b) Prioritize measures to reduce the impacts of industry and mining, particularly on the most polluted surface and ground water bodies and soil, and improve treatment of industrial wastewater not discharged to municipal sewerage networks;

(c) Introduce international standards on tailings management.

Addressing pollution impacts on biodiversity

Protected areas play a critical role in safeguarding biodiversity by limiting or prohibiting activities that cause habitat degradation and pollution. Uzbekistan has made progress by expanding its protected areas to include Key Biodiversity Areas and habitats for threatened species.

To ensure the effectiveness of protected areas, adequate funding is essential for their management and enforcement. Local authorities play a vital role in habitat conservation, reforestation and the maintenance of protected areas, and require support to continue and scale up these efforts. Public awareness and engagement are crucial to reducing biodiversity-related pollution and fostering a culture of environmental stewardship.

Recommendation 1.5:

The Government should:

(a) Increase the area effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, and allocate adequate funding to ensure the efficient management of protected areas;

(b) Support local authorities in their action to protect and restore habitats through conservation, reforesting and maintaining protected areas;

(c) Enable regular environmental awareness campaigns, including with a focus on the pollution of biodiversity.

Addressing waste

Recent years have seen the centralization of municipal solid waste (MSW) collection and disposal under the Agency for Waste Management and Circular Economy Development, the entry into operation of a modern sanitary landfill in Tashkent region's Akhangaran district, and the progressive closure and rehabilitation of dumpsites across the country. However, the standards of most waste disposal sites do not meet those of Tashkent's Akhangaran landfill. Plans to build waste-to-energy plants are underway, but these are not yet fully incorporated into an integrated waste management system that prioritizes reduction, reuse, recovery and recycling. As a result, recyclable and organic fractions of MSW may still be landfilled or incinerated.

Extended producer responsibility schemes are under development but not yet operational. Efforts to improve collection and recycling of e-waste, batteries and plastics remain insufficient. Construction waste generation has been increasing, requiring efforts for reuse and recycling prior to disposal.

Progress has been made in centralizing medical waste management, including incineration, contributing to both pollution prevention and public health benefits.

Recommendation 1.6:

The national authority in charge of the environment should:

(a) Complete the nation-wide closure and remediation of dumpsites, the rehabilitation and improvement of sites that are still operating, and the building of centralized modern sanitary landfills, progressively bringing all operating sites across the country up to modern sanitary standards and emissions monitoring requirements;

(b) Incorporate all waste-to-energy plants for municipal solid waste (MSW) into an integrated solid waste management system, prioritizing waste reduction, reuse, recovery and recycling prior to incineration;

(c) Accelerate efforts aimed at reduction, reuse, recovery and recycling of both material and organic waste prior to landfilling, contributing to an integrated solid waste management system;

(d) Promote reuse and recycling of construction waste and the establishment of extended producer responsibility schemes, focusing on e-waste, batteries, plastics and other priority MSW streams;

(e) Upscale efforts to centralize medical waste storage, transport and disposal;

(f) Progressively provide industrial waste stabilization, collection and treatment in all regions.

Addressing chemicals

Uzbekistan's chemicals legislation remains insufficiently aligned with international standards, including for industrial accidents. Industrial activities are major sources of hazardous chemicals, yet current regulatory and technical measures fall short in promoting the substitution of hazardous substances and the adoption of cleaner production methods. Industrial practices do not reflect international norms for chemicals management and lifecycle risk assessment is not integrated into regulatory processes. There are no incentives for green innovation and regulatory oversight lacks the rigor needed to support a transition toward sustainable and safe chemical use.

As of July 2025, the regulatory and technological approach to emissions control is limited in both scope and enforcement. While the use of dust and gas filters is mandated for certain categories of enterprises, best available techniques (BAT) are not widely implemented. Uzbekistan does not apply the technical guidance of the Convention on Long-range Transboundary Air Pollution to support BAT implementation. Practical steps for the implementation of BAT could be to:

- Conduct practical workshops on BAT for specific industry sectors, including on-site facility visits and roundtable discussions on the findings, with representatives of the competent authority invited to participate;
- Conduct training workshops on air emissions monitoring with case studies, and on the cost-effectiveness of BAT implementation (cost-benefit analysis);
- Prepare a handbook, tools and methods for selected BAT techniques in the field of urban wastewater treatment;
- Develop a guide for inspectors of installations with a focus on BAT implementation (weighing evidence, expert judgment);
- Conduct training sessions for contact persons and inspectors;
- Engage stakeholders in the BAT process, organize stakeholder workshops to provide information on the BAT approach in different sectors;
- Contact experts from Kazakhstan, as they have already developed BAT Documents and may share similar experiences regarding environmental standards.

Recommendation 1.7:

The Government should:

(a) Revise national chemicals legislation to align it with international standards on classification, labelling, risk assessment, industrial accidents and public information disclosure;

(b) Finalize the revision of the registry of permitted pesticides, ensuring alignment with international good practices and commitments to phase out highly hazardous pesticides;

(c) Harmonize chemicals-related regulations and enforcement across relevant sectors, including environment, health, agriculture, emergency response and industry;

(d) Introduce regulatory incentives, tax relief and technical support for the substitution of hazardous substances to promote sustainable chemical use in industry;

(e) Enforce sanctions for illegal handling of hazardous substances;

(f) Enhance enabling legislation and establish threshold values to require the use of best available techniques (BAT);

(g) Take appropriate, practical steps, including the introduction of financial incentives to support the implementation of BAT.

Uzbekistan has progressed in chemicals management since its third EPR, including the establishment of the Division for protection against emergencies involving highly flammable and explosive chemical substances, as well as improvements in POPs inventories. However, the absence of an overarching strategic framework limits coordination across sectors and alignment with international obligations and the SDGs. Without a long-term strategy that includes measurable targets, clear implementation timelines, identified financing sources and measures to prevent industrial accidents, efforts to manage chemical risks throughout their lifecycle remain fragmented. This hinders institutional coordination, compliance with the Stockholm, Basel and Rotterdam Conventions, and regular reporting on SDG target 12.4. As of 2025, Uzbekistan has initiated development of a cross-sectoral national strategy on chemicals and waste.

Public awareness of chemical risks remains low, limiting prevention and preparedness at the community level. Safety information is either not widely known or not easily accessible to relevant stakeholders.

Recommendation 1.8:

The Government should:

(a) *Finalize and adopt the cross-sectoral national strategy on chemical and waste, aligned with the Global Framework on Chemicals and the principles of life-cycle chemicals management;*

(b) Harmonize chemicals-related policies across sectors, including environment, health, agriculture, emergency response and industry, including to prevent industrial accidents;

(c) Integrate public awareness and stakeholder engagement into the national chemicals management agenda, including educational campaigns on chemical safety and disposal;

(d) Ensure public access to chemical safety data through mandatory labelling and community right-to-know systems.

Despite the establishment of a dedicated department, Uzbekistan's preparedness for chemical emergencies remains limited due to resource constraints and weak coordination. Strengthening institutional capacity and inter-agency collaboration, in line with the Convention on the Transboundary Effects of Industrial Accidents, is essential for effective emergency response and risk reduction.

Uzbekistan has taken steps to strengthen its emergency response capacity. However, integrating international norms and good practices, in line with the Convention, into the national framework remains critical to improving preparedness, coordination and response effectiveness. Collaboration with the international community can support capacity-building, knowledge exchange and the adoption of proven methodologies, thereby enhancing the resilience to environmental risks.

Recommendation 1.9:

The Ministry of Emergency Situations should:

(a) Strengthen institutional capacity and develop coordination mechanisms on emergency response and risk reduction with other relevant authorities and conduct regular national-level simulation exercises and drills;

(b) Integrate good practices and international norms into the national risk reduction and emergency management framework in collaboration with development partners.

Effective chemicals management requires coordinated action across sectors such as environment, health, agriculture, industry and emergency response. Despite steps taken since the third EPR to strengthen institutional mandates, coordination remains informal and fragmented. This results in overlapping responsibilities and implementation gaps. The lack of an inter-agency coordination body with a designated lead authority undermines policy coherence and enforcement as well as the implementation of multilateral environmental agreements and achieving SDG target 12.4.

The three ministries responsible for pesticide regulation are revising the registry of permitted pesticides, but progress is slow due to weak interministerial cooperation.

Recommendation 1.10:

The Government should:

(a) Establish an inter-agency coordination body on chemicals management, with clearly-defined roles and responsibilities for participating institutions, including overseeing national implementation of multilateral chemicals agreements and related SDG indicators;

(b) *Strengthen cooperation between the ministries in charge of the environment, health and agriculture and their subordinate agencies involved in regulating the use of pesticides;*

(c) *Expand regional capacity for hazardous waste treatment and disposal, ensuring environmentally sound practices, in line with the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal and the Stockholm Convention on Persistent Organic Pollutants.*

Reducing the impact of key sectors on the environment

Despite the efforts undertaken by the country, accelerated action is needed to effectively address environmental pollution. As of 2025, pollution levels from the agriculture, industry and waste sectors remain considerable. In addition, localized and seasonal pollution further exacerbates the situation. For instance, the widespread use of greenhouses around Tashkent contributes to wintertime pollution, as heating is often provided by burning tyres and other materials that release hazardous emissions.

Recommendation 1.11:

The Government should develop policy measures to reduce emissions from industry, agriculture, fertilizer application, municipal solid waste burning and waste incineration.

Efforts to mitigate increasing salinization of soils and water bodies and to adapt agriculture to saline conditions are ongoing. However, given that soil salinity and water scarcity are projected to worsen, current measures are insufficient to address future challenges.

Uzbekistan has initiated improvements in pesticide management across the lifecycle. While policies supporting biological pest control exist, they remain underfunded. Efforts are underway to identify sites contaminated with legacy pesticides, particularly former agricultural airfields and storage facilities.

Recommendation 1.12:

The Government should:

(a) *Strengthen implementation of measures that reduce saline water runoff and that adapt agriculture to saline soils;*

(b) *Enhance research on reducing saline water runoff and adapting agriculture to saline soils;*

(c) *Advance the identification and analysis of sites contaminated with pesticides;*

(d) *Provide sufficient funding for remediation measures on sites contaminated with pesticides;*

(e) *Scale up financial support for adoption of biological methods of pest control and integrated pest management.*

Since the third EPR, Uzbekistan has progressed in improving water efficiency in agriculture. However, there remains considerable potential to scale up environmentally sustainable agricultural practices that reduce pollution from agricultural sources. This includes expanding organic agriculture and integrating Good Agricultural and Environmental Practices. No review has been conducted of subsidies that may be harmful to biodiversity.

Recommendation 1.13:

The Government should:

(a) *Reform subsidies harmful to biodiversity, including agricultural subsidies;*

(b) *Integrate Good Agricultural and Environment Practices across all forms of public support to agriculture, including subsidy programmes, advisory and extension services and research;*

(c) *Enhance regulatory and educational measures to promote organic agriculture;*

(d) *Upscale financial support to promote organic agriculture.*

Environmental impact assessment

The 2025 Law on Ecological Expertise, Environmental Impact Assessment and Strategic Environmental Assessment entered into force on 25 August 2025. International experience shows that successful implementation of EIA and SEA requires a complex learning process and active engagement of all relevant stakeholders. The country is yet to undertake a targeted capacity development campaign that would include provision of general information, specific training, guidelines, best practices and peer learning opportunities for all stages of environmental assessment (screening, scoping and full assessment). The law does not include explicit provisions to consider cumulative impacts. The absence of mandatory chemical risk assessments within environmental impact assessments limits Uzbekistan's ability to anticipate and mitigate environmental risks at the project planning stage, including the prevention of industrial accidents.

Recommendation 1.14:

The Government should:

(a) Timely enact the necessary by-laws to operationalize the Law on Ecological Expertise, Environmental Impact Assessment and Strategic Environmental Assessment in line with international practices;

(b) Introduce provisions for assessing cumulative impacts in environmental impact assessments, through technical guidelines or by-laws, in line with international good practices;

(c) Require the inclusion of an explicit review of chemical risks in environmental impact assessments for all new industrial projects involving hazardous chemicals.

Recommendation 1.15:

The national authority in charge of the environment should:

(a) Develop and provide general information, targeted training, guidelines and good practices, and facilitate the exchange of experiences among environmental assessment practitioners;

(b) Establish common standards to ensure assessments are focused and relevant to individual projects or plans, avoiding overly broad or superficial assessments.

Uzbekistan's plan to construct 3,000 small hydropower plants (SHPPs) may pose risks to water flow and aquatic biodiversity, particularly due to the cumulative impacts of multiple cascade installations on the same watercourse. These risks include habitat fragmentation, disruption of fish migration routes and altered water flow regimes, which can severely affect aquatic ecosystems. While the World Bank applies environmental safeguards to the SHPPs it finances, national regulatory requirements for other SHPPs remain undefined. Although the 2025 Law on Ecological Expertise, Environmental Impact Assessments and Strategic Environmental Assessment introduces revised risk classifications, it does not explicitly address cumulative environmental risks. Furthermore, national capacity to conduct comprehensive environmental assessments and integrate effective mitigation measures into SHPP planning and implementation remains limited. The country is yet to apply strategic environmental assessment for SHPPs plans and programmes, as well as to ensure robust environmental impact assessments and environmental audits at the SHPP project level.

Recommendation 1.16:

The national authority in charge of the environment should ensure effective:

(a) Strategic environmental assessment of programmes and plans for small hydropower plants;

(b) Environmental impact assessment and risk mitigation measures for implementing individual projects for small hydropower plants;

(c) Environmental audit of existing small hydropower plants.

Strengthening monitoring, data, environmental information and technical capacity

At-source monitoring of air pollutants in the agriculture and waste sectors is insufficient, notably in the context of the planned development of waste-to-energy treatment facilities. Monitoring systems for surface water, groundwater and soil quality are not yet aligned with international standards, limiting their effectiveness in supporting water and soil protection efforts.

The methodology for national SDG indicator 6.3.1 does not accurately reflect the proportion of wastewater treated to valid standards compared to all wastewater produced, and data quality checks are lacking. This undermines the indicator's utility for tracking progress in domestic wastewater treatment.

Laboratory capacity remains limited, and infrastructure for hazardous waste is inadequate, particularly at the regional level. This affects Uzbekistan's ability to manage chemicals and hazardous waste in line with the Basel and Stockholm Conventions.

Recommendation 1.17:

The Government should:

(a) Improve at-source monitoring of air pollutants, particularly in highly polluting industries, medical waste incinerators and waste-to-energy plants for municipal solid waste;

(b) Align monitoring systems for surface water, groundwater and soil quality with international practices;

(c) Undertake a review of the methodology and the data quality for national SDG indicator 6.3.1 to include all wastewater generated;

(d) Monitor progress in wastewater treatment;

(e) Regularly compile and make publicly available comprehensive data on industrial and municipal wastewater and treated and untreated discharged wastewater;

(f) Secure funding and technical support for modernizing environmental laboratories, including equipment upgrades, accreditation, alignment to ISO 17025 standards and staff training;

(g) Expand availability and use of monitoring information for informed decision-making to enhance planning, implementation and evaluation of measures for water and soil protection, including to prevent risks.

Uzbekistan lacks a national inventory of air pollutant emissions aligned with best practices under the Convention on Long-range Transboundary Air Pollution. Waste data have improved but are still largely based on estimates, and inventories for priority waste streams are lacking. Hazardous industrial waste management is being developed, but a national inventory of PCBs and PCB-containing equipment has not yet been conducted. Public access to industrial emissions data remains limited. Data exchange among relevant agencies is also limited. Scientific institutions are not adequately involved in monitoring activities, data evaluation or in the dissemination of environmental information. Stakeholders and the public do not have comprehensive access to monitoring data, which is often shared exclusively with governmental authorities or provided only upon request, undermining transparency. Additionally, integrated, policy-relevant monitoring information is not readily accessible. As of 2025, a pollutant release and transfer register has not been established.

Recommendation 1.18:

The Government should:

(a) Establish a national inventory of industrial air pollutant emissions aligned with international good practices;

(b) Develop inventories and recycling systems for priority municipal solid waste streams;

(c) Develop a national inventory of use of PCBs and PCB-containing equipment;

(d) Establish a pollutant release and transfer register to improve transparency and public access to industrial emissions data, including for air, water and soil pollutants;

(e) Ensure common use and exchange of data between all competent agencies and services, including scientific research institutions;

(f) Make monitoring data and information publicly available.

Uzbekistan has made significant progress in expanding its air quality monitoring network, particularly with the installation of new automatic monitoring stations. However, challenges remain regarding data reliability, calibration, quality assurance and quality control, and accessibility. The long-term sustainability of the system also depends on adequate financing and human resource capacity. Despite progress on public data platforms, historical data remain not accessible, hindering evidence-based assessment of key air pollution trends, and therefore also policymaking and public engagement.

As of May 2025, the monitoring of aquatic biodiversity is limited both in geographic coverage and in parameters assessed. The impact of landfills on biodiversity has not been evaluated, including on whether certain landfills have particularly negative impacts.

Recommendation 1.19:

The national authority in charge of the environment should:

(a) Ensure proper functioning, calibration and data quality control of automatic air quality monitoring stations;

(b) Provide open access to historical and real-time air quality data for decision-makers and the public;

(c) Consider installing a background monitoring station in line with the Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe to improve data comparability in the ECE region;

(d) Extend air quality monitoring and ensure data collection to measure annual mean levels of fine particulate matter in cities towards reaching SDG target 11.6;

(e) Expand the programme for monitoring of aquatic biodiversity;

(f) Assess the impacts of the country's landfills and dumpsites on biodiversity and identify mitigation measures.

The Agency of Hydrometeorological Service plays a key role in monitoring but lacks resources to expand programmes, increase sampling, add new parameters and upgrade laboratories to meet ISO 17025 standards.

Recommendation 1.20:

The Ministry of Ecology, Environmental Protection and Climate Change should expand and upgrade its water and soil monitoring programmes, including by increasing the number of water and soil samples and parameters monitored.

The absence of an integrated chemicals and hazardous waste data system limits oversight and SDG reporting. Also, data on all types of waste is not made available. A centralized digital platform, that would enhance transparency, support policymaking and improve inter-agency coordination, is lacking in Uzbekistan as of 2025.

The absence of an integrated chemicals and hazardous waste data system limits effective oversight and SDG reporting in Uzbekistan. A centralized digital platform would enhance transparency, support evidence-based policymaking and improve inter-agency coordination.

Recommendation 1.21:

The National Statistics Committee, in collaboration with relevant authorities, should:

(a) Develop, operationalize and regularly update a centralized chemicals and hazardous waste data platform, openly accessible to authorities and the public;

(b) Use the above-mentioned platform to report in line with SDG target 12.4.

Strengthening international cooperation

Air pollution in Uzbekistan has transboundary implications, including sand and dust storms and industrial emissions that cross national borders. While the country has made progress in assessing the feasibility of joining the Convention on Long-range Transboundary Air Pollution (Air Convention), including the submission of relevant draft regulations to the Administration of the President, it has not yet acceded to the Convention or its amended protocols. As a result, Uzbekistan does not benefit from the Convention's scientific cooperation, data exchange, and technical assistance, particularly in relation to emission inventories and the implementation of best available techniques (BAT).

In addition, Uzbekistan is not a party to several key international agreements that support the safe management of hazardous substances and pollution reduction, including:

- The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade;
- The Minamata Convention on Mercury, which addresses mercury pollution and its impacts on health and the environment;
- The Convention on the Transboundary Effects of Industrial Accidents;
- The Protocol on Pollutant Release and Transfer Registers (PRTR) to the Aarhus Convention, which promotes transparency and public access to environmental information.

Recommendation 1.22:

The Government should align the national legal framework with and propose accession to:

(a) The Convention on Long-range Transboundary Air Pollution and its amended protocols;

(b) The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade;

(c) The Minamata Convention on Mercury;

(d) The Protocol on Pollutant Release and Transfer Registers to the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters.

Recommendation 1.23:

The Government should examine the feasibility of accession to the Convention on the Transboundary Effects of Industrial Accidents.

CHAPTER 2
GREEN DEVELOPMENT

Photo 2.1: Green Belt within the infrastructure of Uzbekistan's modern highways

Photo credit: Press Service, National Committee on Ecology and Climate Change of Uzbekistan

Since 2018, Uzbekistan has advanced its green development agenda through the adoption of comprehensive environmental policies and increased investments in renewable energy, a clear shift from the pre-2018 period's limited focus on sustainability. Uzbekistan expanded its GDP in nominal terms, doubling in six years. Based on the SDG target 17.13 (Enhance global macroeconomic stability, including through policy coordination and policy coherence), the nationalized SDG indicator 17.13.1 shows that Uzbekistan has undergone resilient growth. Nominal GDP in billions of soums expanded from 473,652.8 in 2018 to 1,192,162.5 in 2023, underpinned by an average annual growth rate of approximately 6 per cent, albeit with a temporary slowdown to 1.6 per cent in 2020 due to pandemic-induced disruptions, followed by a rebound to 8.0 per cent in 2021. Per capita GDP in thousands of soums more than doubled from 14,372.2 to 32,740.6, signalling improvements in living standards and productivity gains, while in purchasing power parity terms, the economy's total value in US$ billion rose from 237.0 to 354.1, with per capita figures climbing from 7,193 to 9,725. These metrics highlight Uzbekistan's enhanced global competitiveness, but also warrant continued policy vigilance to sustain this momentum into the green economy transition (see table 2.1).

Table 2.1: Macroeconomic benchmark, 2018–2023

	2018	2019	2020	2021	2022	2023
GDP (billions of soums)	473 652.8	594 659.6	668 038.0	820 536.6	995 573.1	1 192 162.5
GDP growth rate (percentage of the previous year)	5.6	6.8	1.6	8.0	6.0	6.3
GDP per capita (1,000 soums)	14 372.2	17 708.5	19 515.0	23 500.9	27 927.8	32 740.6
Total (billion US$)	237.0	252.3	257.3	285.0	322.3	354.1
Per capita (US$)	7 193.0	7 514.0	7 516.0	8 162.0	9 042.0	9 725.0

Source: National Statistics Committee (National SDGs Data Portal), 2025.

Note: Data have been recalculated for individual years.

Uzbekistan continues to face major environmental challenges, including the desiccation of the Aral Sea, biodiversity loss, desertification and frequent dust storms (see chapter 1).[142] In response, national authorities have enacted several high-level policy frameworks aimed at combating environmental degradation and promoting green development. In a symbolic and strategic move, the President declared 2025 as the "Year of Environmental Protection and the Green Economy" intended to catalyse large-scale investments in environmental sustainability and economic growth.[143]

A central pillar of Uzbekistan's green transition is the aim to expand drastically the share of renewable energy in national energy generation. The 2025 Decree of the President No. 16 on the State Programme for the Implementation of Strategy Uzbekistan – 2030 in the "Year of Environmental Protection and Green Economy" suggests bringing the share of renewable energy sources (RES) in electricity generation up to 26 per cent and to 40 per cent in the overall structure of generation capacity. Later, the President announced the ambitious target of achieving 54 per cent share of renewable energy in energy generation by 2030.[144] In 2023, Uzbekistan's primary energy consumption was dominated by natural gas at 80 per cent, followed by oil at 10 per cent, coal and lignite at 8 per cent, and hydropower at 1 per cent, while electricity production primarily came from gas at 78 per cent, hydropower at 8 per cent, coal at 7 per cent, and solar photovoltaic at approximately 3.5 per cent, reflecting a heavy reliance on fossil fuels with gradual renewable integration.[145] According to the Ministry of Energy, the share of RES in energy consumption increased to 16 per cent in 2024. Despite this progress, Uzbekistan's energy sector remains heavily reliant on fossil fuels. Concerns also arise about the financial burden of large-scale green investments, which pose challenges to the pace and scale of the country's green transition.[146]

2.1 GREENING THE TAX AND TARIFF SYSTEM

Pollution charges

Air

From 2018 to 2025, Uzbekistan enhanced air pollution control through stricter regulations and monitoring systems, in contrasting to minimal enforcement pre-2018. Total annual pollutants released into the atmosphere decreased by 25 per cent in the period 2018–2024 (see chapter 1).[147] The Ministry of Ecology, Environmental Protection and Climate Change sets environmental standards, including maximum allowable concentrations (MACs).[148] In 2022, stationary source emissions totalled 887,700 tons, primarily in Tashkent (430,000 tons), Kashkadarya (128,100 tons), Syrdarya (71,800 tons) and Samarkand (52,700 tons), due to industrial activity.[149] As an illustration, in early 2024, a cotton processing factory in the Jizzakh region was found to exceed dust emission limits, resulting in the head of the enterprise being fined 3 basic calculation units (BCUs).[150] Additionally, as part of the 2024 "Clean Air" campaign, 407,000 vehicles were inspected, preventing 256.9 tons of pollutant emissions from entering the atmosphere, demonstrating continued efforts to improve air quality through monitoring and control measures.[151] Air quality monitoring includes monthly sampling, 61 stationary posts and PM_{10}/$PM_{2.5}$ tracking, integrated into a unified database. In 2024, Tashkent mandated emission control equipment for more than 120 companies to be installed by December 2024. However, deadlines were extended to 2026. As of August 2025, 37 enterprises have installed 65 automated stations.

Construction-related dust, causing 50–80 dust storm days annually, is penalized with fines of 3,750,000 soums (10 BCUs[152]) for a first offence and 18,750,000 soums (50 BCU) for a repeated offence. Tashkent Thermal Power Plant was already fined for violations of environmental protection legislation, specifically air and soil pollution.[153] Uzbekistan is however planning to phase out obsolete installations. Between 2025 and 2027, 23 outdated and low-efficiency thermal power plant units with a total capacity of 3,257 MW are scheduled to be decommissioned. This measure is expected to reduce air pollution.

142 Kun.uz (2024).
143 Kamaladinova (2025).
144 Eurasianet (2025).
145 Our World Data (Energy consumption by source, Uzbekistan).
146 Kamaladinova (2025).
147 Statistics Agency under the President (2024.).
148 Agency of Hydrometeorological Service (n.d.).
149 International Institute for Sustainable Development (2024), p. 23.
150 Ministry of Ecology, Environmental Protection and Climate Change (2024).
151 The Tashkent Times (2024).
152 BCU=375,000 soums.
153 Gazeta.uz (2024).

Between 2019 and 2022, Uzbekistan imported 3,119 electric vehicles, with numbers increasing steadily each year.[154] At the same time, the overall number of motor vehicles in the country has risen sharply.[155] In response to these trends, Uzbekistan has announced a gradual phase-out of AI-80 gasoline. The Government has postponed the ban on imports of vehicles meeting Euro 4 standards or lower from the originally planned 2025 to 2028. To support this transition, major upgrades are scheduled for the Bukhara and Fergana oil refineries—both producers of AI-80 gasoline—as of August 2025.[156] Additionally, Uzbekneftegaz ceased offering AI-80 fuel on the commodities exchange as of 2 September 2025. The company has increased supplies of AI-92 gasoline instead, while honouring all previously signed contracts.[157]

Since 2021, Uzbekistan has improved its system for compensation for environmental pollution through compensatory payments (2021 Resolution of the Cabinet of Ministers No. 202). The Resolution establishes a new system of increased payment multipliers, under which entities that exceed approved pollution limits or operate without valid environmental standards must pay up to 20 times the base rate, depending on the degree of non-compliance. It also formally defines the specific pollutants and wastes subject to payment, clarifies exemptions for materials intended for reuse, and codifies the calculation and reporting procedures. Furthermore, the resolution mandated the implementation of an electronic system for calculating and paying compensation and designated the then State Committee for Ecology and Environmental Protection (Ministry of Ecology, Environmental Protection and Climate Change) as the primary body for monitoring and enforcement.

Despite these improvements, enforcement outcomes remain modest. In 2024, administrative enforcement generated only 332 million soums (approx. US$26,000) in fines for 1,356 air-pollution violations (Administrative Code, article 88), averaging less than US$20 per case. This amount is negligible compared to the estimated socio-environmental cost of the pollution and administrative costs of processing fines. This illustrates a broader challenge: Uzbekistan does not yet apply a True Cost Accounting (TCA) approach to its environmental fines and payments.[158] TCA can offer a comprehensive framework for Uzbekistan to advance its environmental policies by systematically quantifying the hidden social, health and ecological costs of pollution and resource use, which are often overlooked in traditional economic models. By integrating externalities such as air quality degradation, health impacts from emissions, and long-term environmental damage into financial assessments, TCA could inform more accurate pollution charges and incentives, encouraging behavioural shifts among enterprises toward sustainable practices. For instance, applying TCA to industrial emissions in high-pollution regions such as Tashkent could reveal the full societal burden, enabling targeted reforms that align with the country's green economy goals and international standards for sustainability.

Vehicle-related taxes

Excise duties

Since 2018, excise duties on petroleum products have been adjusted to incentivize cleaner fuels, unlike the pre-2018 uniform tax structure. From 1 April 2025, the excise tax rates were increased on average by 10 per cent on petroleum products, specifically gasoline, aviation kerosene, diesel fuel, EcoDiesel fuel, motor oil for diesel or injection engines, as well as on gasoline, diesel fuel, liquefied and compressed gas sold to the end consumer.[159] Conversely, the excise rate on natural gas decreased significantly from 20 per cent to 12 per cent starting 1 January 2025,[160] applicable to the sale of both domestically extracted natural gas and imported natural gas to consumers.[161]

In April 2024, Uzbekistan raised excise taxes on fuels. AI-80 gasoline tax increased 12.2 per cent to 340,000 soums per ton for producers and from 425 to 476 soums per litre at retail, raising prices by 1 per cent (88 soums/litre). Diesel fuel tax rose from 291,000 to 326,000 soums per ton and 425 to 476 soums per litre at retail, while EcoDiesel tax went from 262,000 to 293,000 soums per ton. Liquefied gas tax increased from 425 to 476 soums per litre, and compressed gas rose from 605 to 678 soums per m^3, raising methane prices by 3 per cent (84 soums). AI-91 and higher gasoline taxes remained unchanged. By January 2024, the zero excise tax on AI-80 was eliminated, increasing prices at UNG

154 International Institute for Sustainable Development (2024), p.29.
155 Gazeta.uz (2024a).
156 Kun.uz (2024a).
157 Kun.uz (2025f).
158 Kun.uz (2024f).
159 UzDaily.uz (2024).
160 Kun.uz (2024b).
161 Ministry of Economy and Finance. (2024).

Petro petrol stations from 6,050 to 6,800 soums per litre, with private stations charging 8,000–8,800 soums per litre.[162] These updated excise tax rates are expected to increase in the retail price for the end consumer.

Road user fees

From 2018 to 2025, road user fee structures were decentralized, replacing the pre-2018 centralized Road Fund system with regional funding mechanisms. In the years following the abolishment of the Republican Road Fund in 2019, the main road user charges related to the Republican Road Fund were also abolished, and a treasury account was opened in the Ministry of Economy and Finance.[163] However, regional funds do have earmarked road user charges that are collected at regional or district level.[164] Given that there are no longer earmarked road user charges and instead the new Fund is dependent on allocations from the annual budget, (re)construction and capital repair funding comes from the state budget and interest-free loans from the Fund for Reconstruction and Development (US$50 million in 2020, and US$100 million per year for the period 2021–2024).[165] The Fund for the Development and Support of the Committee for Roads is financed by 80 per cent of the foreign vehicle entry fee, with 20 per cent allocated to the state budget.[166] There is a foreign vehicle entry fee, however, and it depends on several factors (length of stay, type of vehicle, weight of vehicle and country of origin). The 2024 Law No. 1011 on the State Budget for 2025 sets out the rates of fees for the entry of foreign vehicles into the territory of Uzbekistan and transit through its territory for 2025.

Starting 1 January 2025, Uzbekistan has revised entry fees for foreign cargo trucks, with significant increases for Turkmenistan carriers (up to 160 per cent), ranging from US$130 for trucks up to 10 tons to US$375 for third-country cargo transport. Trucks from European Union and Azerbaijan face fees of US$80 for stays under 14 days and US$280 for longer stays, while fees for those from Islamic Republic of Iran are reduced to zero under a parity agreement. Entry fees from other countries range from US$50 (Afghanistan) to US$400 (others), with Tajikistan at US$100–200 and Kazakhstan and Kyrgyzstan at US$300.

Value-added tax (VAT) is set at 12 per cent and is applied to the price of the vehicle as well as customs payments. The customs duty for foreign vehicles in Uzbekistan depends on several factors (engine size in cm^3, year of manufacturing, and whether new or used).[167] Through the 2023 Resolution of the President No. 193, reduced customs duties will apply to newly manufactured vehicles (no older than one year) with engine capacities of up to 1,200 cm^3 until 1 January 2026. Specifically, vehicles with engines up to 1,000 cm^3 are exempt from customs duty (0 per cent), while those with engines between 1,000 and 1,200 cm^3 are subject to a reduced rate of 5 per cent. Starting from 1 January 2026, the duties are set to return to the standard rates applied as of January 2023, which include a 15 per cent base duty plus an additional US$0.4 per cm^3 of engine volume.[168]

In addition to VAT and the custom duties, there is a recycling fee which is paid for the processing of waste generated from vehicles and tyres.[169] When importing a new or used car, less than three years after production, the recycling fee is set based on the engine capacity, with a fixed rate of BCU. These fees increase when importing a used foreign car, more than three years after its production. Electric or hybrid vehicles pay 30 BCU but are levied on a zero-customs duty rate.[170]

Registration fees

Since 2018, vehicle registration fees have increased to support infrastructure, with incentives for electric vehicles, unlike the pre-2018 uniform fee structure. Uzbekistan has seen a surge in new registrations of vehicles in recent years.[171] Fees for state registration and re-registration of motor vehicles changed in April 2024. Such fees for electric vehicles, motorcycles and vehicle trailers increased by 1.5 times the BCU, whereas for all other vehicles it increased by 6.84 BCU (2.32 million soums).

162 UzDaily.uz (2024a).
163 ADB (2022).
164 Ibid.
165 Ibid
166 Ibid.
167 Autostrada (2024).
168 Kun.uz (2019).
169 RastamojkaAvtoUZ (n.d.).
170 Autostrada (2024).
171 Kun.uz (2024c).

Land tax

From 2018 to 2025, Uzbekistan introduced land tax incentives for sustainable development, unlike the pre-2018 focus on revenue without environmental considerations. Individuals owning, renting, or using land in Uzbekistan are subject to land tax. Rates of tax vary depending on the location and the quality of the land.[172] The base land tax rates for legal entities and individuals are indexed by an average of 10 per cent. Since August 2024, there are novelties regarding land tax, namely: VAT is not to be charged on land acquired by entrepreneurs through auctions, and there is a 50 per cent reduction in land tax for new land allocations, excluding regional centres, during the construction period.[173] These land tax reforms encourage efficient and balanced land use to minimize degradation, while aligning with broader green economy goals such as renewable energy incentives that reduce emissions and promote resource conservation. These changes decentralize development to reduce the pressure on high-quality urban land and complement tax benefits for renewables, such as 10-year land tax exemptions for solar installations.

Property tax

Since 2018, property tax adjustments have supported urban development while increasing rates, contrasting with the pre-2018 static tax regime. Property tax ranges from 0.31 per cent to 1.5 per cent, with a 3 per cent rate for delayed constructions. From 2025, the property tax rates on residential properties for individuals are indexed by 10 per cent and are set as follows: 0.34 per cent for houses and apartments up to 200 m^2 and country cottages across the Republic; in cities, 0.45 per cent for properties between 200 and 500 m^2 and 0.6 per cent for those over 500 m^2; and 0.45 per cent for properties over 200 m^2 in other populated areas.[174] These rates are applied since 1 January 2025. The property tax reforms in Uzbekistan since 2018 support sustainable urban development by enhancing local government revenues for essential infrastructure and services, promoting efficient land use, and contributing to fiscal decentralization that fosters urban resilience and equitable growth. These adjustments act as incentives for compact, affordable housing to curb urban extension and environmental strain, while discouraging stalled projects, directing resources toward long-term, eco-friendly urban planning.

Fees for use of natural resources

Water use tax

From 2018 to 2025, Uzbekistan implemented resource use fees to promote conservation, a shift from the pre-2018 minimal regulation of natural resources. The total irrigated area in Uzbekistan is 4.3 million ha, and agriculture is the largest water consumer with a water use share of around 90–91 per cent. Agriculture is one of the leading economic sectors of Uzbekistan. Several projects were undertaken to improve the infrastructure of the water supply. For example, in 2020, 1.664 billion soums were allocated for construction and installation works.[175] The Ministry of Agriculture, with national and international stakeholders, is working on methodology for calculating the following SDG indicators: 2.3.1: Agricultural output per producer, 2.3.2: Average income of small-scale food producers and 2.4.1: Proportion of agricultural land using productive and environmentally sustainable practices.[176] According to an observation provided by the Ministry of Agriculture in the United Nations Statistics SDG Indicators Database, the values of the series "Proportion of agricultural land area that has achieved an acceptable or desirable level of farm output value per hectare (%)" of the global SDG indicator 2.4.1 of the SDG target 2.4 (By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality) and the series "Proportion of agricultural land area that has achieved an acceptable or desirable level of net farm income (%)" were 99 per cent and 97 per cent, respectively in 2020.

Since January 2025, tax rates for the use of water resources have been increased by 10 per cent for industrial water users, including power plants, utilities, producers of soft drinks and alcoholic beverages, except beer and wine, and industrial enterprises. The tax base is the amount of water consumed and depending on the purpose of water usage the rate can vary from 110 to 15,000 soums per m^3 of water (use of water for production of alcohol is taxed at 38,000 soums/m^3).[177] Water supply tariffs range from US$0.04/$m^3$ to US$0.29/$m^3$. Wastewater tariffs range from US$0.03/$m^3$ to US$0.26/$m^3$.

172 PwC (2025).
173 Global VAT Compliance (n.d.).
174 Ministry of Economy and Finance (2024).
175 UzDaily.uz (2020).
176 UzDaily.uz (2025d).
177 UzDaily.uz (2024b).

Car washes are also significantly affected as they are targeted with a five-fold increase in their water tax rate (from 2,700 to 15,000 soums/m^3). Agricultural producers on the other hand will be incentivized to implement water-saving technologies.

Uzbekistan's average water supply tariff (US$0.16/$m^3$) is higher than average tariffs for Tajikistan and Kyrgyzstan, similar to Kazakhstan, but lower than those of Armenia, Azerbaijan and Georgia.[178] Irrigation of agricultural lands and fish farming, including dekhan farms are also subject to water resource fees, unlike in the third EPR reporting period, with fees at 100 soums/m^3 depending on the source of the water.[179] Regarding drinking water, individuals since 2023 are charged with 1,400 soums (US$0.11) per m^3, whereas legal entities pay 3,000 soums (US$0.25) per m^3.[180]

Water utility tariffs for individuals in Tashkent are divided into cold and hot water tariffs. The former (as of April 2024) is calculated according to the property connected to the supply, i.e. there is a distinction between apartments (with a centralized hot water supply system) and private houses with all amenities and local heating devices. Since 2022, a new unified water consumption standard has been established in the amount of 350 litres per person for Tashkent City. For one person in an apartment without a meter this would mean a fee of 49,019 soums per month whereas, for one person in a private house without a meter, the total would equal 37,063 soums per month.[181] Higher tariffs in apartments could be explained by the higher cost of maintenance and infrastructure costs, for example, pumping to higher floors, centralized water supply and sewerage connections. Lower tariffs in private houses may reflect lower service complexity or be a policy choice to ease the burden on suburban households. Since February 2025 the tariffs for hot water and heating services, for those households with a meter, the price of hot water was set at 5,144 soums/m^3, whereas those without a meter would pay more than 20,000 soums per month.[182] As of April 2024, 12 per cent VAT is applied to the combined water and sewerage charges.[183]

Since 2020, Uzbekistan has implemented water use limits (water withdrawal quotas) through a series of governmental decisions, primarily focused on irrigation. For instance, in 2021, the Government set regional water use limits for irrigating agricultural crops during the March–September growing season (2021 Resolution of the Cabinet of Ministers No. 199). Seasonal irrigation quotas were also approved in 2022 and 2023 (2022 Resolution of the Cabinet of Ministers No. 243 and 2023 Resolution of the President No. 107). A major milestone is the adoption of the Water Code, which enters into force on 31 October 2025 and includes provisions for regulating water withdrawal limits.

At the Central Asia regional level, the Interstate Commission for Water Coordination (ICWC) approves annual quotas for the use of shared water resources in Central Asia. In April 2025, ICWC allocated Uzbekistan 8.8 billion m^3 from the Syr Darya basin and 16.02 billion m^3 from the Amu Darya basin to support agriculture and ecological needs. In August 2025, ICWC reviewed the implementation of these quotas, retaining the original quota, and emphasized the need for a joint Kazakhstan-Uzbekistan gauging station by early 2026 to improve monitoring of Shardara Reservoir inflows.

Tax on use of subsoil resources

From 2018 to 2025, subsoil resource taxes were reformed to include rent taxes, different from the pre-2018 basic extraction fees. This tax applies to entities extracting mineral resources from the subsoil. In Uzbekistan, all subsoil is under public ownership; use of the subsoil is allowed based on a licence (permit).[184] The tax base is calculated on the volume of extracted resources ready for sale or internal use, determined by the average weighted sales price.[185] The fixed tax amounts for the volume of raw material extraction for the mining and chemical industry and other non-metallic construction materials are indexed by approximately 10 per cent.[186] Starting from January 2022, legal entities extracting precious, non-ferrous and radioactive metals, and rare and rare-earth elements, as well as hydrocarbons (natural gas, gas condensate and oil), are subject to a new rent tax. The taxable base is calculated separately for each licensed subsoil plot.[187] Starting from 1 January 2022, an annual license fee is introduced for the use of subsoil for geological exploration. It is calculated based on the allotted area and types of minerals, in the amounts established by legislation. The tax rates for different mineral groups are set out in the 2019 Tax Code. These reforms focused on value-based tax calculations, indexed fixed amounts and annual licence fees for exploration, to support sustainable development by incentivizing efficient resource extraction, ensuring

178 ADB (2024).
179 Ministry of Economy and Finance (2024).
180 Ismailov (2023).
181 Golden Pages (2024).
182 Kun.uz (2025); Qalampir.uz (2025).
183 Golden Pages (2024).
184 PwC (2025a).
185 PwC (2025a).
186 Ernst & Young Limited (2025).
187 PwC (2025).

public revenue from non-renewable subsoil assets and promoting regulated use to prevent depletion and environmental degradation.

Charges for use of forest resources

From 2018 to 2025, waste collection tariffs increased to fund afforestation and sustainable management of forest resources. Uzbekistan maintained a structured fee system for the use of forest resources, overseen by the Forestry Agency—replaced in May 2025 by the Agency for Afforestation, Expansion of Green Areas and Combating Desertification—under the Ministry of Ecology, Environmental Protection and Climate Change. As of 2022, the total forest area was 11,738,100 ha.[188] Several types of charges are in place, including special use fees for activities such as grazing livestock, mowing hay, placing beehives, collecting firewood and branches (without cutting trees) and organizing cultural, educational or health-promoting events on forest fund lands. Other fees and fines apply for the use the natural resources in the territory of protected natural areas.[189] Additional fees and fines, which are allocated accordingly, include:

- A 100 per cent compensation fee is levied for damage to flora and fauna on forest fund lands;
- For recreational and aesthetic activities not related to forestry management, 50 per cent of the fees are allocated to relevant funds;
- 50 per cent of proceeds from the sale of wood and branches obtained through rehabilitation and maintenance activities on forest fund lands are allocated accordingly;
- 100 per cent of proceeds from leasing forest fund lands to individuals and legal entities are collected;
- 10 per cent of the funds received are allocated to development funds for forestry, hunting, specialized forestry and national nature parks within the system of the central executive body responsible for forest management.[190]

Tariffs for municipal waste collection and disposal

From 2018 to 2025, waste collection tariffs increased to fund recycling and disposal improvements, unlike pre-2018 minimal waste management fees. Fees for individuals and legal entities are highest in the Tashkent region, where the fee for individuals for the collection and disposal of solid and liquid municipal waste, in 2025, has been set at 7,840 soums, while for legal entities it is 82,880 soums/m^3.[191] This represents a doubling of fees since 2023.[192] Additionally, from July 2025, residents who are in debt for waste collection services will be unable to make electricity payments until their outstanding dues are cleared (see chapter 1).[193] The Government has data on vulnerable households and guarantees social support for families that cannot cover these costs. The Government also utilizes GPS to track waste collection points and disposal in incinerator plants. In 2023, the application of administrative fines for violation of environmental protection requirements in the process of collecting, transporting, placing, disinfecting, storing, recycling, processing and selling industrial, household and other waste, as well as for the discharge of solid municipal and construction waste in unauthorized places and the dumping of liquid municipal waste, saw a tenfold increase. Around 700,000 tons of waste are produced in Tashkent and only around 18 per cent is recycled. Officials have been tasked with increasing the recycling rate of city waste to at least 50 per cent.[194]

Fee for plastic shopping bags

Since 2019, customers are required to pay for plastic bags at retail stores.[195] The development of a national programme to reduce plastic pollution for 2025–2027 is being planned. The draft proposal is expected to be completed by September 2025 and submitted to the Cabinet of Ministers by November 2025. The proposal includes a potential ban on the production, import and use of plastic bags starting January 2027.[196] The plan also aims to stimulate the use of biodegradable alternatives, limit harmful chemicals and set standards for the use of recycled plastic.[197] Furthermore, the draft law would require producers and importers of goods in plastic packaging to establish a return system for that packaging using reverse vending machines.

188 UNEP (2024), p. 32.
189 UNDP (2023), p. 38.
190 Ibid.
191 Kun.uz (2025a).
192 Ibid.
193 Qalampir.uz (2025a).
194 Gazeta.uz (2023).
195 Kun.uz (2019)
196 UzDaily.uz (2025)
197 Ibid.

Extended producer responsibility schemes

In early 2025, the Ministry of Ecology, Environmental Protection and Climate Change proposed an extended producer responsibility framework targeting plastic waste. The draft policy is scheduled for publication by 1 November 2025 with implementation expected to begin in 2026.[198] Manufacturers and importers of plastic products will be responsible for the collection, sorting and recycling of plastic waste. For instance, soft drink manufacturers are required to recycle 50 per cent of their plastic packaging by 2026, 75 per cent by 2027 and 100 per cent by 2028.[199] The extended producer responsibility scheme aims to recycle approximately 1.2 million tons of plastic waste annually, significantly reducing environmental pollution.[200] Additionally, recognizing that the amount e-waste is projected to double by 2050, the 2024 National E-waste Monitor recommends establishing clear roles for state bodies in e-waste management, creating financial incentives for recycling and enhancing public awareness.[201]

Energy tariffs

In 2024, the Government implemented a tiered electricity tariff system that imposes higher rates on households with larger consumption levels, by introducing the so-called "social norm" that ensures affordable access for essential household needs.[202] This approach encourages efficient energy use while easing the financial burden on low-consumption households. Additional tariff increases were scheduled for April 2025 as part of the Government's broader strategy to reduce subsidies and promote cost recovery within the sector.[203] The "social norm" applies to households up to 200 kWh/month as follows: up to 100 m^3 of gas from March to October; and up to 500 m^3 of gas in the heating season of November to February.[204] In 2025 the Government approved a policy to increase electricity and gas prices no more than 10 per cent every year.[205] At the same time, most energy companies are suffering severe losses, with Thermal Power Plants joint-stock company (JSC) reporting losses of 1.6 trillion soum (US$125 million).[206]

District heating tariffs

According to the Ministry of Construction and Housing and Communal Services, tariffs for heating and hot water are expected to increase twice in 2025, each time by approximately 15 per cent. This strategy aims to reduce state subsidies and modernize the heating infrastructure.[207] In Tashkent, from November 2024, the tariff for central heating per m^2/day is 209.94 soums[208] and hot water tariffs rose to 7,764.06 soums per m^3. Despite these increases, tariffs generally only cover operating costs, with capital investment needs still dependent on government support or donor funding.[209]

Support for renewable energy sources

Since 2019, incentives such as tax exemptions for producers and users of renewable energy installations are offered in accordance with the 2019 Law No. 539 on the Use of Renewable Energy Sources that establishes a legal foundation for renewable energy development. To boost renewable energy, Uzbekistan introduced premium feed-in tariffs for solar and wind in April 2025, awarded 1.3 GW of solar projects through competitive auctions, offered tax exemptions and announced US$1.3 billion in waste-to-energy investments by 2027.

198 Sustainable Plastics (2025); Ministry of Ecology, Environmental Protection and Climate Change (2025a).
199 Ibid.
200 ChemAnalyst (2025).
201 UNITAR (2024).
202 Gazeta.uz (2025).
203 German Economic Team (2024), p. 3; Gazeta.uz (2024b).
204 Ibid.
205 Ten (2025); Golden Pages (2024).
206 The Times of Central Asia (2024).
207 UzDaily.uz (2024c).
208 Golden Pages (2024).
209 ADB (2020), p. 5.

Photo 2.2: Solar Park in Kamashin District, Kashkadarya Region, Uzbekistan

Photo credit: Press Service, Ministry of Energy of Uzbekistan

2.2 GREENING THE FINANCIAL SYSTEM

Tax reliefs

Enterprises are granted exemptions from property tax, land tax and water usage tax, contingent upon specific criteria:

- Investment amount and duration:
  - US$300,000 to 3 million: 3-year exemption;
  - US$3 million to 10 million: 5-year exemption;
  - Over US$10 million: 7-year exemption;
- Additional conditions:
  - Minimum 33 per cent foreign ownership (15 per cent for joint-stock companies);[210]
  - At least 50 per cent of the respective tax savings should be reinvested for further development of enterprises.[211]

Free economic zones are exempt from land tax, property tax for legal entities and water usage tax. They are also exempt from customs payments, except for VAT and the customs processing fee, for construction materials that are not produced in Uzbekistan and are imported for project implementation under an investment agreement, during the construction period.

Customs payments (excluding the customs processing fee) are waived for the importation of technological equipment not produced in Uzbekistan, as per an approved list. Similar exemptions apply to the import of raw materials, and materials and components used in the production of goods intended for export.[212]

Companies in the electrical industry are granted tax benefits for the period from 1 January 2024 to 1 January 2027 in the form of a 50 per cent reduction in income tax and property tax rates.[213] There are also tax incentives for some businesses carrying out export activities, such as oil and gas exploration and extraction companies, the textile industry and leather and fur production.[214]

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210 Ministry of Investments, Industry and Trade (2024).
211 PwC (2025b).
212 Ibid.
213 Ibid.
214 Ibid.

Regarding renewable energy, any profit received from the sale of electricity to the electrical grid using renewable energy installations with a total capacity of up to 100 kW is taxed at a rate of 0 per cent.[215] These installations are also exempt from property and land taxes for 3 years from commissioning, extending to 10 years if solar panels include an energy storage system with at least 25 per cent of the panels' capacity. Installations with a capacity of 100 kW or more receive a 10-year exemption from both taxes starting from the month they are commissioned.[216]

These tax relief measures aim to reduce financial barriers to investment, encouraging enterprises and households to adopt cleaner and more efficient technologies. In doing so, they support a gradual shift toward sustainability and energy efficiency.

Thus, the tax exemption criteria for enterprises in Uzbekistan in general lack explicit environmental or sustainable aspects. The criteria do not explicitly mention environmental protection, sustainable development, or green practices as conditions for eligibility. For example, enterprises are not required to adopt eco-friendly technologies, reduce carbon emissions, or implement water conservation measures to qualify for the exemption. Explicit incentives are present only for investments in RES.

From 1 January 2025 to 1 January 2028, companies employing low-income individuals at wages above 1.5 times the minimum wage are eligible for a reduced social tax rate of 1 per cent.[217] Similarly, from 1 September 2024 to 1 September 2027, companies employing students under the age of 30 for vocational training purposes are eligible for a 1 per cent social tax rate on wages paid to these students.[218]

Fossil fuel subsidies

Fossil fuel subsidies lead to significant market distortions, including underinvestment in renewable energy and energy efficiency, as energy prices do not reflect actual production and distribution costs.[219] On the United Nations Statistics SDG Indicators Database, for SDG indicator 12.c.1 (Fossil-fuel subsidies (consumption and production) as a proportion of total GDP (%)) of the SDG target 12.c (Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities), fossil-fuel subsidies were on average 9.22 per cent in the period 2018–2023 with a peak in 2022 of 16.5 per cent.

The Government plans to phase out all subsidies by 2027.[220] The Government recognizes the need for targeted social protection measures to mitigate the impact of rising energy costs.[221] These reforms are not only aimed at correcting market distortions but also at encouraging households to reduce excessive energy use and adopt energy-saving behaviours while safeguarding vulnerable groups through targeted compensation.[222]

Subsidies to agriculture

Recognizing the need for diversification, the Government began reallocating agricultural subsidies to support high-value crops such as fruits and nuts, which offer better profitability and export potential.[223] Subsidies were also redirected towards investment in modern technologies, such as drip irrigation and support for horticulture and livestock sectors.[224] Rice farmers in the Khorezm region will be provided with special support measures. They will receive additional subsidies, including reimbursement for fuel and lubricant costs expenses for each hectare of laser-levelled field up to 1 million soums. They will also get subsidies of 8 million soums per hectare for installing water-saving irrigation systems. They can export up to 50 per cent of their crop if yields reach 120 quintals per hectare or more. These developments are positive. However, they are not sufficiently strengthened to promote green agriculture as a key pillar of the greening of Uzbekistan's economy,

215 Ernst & Young Limited (2025).
216 Ibid.
217 PwC (2025b).
218 Ibid.
219 Ibid.
220 Expertise-France (2025).
221 UNDP (2023a).
222 World Bank (2023).
223 Aliyeva (2025).
224 World Bank (2021), p. 80.

where agriculture accounts for almost 20 per cent of GDP in 2024.[225] Uzbekistan would benefit from an enhanced provision of subsidies to support sustainable agricultural practices.

Eco-industrial zones

Uzbekistan is advancing eco-industrial zones to promote sustainable industrial development through initiatives such as pilot projects of United Nations Industrial Development Organization (UNIDO) at two sites, funded by the German Agency for International Cooperation (GIZ), to enhance resource efficiency and competitiveness, and a seminar in Tashkent engaging stakeholders to develop eco-industrial zones policies and regulatory frameworks.[226] This initiative promotes resource efficiency, waste reduction and sustainable industrial practices, serving as a model for regional economic and social development.[227]

Support to the private sector

Additionally, green financing for Uzbekistan's private sector is gaining momentum but remains nascent, supported by government reforms and international partnerships. Private enterprises benefit from green bonds, with corporate issuances having started in 2023 to fund renewable energy and energy-efficient projects. International financial institutions such as the European Bank for Reconstruction and Development (EBRD)[228] and ADB provide critical support, offering credit lines (e.g., EBRD's US$20 million for green lending) and technical assistance to private firms for sustainable projects. The Strategy for the Transition to a Green Economy for the period 2019–2030 promotes private investment through green certificates and fiscal incentives. However, challenges persist, including an underdeveloped capital market, regulatory hurdles for innovative financing and limited private sector capacity to meet green project standards.

Piloting efforts include renewable energy projects screened by the Entrepreneurship Development Company, climate-smart agriculture in the Aral Sea region through the Climate Adaptation and Mitigation Programme for Aral Sea Basin (2016–2024),[229] electric vehicle infrastructure in Tashkent and waste management initiatives in urban centres, supported by international partners such as the World Bank, GGGI, UNDP and the European Union. Despite these achievements, the National Green Taxonomy's application remains limited in scope. Challenges include incomplete sectoral coverage, insufficient policy integration and the need for broader stakeholder engagement. Therefore, the National Green Taxonomy is not sufficiently developed and refined to address these challenges, which does not allow maximizing its impact on the transition to a green economy in Uzbekistan.

The National Green Taxonomy and public-private partnerships (PPPs) are expected to attract more private capital and scale up green financing.

Green certificates

An important step toward advancing green economy in Uzbekistan has been the introduction of green certificates under the Strategy for the Transition to a Green Economy for the period 2019–2030. Since June 2023, these certificates have been issued by the National Electric Grid of Uzbekistan, under the oversight of the Ministry of Energy and in coordination with the Ministry of Economy and Finance, to verify renewable energy production and stimulate green investments. Each certificate represents 1,000 kWh of electricity generated from renewable sources such as hydropower, solar and wind. To incentivize renewable energy investors, income from sales are exempt from income tax. However, due to limited public reporting, precise data on the number of certificates issued remain unavailable, indicating that the system is still in its early stages but holds potential for future growth.

2.3 INVESTING IN ENVIRONMENTAL PROTECTION AND GREEN ECONOMY

Implementation costs for environment-related strategies, programmes and plans

In 2025 "Year of Environmental Protection and the Green Economy", all ministries are expected to prioritize sustainability and resource efficiency.[230] This political momentum has been preceded with increased funding: in 2020–2022 about

225 National Statistics Committee.
226 Eco-Industrial Parks (EIP Workshop within InnoWeek-2024).
227 United Nations Uzbekistan (2025).
228 EBRD (The EBRD in Uzbekistan).
229 GCF (Climate Adaptation and Mitigation Program for the Aral Sea Basin (CAMP4ASB)).
230 Bourse & Bazaar Foundation (2025).

10–11 per cent of the state budget (approximately 2–3 per cent of GDP) was allocated to climate-positive and green activities. The country mobilized billions of dollars for green projects in 2020–2022, amounting to roughly US$2–3 billion in domestic public funding (cumulatively), about US$1.5–2 billion in loans from international development banks and over US$2 billion in private and PPP investments (especially in renewables and electric vehicles).[231]

Material footprint

As of August 2025, no reporting is done at the global or national level for SDG targets 8.4 (Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-Year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead) and 12.2 (Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-Year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead). Moreover, Uzbekistan did not nationalize the global SDG target 12.2 and the corresponding SDG indicators 12.2.1 (Material footprint, material footprint per capita, and material footprint per GDP) and 12.2.2 (Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP).

Resource efficiency is advanced through fees for natural resources (e.g., water, subsoil), eco-industrial zones, and the 2023 National Green Taxonomy. However, heavy fossil fuel reliance (78.9 per cent of the general supply of primary energy was provided by natural gas in 2023) and low recycling (18 per cent in Tashkent) indicate challenges; green transition strategies show moderate decoupling efforts. Inefficient use of water in agriculture limits progress being made in all areas.

Green procurement

With support from the World Bank and the ADB, Uzbekistan has revised its 2021 Law No. 684 on Public Procurement to incorporate environmental considerations, laying the groundwork for green public procurement practices.[232] In 2024, about 1.8 million contracts worth a total of 248.6 trillion soums were implemented through public procurement, of which 48.8 trillion soums, or 20 per cent of total purchases, are considered "green" purchases.[233] The 2025 Resolution of Cabinet of Ministers No. 371 on measures to improve the system of supporting green public procurement mandates environmental criteria in public procurement tenders from 1 January 2026 and sets a target of increasing green procurement to 30 per cent of total public contracts by 2030. The Ministry of Economy and Finance, in collaboration with UNDP and ADB, is leading efforts to implement green budgeting and sustainable procurement principles. This includes linking public spending to SDGs and developing a monitoring system to track expenditures towards SDG achievement.[234] The United Nations Office for Project Services has been instrumental in promoting sustainable procurement practices in Uzbekistan, particularly in the healthcare sector.[235]

Implementation of public procurement practices is expanding in the country but has not yet reached full scale. Green procurement is supported by the Law on Public Procurement and by assistance from ADB and the World Bank. As of 2025, there is no reporting on SDG target 12.7 (Promote public procurement practices that are sustainable, in accordance with national policies and priorities) at either the global or national level, which prevents assessment of progress toward this target. The global SDG target 12.7 has been nationalized as "Expand the use of environmental standards in public procurement practices". The global indicator 12.7.1 (Number of countries implementing sustainable public procurement policies and action plans) has been adapted as national indicator 12.7.1.1 (Availability of strategies and action plans for sustainable public procurement). As of 2025, this national indicator remains at the development stage.

Public sector environmental protection expenditures

In 2022, Uzbekistan allocated approximately 1.21 per cent of its total state budget to environmental protection, around US$260 million. A significant portion of this funding was directed to the then State Forestry Agency for afforestation and forest maintenance activities.[236] For 2025, the state budget earmarks 3.6 trillion soums (approximately US$290 million) for environmental protection measures. This allocation reflects an increased commitment to environmental initiatives.[237]

231 UNDP (2024a); AIIB (2024).
232 UNEP (2020), p. 3.
233 Ministry of Ecology, Environmental Protection and Climate Change (2025).
234 World Bank (2022); World Bank (2022a), p. 75.
235 United Nations Uzbekistan (2025).
236 UNDP (2023b).
237 Kun.uz (2024d).

However, challenges such as dust storms and desertification remain. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics, total public expenditure per capita spent on cultural and natural heritage, expressed in purchasing-power parity, constant 2017 US$ increased from US$0.02 in 2020 to US$0.16 in 2022 (SDG indicator 11.4.1 of the SDG target 11.4 (Strengthen efforts to protect and safeguard the world's cultural and natural heritage)).

Consolidated state budget

The 2025 consolidated budget projects revenues of 431 trillion soums and expenditures of 480.5 trillion soums, resulting in a deficit of 49.5 trillion soums (3 per cent of GDP). Within this framework, environmental protection activities are allocated 3.6 trillion soums.[238]

Other funds

Environmental fund

The Environmental Fund, officially known as the Special Fund for Ecology, Environmental Protection and Waste Management, operates under the legal framework established by 2017 Resolution of the Cabinet of Ministers No. 375 on the Ecology, Environmental Protection and Waste Management Fund of the State Committee for Ecology and Environmental Protection. Initially, the Fund functioned under the authority of the then State Committee for Ecology and Environmental Protection, as defined in the founding regulation. Following the institutional reform enacted by 2023 Decree of the President No. 81 on measures to improve the environmental management system and ensure environmental protection., the Fund was placed under the Ministry of Ecology, Environmental Protection and Climate Change, which assumes all rights, obligations, and functions of the former State Committee. The Fund is not a separate legal entity but functions as a financial mechanism to support a range of environmental initiatives. Its resources are allocated to projects aimed at preserving and restoring biological resources, conducting ecological research, monitoring environmental conditions and promoting environmental education and advocacy. Additionally, the Fund finances activities such as compensating for environmental damage, rehabilitating ecosystems affected by economic activities, expanding and managing protected areas, constructing waste management facilities and enhancing public awareness through training and education programmes.

The Ministry of Ecology, Environmental Protection and Climate Change's extra-budgetary fund, sourced from environmental fees and fines, experienced a revenue decline from US$5.96 million in 2020 to US$3.08 million in 2022. This decrease may impact the financing of regional environmental projects.[239]

Uzbekistan Vision 2030 Fund

Launched in 2022, the Uzbekistan Vision 2030 Fund is a United Nations inter-agency pooled fund aimed at achieving SDGs in Uzbekistan by 2030. It is anchored in the United Nations Sustainable Development Cooperation Framework (UNSDCF) 2021–2025 - Uzbekistan. The Fund is capitalized through the restitution of assets forfeited in Switzerland, following an agreement between Switzerland and Uzbekistan.[240] As of July 2025, the Ministry of Economy and Finance has yet to utilize the Fund, while other government entities have implemented projects, primarily in the health and education sectors.[241] Although the Fund is mandated to support environmental sustainability under UNSDCF Pillar 3, there has been no documented funding of environmental projects.

Uzbekistan Direct Investment Fund

The Uzbekistan Direct Investment Fund is designed to attract foreign investors interested in environmental and climate-resilient projects across various sectors.[242]

Fund for Development of Water Supply and Sanitation Systems

The Fund for the Development of Water Supply and Sewerage Systems, established under the 2017 Resolution of the President No. 2910, plays a pivotal role in financing initiatives aimed at enhancing the country's water supply and sanitation infrastructure.[243] Administered by the Ministry of Economy and Finance, the Fund's primary objectives include organizing

238 UzDaily.uz (2024d).
239 UNDP (2024a), p. 6
240 UN Multi-Partner Trust Fund Office (2022).
241 UNDP (2022).
242 World Bank (2025).
243 UzDaily.uz (2020a).

timely financing for approved programmes, preparing proposals on funding requirements and forming investment programmes to improve drinking water supply and sanitation systems.[244] In 2020 the Fund invested 1.277 trillion soums in constructing and reconstructing 120 water supply facilities and laying 3,400 km of drinking and sewage pipelines across 216 sites.[245] These investments increased the national drinking water supply coverage from 68 per cent in 2018 to 72 per cent by the end of 2020.[246] In the period January–June 2024, an investment of 76.0 billion soums was made in fixed capital from the Fund.

Republican Road Fund

In 2019, the Republican Road Fund was placed under the jurisdiction of the Ministry of Economy and Finance, with operational responsibilities managed by the Committee for Roads under the Ministry of Transport.[247] However, the fund was abolished in 2020, and the funding is now managed under a separate budget line by the Ministry of Transport. The Ministry of Transport is also working on decentralizing the competences of road maintenance to municipalities.

Forestry Development Fund

The legal foundation for the Forestry Development Fund is outlined in the 2016 Resolution of the Cabinet of Ministers No. 198 on Measures to further improve financing of forestry development. This Resolution establishes the fund as a financial mechanism under the Ministry of Agriculture and Water Resources to support afforestation, reforestation, and sustainable forest management initiatives in Uzbekistan. The fund was liquidated on 31 July 2017, and its functions and resources were transferred to the Special Forestry Fund (2017 Resolution of the Cabinet of Ministers No. 530 on Measures to further improve the forestry management system).

Special Forestry Fund

The Special Forestry Fund was established under the 2017 Resolution of the Cabinet of Ministers No. 530, which validated the Regulation on the State Committee on Forestry. This Resolution defined the then Committee's status, main tasks, functions, rights and organizational structure. The Special Forestry Fund operates under the authority of the central executive body responsible for forest management and is not a separate legal entity but a financial mechanism. Its purposes include the protection and reproduction of flora and fauna on forest fund lands, development of forestry, strengthening the material and technical base of forestry, and financing the maintenance, operation, rental of premises and remuneration of staff of the central executive body responsible for forest management. This fund fully assumes the financial mandate previously held by the Forestry Development Fund.

Energy Efficiency Promotion and Support Fund

The Energy Efficiency Promotion and Support Fund in Uzbekistan is planned to be established as an off-budget fund, as outlined in the 2025 Decree of the President No. 151. It will finance energy efficiency initiatives, offering subsidies covering 20 per cent of costs for energy audits of residential buildings, 20 per cent for solar panels and collectors, and 40 per cent for heat pumps (up to 50 times the base calculation unit). The Government plans to allocate over €7 million in 2025 and €14 million annually in 2026 and 2027, plus €185 million in concessional loans through commercial banks to support green financial instruments.[248]

Environmental protection expenditures in the enterprise sector

The private sector contributed an estimated US$1–1.5 billion, primarily in renewables and electric vehicles in terms of environmental protection expenditures.

Foreign direct investment

Annual foreign direct investment (FDI) inflows have consistently surpassed US$2 billion in four of the past five years, a significant increase compared to previous decades. The Russian Federation is constructing a nuclear power plant in Uzbekistan, featuring six reactors with a total capacity of 330 MW.[249] France's Orano, in partnership with

244 Ibid
245 Ibid.
246 Ibid.
247 ADB (2022).
248 SECCA (2025).
249 Aljazeera (2024).

Uzbekistan's state-owned Navoiyuran, is developing the South Djengeldi uranium mining project, expected to produce up to 700 tons of uranium annually.[250] Uzbekistan is actively diversifying its investment sources. Some key FDI initiatives include:

- The US$2.4 billion Karakalpakstan wind project by Saudi Arabia's ACWA Power, contributing to the goal of 54 per cent renewable energy share in energy generation (or 27 GW) by 2030;[251]
- The establishment of a new electric vehicle manufacturing plant, aligning with the country's industrial diversification efforts.[252]

Uzbekistan's efforts to increase FDI inflows (to US$5 billion by 2026), continue economic reforms, conclude bilateral agreements and develop its infrastructure efforts are part of the 2023 Strategy Uzbekistan – 2030, which seeks to position Uzbekistan as an upper-middle-income country by the end of the decade.[253] With China being Uzbekistan's largest trading partner, and bilateral trade reaching US$14 billion in 2024 and projections aiming for US$20 billion by 2026,[254] Chinese investments have surged, particularly in renewable energy, where investments have increased fivefold.[255] However, many of Uzbekistan's existing bilateral investment agreements do not yet incorporate sustainability standards such as OECD's 2022 Recommendation on Foreign Direct Investment Qualities for Sustainable Development,[256] potentially limiting the extent to which foreign investments fully support the country's green economy goals and sustainable practices.

Development assistance

Since 2018, multilateral development assistance to Uzbekistan has significantly bolstered the country's green economy transition, with major contributions from institutions such as the World Bank, ADB, Asian Infrastructure Investment Bank (AIIB) and UNDP. The World Bank has provided extensive support through projects such as the Resilient Landscapes Restoration Project, which focuses on afforestation, rangeland restoration and climate-smart agriculture,[257] alongside analytical work such as the "Towards a Greener Economy in Uzbekistan" report that outlines strategies for resource efficiency, low-carbon transitions and landscape restoration.[258]

ADB approved a US$250 million policy-based loan in 2024 to strengthen institutional frameworks for climate resilience, sustainable finance and green growth under Strategy Uzbekistan – 2030, building on earlier commitments since 2019 that integrated SDGs into country partnerships.[259] Similarly, the AIIB Accelerating Uzbekistan Climate Transition programme, approved in late 2024, aids in promoting sustainable development and mobilizing public-private green financing.[260] UNDP has been instrumental in climate adaptation, including the Sector-Driven National Adaptation Plan project evaluated in 2024, which advances medium- and long-term planning for sectors such as agriculture and water, and the Investment and Financial Flows assessment to reduce emissions in key areas such as energy and industry.[261]

GGGI has supported green investments via its 2024–2028 Country Planning Framework, emphasizing sustainable finance and climate-resilient infrastructure.[262] Bilateral and regional assistance has complemented these efforts, with the European Union allocating €168 million for sustainable development from 2014–2020, extended into post-2018 initiatives such as the EU4Environment project launched in 2021 to promote green growth, resource efficiency and circular economy practices.[263]

In 2021, the European Union provided a €10.2 million grant for green transition, supplemented by the French Development Agency with €375 million in loans to mainstream climate action into economic policies.[264]

250 Global Banking and Finance Review (2025).
251 Jivraj (2024).
252 Ibid.
253 World Bank (n.d.).
254 Meena (2025).
255 Ibid.
256 OECD (2022).
257 World Bank (n.d. b); The Times of Central Asia (2025).
258 World Bank (2022a); Ministry of Economic Development and Poverty Reduction (2022).
259 ADB (2024a).
260 AIIB (2024).
261 UNDP (2024b).
262 GGGI (2025).
263 EEAS (2021).
264 AFD (n.d.).

EBRD has advanced green finance since 2018 via its Green Economy Financing Facility, supporting small and medium-sized enterprises (SMEs) in climate mitigation and adaptation technologies, and advising on renewable energy policies.[265] Germany, through GIZ, has collaborated on projects like "Sustainable and Resource Efficient Irrigation in Agriculture" and eco-industrial zones, while Japan has contributed to environmental protection and energy efficiency under broader United Nations frameworks.[266]

OECD has offered policy guidance via reports such as "Financing Uzbekistan's Green Transition" in 2023, advocating for increased private financing and alignment with international standards to bridge spending gaps in sectors such as renewable energy and waste management.[267]

On the United Nations Statistics SDG Indicators Database, SDG indicators 15.a.1 and 15.b.1 (Total official development assistance for biodiversity, by recipient countries (millions of constant 2023 United States dollars), official development assistance (ODA) for biodiversity conservation) increased from 1.6 million of constant 2023 US$ in 2018 to 138.0 million of constant 2023 US$ in 2023. The national SDG indicator 15.a.1.1 (Share of public expenditures allocated for the conservation and rational use of biodiversity and ecosystems in the total expenditures of the state budget) reports a stable figure of 4.1 per cent in 2021 and 4.3 per cent in 2023. According to data from the World Bank,[268] Uzbekistan received around US$6.43 trillion in net official development assistance. However, there are no available data to assess progress toward SDG target 17.2 (Developed countries to implement fully their official development assistance commitments, …) at the global or national level.

SDG indicator 17.3.1, nationalized as "Foreign direct investment, official development assistance and South-South cooperation as a proportion of gross national income", of the SDG target 17.3, nationalized as "Mobilize additional financial resources from external sources for the implementation of socioeconomic development programmes", shows a positive trend from 10.0 per cent in 2020 to 22.4 per cent in 2023. On the United Nations Statistics SDG Indicators Database, the global SDG indicator 17.3.1 (Additional financial resources mobilized for developing countries from multiple sources) of the SDG target 17.3 (Mobilize additional financial resources for developing countries from multiple sources) increased from US$624.7 million in 2018 to US$2,156.4 million in 2023, and averaged US$1,933.2 million for the period 2018–2023, according to the United Nations Conference on Trade and Development. The indicator demonstrates efforts made by Uzbekistan to attract FDI and ODA to support sustainable development in the country.

2.4 ECO-INNOVATIONS IN MAJOR ECONOMIC SECTORS

In 2021, the United Nations General Assembly recognized the Aral Sea region as a "Zone of Environmental Innovation and Technology". This designation led to the implementation of various projects focusing on ecosystem restoration, sustainable agriculture and climate resilience. The International Innovation Centre of the Aral Sea Region was established to spearhead research and pilot projects aimed at rehabilitating the degraded landscapes and improving livelihoods.[269] Additionally, efforts to promote eco-friendly construction have been evident through the adoption of international green building certifications. By early 2024, Uzbekistan had submitted 11 applications for certifications such as Leadership in Energy and Environmental Design, Building Research Establishment Environmental Assessment Method and Excellence in Design for Greater Efficiencies. Additionally, the "Clean Energy for Buildings in Uzbekistan" project, launched in collaboration with the World Bank, aims to enhance energy efficiency in public buildings across the country.[270] As of August 2025, public buildings and state-owned enterprises do not have smart meters installed.

Launched in 2023, the AgriTech4Uzbekistan programme supports entrepreneurs and researchers in developing climate-resilient agricultural technologies. The initiative aims to enhance food security and sustainable farming practices through innovative solutions.[271] No data are available for the SDG target 2.4 (By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality) at the global and national level. However, the implementation of the AgriTech4Uzbekistan programme and an increase in incentives for water-saving technologies would support the achievement of this target.

265 EBRD (n.d).
266 UNDP (2025b).
267 OECD (2023).
268 World Bank (Net official development assistance received (current $) – Uzbekistan).
269 International Institute for Sustainable Development (2024), p. 11.
270 UNEP (2024a), p. 78.
271 Alliance Biodiversity & CIAT (n.d.).

Photo 2.3: Ministry of Higher Education, Science and Innovations of Uzbekistan

Photo credit: EPR Team

Uzbekistan is building a comprehensive National Innovation System to support eco-innovation. Efforts include establishing research institutes focused on renewable energy, biotechnology and environmental protection, and fostering collaboration between academia and industry.[272] Finally, in 2025, Uzbekistan plans to introduce an ecological rating system to assess and encourage sustainable practices among businesses and institutions.[273]

2.5 GREEN MARKETS

The Central Bank of Uzbekistan is actively integrating climate risk and green finance into its operations, as evidenced by its membership since 2025 of the Network for Greening the Financial System, which commits it to global sustainable finance practices. The Bank's Financial Stability Report for 2024 explicitly addresses the impact of climate change risks on financial stability. It highlights that Uzbekistan's INFORM Climate Risk Index is 3.9, indicating a moderate level of climate-related vulnerability. The report outlines both physical risks—such as extreme weather, droughts and rising temperatures—and transition risks associated with the move toward a low-carbon economy. It emphasizes the need to strengthen climate-related stress testing and to incorporate these risks into the financial supervisory framework.[274] The Financial Stability Report for 2023 also included climate change risks and proposed potential instruments to mitigate them, such as climate stress testing, stronger capital requirements for climate-vulnerable sectors, lower capital requirements for green projects and tightening of liquidity ratios for banks with high exposure to climate risks.[275] To promote green finance, the Bank recognizes green bonds as High-Quality Liquid Assets, incentivizing banks to invest in environmentally friendly projects.

The Central Bank of Uzbekistan played a key role in roadshows in October 2023 for Uzbekistan's first green sovereign Eurobonds worth 4.25 trillion soums, engaging international investors. The proceeds were used to finance environmentally focused projects aligned with Strategy Uzbekistan – 2030 and international green standards. Specifically, the funds supported initiatives such as the introduction of water-saving technologies, development of railway transport and metro systems, sanitation and cleanliness in populated areas, creation of forest plantations to combat wind erosion and protection of water management structures from flooding and sand. UNDP assisted in selecting eligible projects to ensure compliance with international green standards, as confirmed by a positive third-party report from Sustainalytics.[276] In February 2025, Uzbekistan successfully issued sovereign international bonds worth approximately US$1.5 billion including US$500 million,

272 UNESCO (2020).
273 Ten (2025).
274 Central Bank of Uzbekistan (2024).
275 Central Bank of Uzbekistan. (2024a).
276 UNDP (2023d).

€500 million and 6 trillion soums. The funds are intended to finance the 2025 state budget deficit, mortgage programmes and social infrastructure projects, with Euro-denominated "Green" bonds supporting sustainable initiatives such as water-saving and waste management, aligned with Uzbekistan's priority SDGs and international standards.[277]

The commercial banking sector in Uzbekistan, driven by government-led reforms and international support is taking on green financing. The 2019 Strategy for the Transition to a Green Economy for the period 2019–2030 (2019 Resolution of the President No. 4477) and the 2023 National Green Taxonomy have set standards for sustainable activities, encouraging banks to align with environmental goals. State-owned banks, which dominate the sector with about 83 per cent of assets, are pivotal, with institutions such as Uzpromstroybank undergoing transformations to become green banks, supported by IFC. For instance, Uzpromstroybank is scaling up lending for SMEs and climate finance projects, aiming to catalyse sustainable practices across the industry. Additionally, the Uzbekistan Mortgage Refinancing Company issued the first commercial green bond, leveraging new green bond standards to fund sustainable housing. The Entrepreneurship Development Company is also integrating green principles, targeting 35 per cent of its portfolio for green projects by 2026, using the taxonomy as a screening tool to attract private and international capital.

Despite progress, challenges persist in fully embedding green finance in Uzbekistan's banking system. The sector remains heavily state-controlled, with most loans directed toward government-prioritized industries, limiting financial intermediation for private entities. Privatization efforts, such as those for Uzpromstroybank and Ipoteka-bank, aim to reduce the state's share to 40 per cent by 2025, but progress is slow. The banking system's stability, rated as robust by S&P, Fitch and Moody's, is supported by high capital adequacy (15.9 per cent) and liquidity (87.4 per cent), yet the focus on state-led investments can constrain green finance innovation. International partnerships with the World Bank, ADB and others provide critical funding and expertise, such as the US$46.2 million allocated for emission reduction projects in 2024. However, only 10 per cent of Uzbek companies consider environmental issues in business planning, highlighting a gap in private sector engagement that green finance initiatives must address to achieve broader climate goals, including a 35 per cent reduction in GHG emissions by 2030.[278] The Uzbekistan Banking Association is not particularly active, but could serve as a catalyst of joint bank efforts for greening the economy.

2.6 GREEN JOBS

Photo 2.4: MatchED Tashkent 2025 – international fair connecting students, educators and universities

Photo credit: EPR Team

277 Ministry of Economy and Finance (2024).

278 World Bank Blogs (2025).

Uzbekistan's economy created on average around 280,000 new jobs annually on a net basis in the period 2004–2016; however, around 600,000 new jobs were needed each year for demographic reasons alone.[279] This has resulted in substantial migration, a decline in women's participation in the economy and a significant share of informality in the labour market. Informal employment, mostly present in the agriculture sector in the country, has been identified as one of the key bottlenecks for sustainable development.[280] As of 2024, Uzbekistan has not established an official definition or classification system for green jobs. This absence poses challenges in tracking progress and formulating targeted policies. The Strategy for the Transition to a Green Economy for the period 2019–2030 outlines the country's roadmap for sustainable development, emphasizing the creation of green jobs across various sectors.[281]

Several sectors have been identified as pivotal in generating green jobs: agriculture and forestry, through the implementation of climate-smart agricultural practices and sustainable forest management techniques; renewable energy, with the expansion of solar, wind and hydropower projects contributing to employment in clean energy; waste management, through the development of recycling programmes and waste-to-energy facilities; energy efficiency, via initiatives aimed at improving energy use in buildings and industrial processes; and eco-tourism, by promoting sustainable tourism practices that create jobs while preserving natural resources.[282]

Finally, when attracting investments, Uzbekistan is requesting foreign investors to train its workforce and invest in sharing knowledge, especially in green technologies.

Uzbekistan is actively working toward the international accreditation of its higher education programmes. The country is focusing on collaboration with the world's top 20 education destinations, establishing relationships and contacts with 120 international higher education institutions—including partners in Belarus, China, Germany, the Russian Federation and the United Kingdom of Great Britain and Northern Ireland—and has developed 370 educational cooperation agreements to date. Uzbekistan has pioneered Central Asia's first Green University positioning itself as a regional hub for Central Asia. The university offers undergraduate and graduate studies, with qualifications in Environmental and Sustainable Management, Environment and Economics, and Ecology and Public Administration. It also aims to develop vocational studies. Finally, the share of GDP in Research and Development (R&D) (1.16 per cent share of GDP in 2024) is increasing annually. Some R&D funding is not included in the official statistics. Uzbekistan is working actively on integrating green economy in the regular curriculum in higher education as well.

No data on informal employment (global SDG indicator 8.3.1 (Proportion of informal employment, by sector and sex) of the SDG target 8.3 (Proportion of informal employment in total employment, by sector and sex)) are available on the United Nations Statistics SDG Indicators Database. However, the SDG target 8.3, nationalized as "Creation of favourable conditions aimed at providing decent work and expanding productive employment of the population, especially young people, persons with disabilities, through the implementation of active and passive measures in the labour market, protection of private property, support and removal of barriers for the accelerated development of small and large businesses, private entrepreneurship and family business" is measured by the national SDG indicator 8.3.1 (Proportion of informal employment in total employment, by sector and sex). Informal employment was rather stable in the period 2018–2024, though more women are involved in informal employment (46.8 per cent in 2024) (see figure 2.1). Informal employment is more prevalent in the agricultural sector with 60.3 per cent of total employment in 2024, compared to 30.9 per cent in the non-agricultural sector. Informal employment is a key bottleneck, especially in agriculture, with 280,000 net new jobs annually. Government policies promote entrepreneurship (e.g., tax relief for investments, green jobs in renewables), but high informality persists. Implementation of the Strategy for the Transition to a Green Economy for the period 2019–2030 might alter this situation.

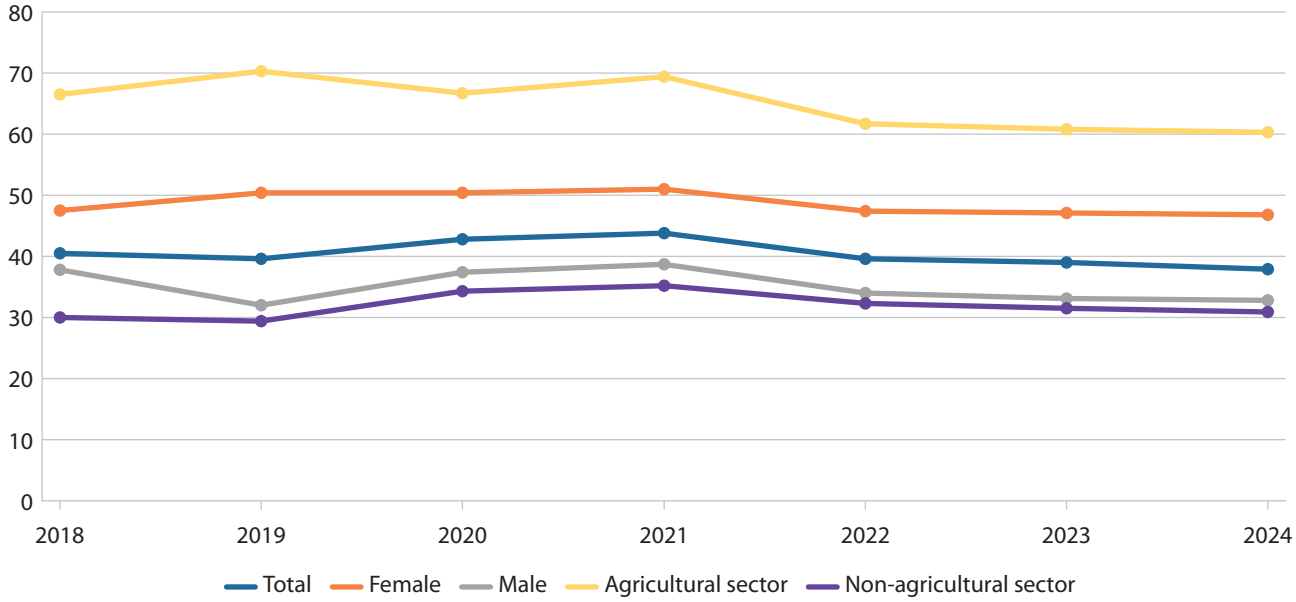
279 World Bank (2018).

280 KOICA, GGGI (2024), p. 7.

281 Ibid.

282 Ibid.

Figure 2.1: Proportion of informal employment in total employment by gender and sector, 2018–2024, percentage



Source: National Statistics Committee (National SDGs Data Portal), 2025.

Note: Excluding small enterprises and micro firms in the industries, construction, transport and communications. Type of economic activity includes industry, construction, communications, transportation and storage

No data on global SDG target 5.a (Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws) are available. SDG target 5.a, nationalized as "Expand programmes aimed at supporting women in the realization of their rights and interests in the socioeconomic sphere" is measured through the nationalized SDG indicator 5.a.2 (Presence of a legal framework (including customary law) guaranteeing women equal rights to land ownership and/or control). The assessment is made according to six main criteria:

- Criterion A: The existence of legal rules and regulations or government policies aimed at mandating joint land registration and encouraging it through economic incentives.
- Criterion B: The presence of legal norms and rules, or state policy aimed at making spousal consent mandatory for transactions in land or real estate.
- Criterion C: The presence of legal rules and regulations, or government policies, ensuring the rights of women and girls to equal inheritance rights.
- Criterion D: The existence of legal rules and regulations or government policies that provide for the allocation of financial resources to increase women's ownership and control of land.
- Criterion E: In legal systems that recognize customary land tenure, does the legal and policy framework effectively protect women's rights to land?
- Criterion F: Does the legal and policy framework support women's participation in land management and land-related governance?

Each of these criteria is assessed on a scale from 0 to 3, where: 0 – the criterion being assessed is not included in the legislation of Uzbekistan; 1 – the State pursues in practice a policy according to the criterion, but this is not regulated in any legal act; 2 – the criterion is regulated at the level of primary legislation; 3 – the criterion is regulated at the level of secondary legislation. Since 2000 and still in 2023, the nationalized SDG indicator 5.a.2 is 2.8, which corresponds to a 3 in all criteria except Criterion D, which reaches 2 out of 3. This indicates positive progress with reforms supporting women's economic participation. Land tax incentives and agricultural policies (e.g., subsidies for sustainable practices) indirectly promote equal access, though no specific indicator data on this is available. However, secondary legislation is lacking to provide for the allocation of financial resources to increase women's ownership and control of land.

2.7 PUBLIC-PRIVATE PARTNERSHIPS IN SUPPORT OF GREEN ECONOMY

Uzbekistan has established a robust framework to promote PPPs as a key driver of its green economy transition. The foundation for this approach lies in the 2019 Law on Public-Private Partnership,[283] which outlines transparent procedures for initiating and managing PPP projects, and the 2018 Resolution of the President No. 3980, which created the Development Agency on Public-Private Partnerships under the Ministry of Economy and Finance to coordinate these efforts.[284] The Strategy for the Transition to a Green Economy for the period 2019–2030 further prioritizes the role of PPPs in sectors such as renewable energy, waste management and sustainable agriculture. Notable green PPP initiatives include the "Sustainable and Resource Efficient Irrigation in Agriculture" project, which involves the German companies WILO and GIZ providing advanced pumping systems to improve irrigation.[285] Additionally, IFC is advising on a 1,300 MW gas-fired power plant PPP in Syrdarya region to enhance energy stability.[286] Other PPP projects tendered, awarded or signed in 2022 include modernization of heating stations in Tashkent for approximately US$900 million.[287] Overall, within this overarching framework, the comprehensive scope of PPP undertakings encompassed a diversified portfolio of 423 projects as of 2023.[288] However, as of May 2025, the official government website of PPP projects lists 2,714 such projects since 2020.

As a rule, the priority sectors are identified by national development strategies or other policy documents, such as the Development Strategy of New Uzbekistan for 2022–2026 (2022 Decree of the President No. 60).[289]

The global SDG indicator 17.17.1 (Amount in United States dollars committed to public-private partnerships for infrastructure) of the SDG target 17.17 (Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships) reports US$12 million in 2019 and US$279.7 million in 2020.[290] The national SDG indicator 17.17.1 reports US$18.45 million in 2021 and US$17.82 million in 2022.

2.8 LEGAL, POLICY AND INSTITUTIONAL FRAMEWORK

Legal framework

Pollution charges

The 2021 Resolution of the Cabinet of Ministers No. 202, on further improving the economic mechanisms for environmental protection, regulates the procedure for applying compensation payments for environmental pollution and waste disposal.[291] Amounts of fines were last amended in March 2025 by the 2025 Law No. 1042 on Amendments and Additions to the Code of Administrative Responsibility in Connection with the Establishment of Mandatory Requirements for Preventing the Dispersion of Dust and Sand Particles at Construction Sites, which mandated for fines 10–50 times BCU.[292] The new fines entered into force on 5 June 2025.

Taxes

Uzbekistan's tax system is governed by the 2019 Tax Code, No. 599, which has undergone significant reforms to enhance transparency, broaden the tax base and promote economic development. The tax regime encompasses various taxes, including the land tax, excise tax, water use tax and subsoil use tax.[293] Land tax rates vary based on land use and location. Unfinished constructions are taxed at 3 per cent.[294] As of April 2025, excise rates on petroleum products are set to increase by 10 per cent.[295] Entities utilizing water resources or extracting minerals are subject to respective taxes based on usage volume or value of extracted resources. A special rental tax of 25 per cent applies to the extraction of certain minerals,

283 IFC (2020).
284 Mondaq (2019).
285 Green Central Asia (2024).
286 IFC (2020).
287 Olimjonov (2023).
288 IFC (2020); Perzadayeva (2023).
289 Perzadayeva (2023).
290 World Bank (Private Participation in Infrastructure (PPI) Database).
291 National Bank of Uzbekistan (n.d.). US$1= 12,971 soums. Minimum base rate is 375,000 as of 2024.
292 Jabbarov (2025).
293 Windfields (2023); Tax & Legal Uzbekistan. (n.d.).
294 Ibid.
295 Ibid.

including precious metals and hydrocarbons.[296] Special economic zones offer tax exemptions based on investment amounts, including exemptions from property, land and water resource use taxes for periods ranging from 5 to 10 years.[297] Renewable energy producers are exempt from property and land taxes on renewable energy installations of at least 0.1 MW capacity for a period of 10 years from the date of commissioning.[298]

Administrative price controls

Recent reforms have reduced regulatory price on over key products, promoting market-based pricing mechanisms.[299] Uzbekistan has liberalized many sectors but retains government authority to regulate prices for essential goods and services, especially those from natural monopolies or deemed socially critical. These controls are enforced through government decisions, allowing public procurement from single suppliers such as natural monopolies or unique goods without market alternatives (1997 Law No. 398-I on Natural Monopolies, as amended on by the 1999 Law No. 815-I).

Use of forest resources

Uzbekistan's legal and institutional framework for forest resource use is based on the 1999 Law No. 770-I on Forests (as amended by 2018 Law No. 475), which declares all forests as state property and allows their use only through special permits such as forest or logging tickets. Users are classified as permanent or temporary, and are obliged to apply sustainable practices, pay user fees and contribute to conservation and reforestation.

Since May 2025, the Agency for Forest Development, Increasing Green Zones and Combating Desertification is the main institutional body responsible for managing forests, including planning, inventory, protection and monitoring of forest lands. It operates through regional branches and implements national forest policy.

Long-term strategic direction is set by 2020 Resolution of the President No. 4850 on the approval of the Concept for the Development of the Forestry until 2030. Key measures include leasing unused forest lands via online auctions, supporting agroforestry and expanding afforestation efforts, especially in degraded areas.

Tariffs for utility services

The Government has defined the main directions of tariff policy in the fuel and energy sector until 2030 through the 2024 Resolution of the Cabinet of Ministers No. 337 on additional measures to improve the tariff policy in the fuel and energy sector. The new tariff policy, effective April 2025, outlines several key directions. These include establishing competitive and equitable tariffs for electricity and natural gas consumers and strengthening the financial stability and investment attractiveness of the power grid. The policy prioritizes the expansion, modernization and diversification of production capacities, including through PPP projects, and seeks to increase operational efficiency and improve the quality of products and services. It also introduces a phased elimination of repeated subsidies in tariff setting, while ensuring social protection for low-income and vulnerable households through targeted support measures. Furthermore, the policy aims to create a transparent, consistent and predictable regulatory framework for the fuel and energy sector, including the gradual adoption of long-term tariff methodologies to reduce regulatory risks for investors. By 2035, the strategy envisions the harmonization of retail electricity and natural gas prices nationwide, ensuring that households across all regions of the Republic are supplied under a unified pricing policy. Furthermore, the Resolution mandates the regulations on the procedure for setting tariffs for electricity and natural gas.

Support for renewable energy sources

The 2019 Law No. 539 on the Use of Renewable Energy Sources provides incentives for renewable energy development, including tax exemptions.

Public procurement

The 2021 Law No. 684 on Public Procurement establishes the legal basis for procurement activities. Recent amendments have introduced mechanisms such as two-stage procurement procedures for complex goods and services, simplified procedures for low-cost procurements, centralized public procurement and framework agreements. Additionally, the Law now emphasizes sustainable procurement, requiring state procurers to consider economic, environmental and social impacts in their procurement decisions. The 2025 Resolution of Cabinet of Ministers No. 371 on measures to improve the

296 The Tashkent Times (2022).
297 Azizov Partners (2023).
298 Ernst & Young Limited (2024).
299 World Bank (2022c).

system of supporting green public procurement mandates environmental criteria in public procurement tenders from 1 January 2026 and sets a target of increasing green procurement to 30 per cent of total public contracts by 2030.

Public-private partnerships

The legal framework for PPPs is primarily established by the 2019 Law No. 537 on Public-Private Partnership. The Law defines the principles, procedures and institutional arrangements for PPPs, including the roles of public and private partners, project initiation, selection processes and agreement terms. Furthermore, the 2024 Resolution of the President No. 308 stipulates measures for the development of PPP for 2024–2030, aiming to attract substantial private investment into key sectors such as energy, transportation, healthcare and education.

To advance its efforts, Uzbekistan could benefit from the methodology of the ECE PPP and Infrastructure Evaluation and Rating System that was developed to score infrastructure projects against SDGs. The methodology aims to ensure projects create "value for people" and "value for the planet" with a focus on the world's most vulnerable.[300]

Policy framework

Photo 2.5: Ministry of Economy and Finance of Uzbekistan

Photo credit: EPR Team

Uzbekistan's policy framework for the green transition is based on several key strategic documents. The highest-level framework is the comprehensive 2023 Strategy Uzbekistan – 2030, which sets the country's long-term development vision, including sustainability as one of its main pillars. This strategy succeeds and expands upon the Development Strategy of New Uzbekistan for 2022–2026, which laid the initial groundwork for accelerated reforms in the economy and environmental protection.

Within this national vision, the key thematic document is the 2019 Strategy for the Transition to a Green Economy for the period 2019–2030. This strategy directly targets increasing energy efficiency, diversifying energy consumption, reducing GHG emissions and promoting climate resilience. It is complemented by the Concept of Environmental Protection until 2030, which provides a broader environmental framework. To implement these goals, the 2022 Resolution of President No. 436 on measures to improve the effectiveness of reforms aimed at transitioning to a "green" economy by 2030 approved a specific Programme for the Transition to a Green Economy and Ensuring Green Growth until 2030, thereby making the strategic goals operational.

300 ECE (n.d. a).

Implementation and monitoring are strengthened through specific mechanisms. The Resolution of President No. 436 introduced a national transparency framework consistent with the Paris Agreement, including a monitoring, reporting and verification (MRV) system for GHG emissions, coordinated by the Ministry of Economy and Finance. In the latest development, the 2025 Decree of the President No. 63, on measures to improve public administration in the sphere of increasing energy efficiency and to market development of services of power service companies, establishes the National Energy Efficiency Agency and mandates the launch of a digital energy efficiency platform by September 2025.

The Investment Policy Framework for Sustainable Development developed under the auspices of the United Nations Conference on Trade and Development (UNCTAD) could support the country's action to promote investment in sectors related to the SDGs.[301]

Institutional framework

The Ministry of Finance and Economy oversees the implementation of green economy initiatives and the reduction of GHG emissions across various economic sectors, in close collaboration with the Ministry of Ecology, Environmental Protection and Climate Change. The Development Agency on Public-Private Partnerships, established under the Ministry of Economy and Finance, oversees the implementation of PPP policies and maintains a registry of PPP projects.

The prioritization of environmental issues is further underscored by the establishment of the Climate Council under the President, which formulates unified state policy for mitigating and adapting to climate change and coordinates the efforts of ministries and agencies on Uzbekistan's commitments under UNFCCC and the Paris Agreement (2024 Decree of the President No. 106 on the establishment of the Climate Council under the President). The designated working body of the Climate Council is the National Centre for Climate Change, which also serves as a technical focal point for the Green Climate Fund (GCF).[302] Additionally, the Central Asian Green University is expected to establish a Climate Science Forum to enhance scientific and academic capabilities and conduct basic research.[303]

With the 2023 Decree of the President No. 81, environmental diplomacy departments were required to be established in the Ministries of Foreign Affairs, Water Resources, Agriculture, and Mining and Geology. The 2024 Decree of the President No. 106 introduced such units in another 11 ministries. The Environmental Diplomacy Departments are tasked with coordinating and advancing climate change mitigation and adaptation strategies by collecting and submitting relevant data to the National Centre for Climate Change, coordinating sectoral strategies across ministries and facilitating international cooperation on climate-related projects. They also review legal acts for climate impact, promote research integration into policies, conduct proactive scientific research and submit quarterly monitoring reports, while promptly notifying the National Centre about foreign proposals and requests related to climate change.

The Ministry of Energy has overall responsibility for the development and implementation of energy policies, plans and programmes, and is authorized to play a central role in implementing renewable energy policy. It is also responsible for the regulation and supervision of the production, transmission, distribution and consumption of energy resources including electricity and the functioning of energy sectors, as well as the implementation of production-sharing agreements. Moreover, the Ministry takes part in developing energy-related PPPs and plays a role in improving the tariff policy in cooperation with the inter-ministerial tariff council to facilitate the development of a competitive business environment.[304] Additionally, many other institutions play key roles in the overall energy sector, such as the Ministry of Economy and Finance, the Ministry of Investment, Industry and Trade, the Ministry of Employment and Poverty Reduction, the Cabinet of Ministers, the National Statistics Committee, Thermal Power Plants JSC, Uzbekhydroenergo, the National Electric Grid and the Regional Electric Power Networks.[305]

The 2025 Decree of the President No. 90 established an Agency for Forest Development, Increasing Green Zones and Combating Desertification under the Ministry of Ecology, Environmental Protection and Climate Change to enhance forest management and environmental sustainability (see chapter 4). The agency was tasked to oversee the protection, expansion and sustainable use of the country's forest resources, which cover 4.4 million ha (10.6 per cent of total land area) as of August 2025. The goal is to increase forested areas to 6.1 million ha by 2030,introduce market economy mechanisms in the organization and management of forest enterprises and increase the tourist potential of forests (2020 Resolution of the President No. 4850).

301 UNCTAD (n.d.).
302 GCF (Republic of Uzbekistan).
303 Glosema Goup (2024).
304 IEA (n.d).
305 Ibid.

The Chamber of Commerce and Industry (CCI) is a non-governmental organization that plays a key role in representing business interests, promoting entrepreneurship and facilitating economic development in the country. It supports the private sector through advocacy, networking and various programmes aimed at enhancing competitiveness, particularly for SMEs. While the chamber's website has limited content on sustainability, external sources indicate its involvement in green initiatives, aligning with Uzbekistan's national priorities for a green economy transition. As Uzbekistan is prioritizing green goals, the role of CCI increases, especially in raising awareness of the green transition in the private sector, green public procurement practices. CCI has already well-established relations with various development actors such as GIZ, which can further be utilized for steering the private sector green transition.

Coordination among institutions responsible for environmental protection at national, regional and local levels

To enhance inter-institutional coordination, the Ministry of Economy and Finance has established the Inter-agency Council for Green Economy, along with technical inter-agency and multistakeholder thematic working groups. These bodies facilitate multi-sectoral engagement, bringing together legislative members, government officials, municipal authorities, experts, academia and international partners to develop strategic frameworks and roadmaps for green growth and climate change adaptation.[306]

SDGs

In 2019, Uzbekistan launched the National SDG Platform, which provides access to data on 143 SDG indicators, as of August 2025.[307] This initiative enhanced the country's statistical capacity, contributing to Uzbekistan's advancement by 66 places in the World Bank's Statistical Capacity Index by 2020.[308] The National Statistics Committee provides regular publications on SDGs.[309] Additionally, the 2024 Sustainable Development Report revealed Uzbekistan's placement at 81st out of 167 countries assessed;[310] this is a decline in comparison to 2023 when Uzbekistan held the 69th position.[311] Uzbekistan presented its first Voluntary National Review in 2020 and a second in 2023, detailing progress and challenges in SDG implementation.[312] In 2023, Uzbekistan recorded a positive increase in sustainable development indicators for the following 11 out of 16 goals: poverty reduction (Goal 1), food security and nutrition (Goal 2), health and well-being (Goal 3), gender equality (Goal 5), quality education (Goal 4), clean water and sanitation (Goal 6), industrialization, innovation and infrastructure (Goal 9), sustainable development of cities and human settlements (Goal 11), climate action (Goal 13), and peace, justice and strong institutions (Goal 16).[313]

The Development Strategy of New Uzbekistan for 2022–2026 is closely aligned with the SDGs, placing strong emphasis on governance reforms, economic development and social welfare. To accelerate progress toward these goals, the Government has prioritized PPPs and co-financing programmes as key mechanisms for implementation. In parallel, efforts are underway to enhance data collection and strengthen statistical capacity, enabling more effective monitoring and evaluation of SDG achievements across sectors.[314] Even though Uzbekistan has made progress in several areas, there are still issues with urbanization, environmental sustainability and climate change. Problems, such as air pollution and restricted public transportation options, highlight areas that require future development.[315]

According to the PARIS21 Partner Report on Support to Statistics 2022,[316] Uzbekistan strengthened statistical capacity. SDG indicator 17.19.1 (Dollar value of all resources made available to strengthen statistical capacity in developing countries) of the SDG target 17.19 (By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries) shows an uneven pattern from US$5.7 million in 2018 to US$1.0 million in 2022 and with a drop in 2019 to US$0.3 million.

306 The Tashkent Times (2022a); BIO Web of Conferences (2024).
307 National Statistics Committee (Report Status).
308 UNDP (2021).
309 National Statistics Committee (Publications).
310 Daryo.uz (2024).
311 UzDaily.uz (2023).
312 United Nations Uzbekistan (2023).
313 UzDaily.uz (2023a).
314 UNDP (2023e); National Statistics Committee (2019).
315 Daryo.uz (2024a).
316 OECD (2022).

2.9 ASSESSMENT, CONCLUSIONS AND RECOMMENDATIONS

Assessment

Uzbekistan has shown a strong commitment to environmental sustainability between 2018 and 2025 through comprehensive legislation, increased investments in renewable energy and fiscal reforms implemented. The designation of 2025 as the "Year of Environmental Protection and the Green Economy" highlights this focus, addressing pressing issues such as the Aral Sea crisis, urban air pollution and water scarcity. Key policy frameworks, including the Strategy for the Transition to a Green Economy (2019–2030) and the Concept of Environmental Protection until 2030, provide strategic direction for these efforts.

Despite progress, significant challenges persist. In 2023, fossil fuels, primarily natural gas, accounted for 78.9 per cent of the country's primary energy supply. Urban air pollution remains a serious concern, with Tashkent recording 430,000 tons of emissions in 2022. Agriculture continues to consume 90 per cent of the country's water resources, often inefficiently, and recycling rates remain low, with only 18 per cent of waste recycled in Tashkent.

Pollution fees are currently set below socially optimal levels, resulting in insufficient revenue to offset the societal costs of environmental degradation. While private sector investments in renewable energy and electric vehicles, estimated at US$1.0–1.5 billion, are encouraging, and the renewable energy share on the grid reached 15–18 per cent as of August 2025, these efforts remain insufficient to meet the national target of 54 per cent by 2030.

Addressing these challenges requires stronger enforcement mechanisms, targeted fiscal policies and enhanced public-private partnerships. Progress is further constrained by limited domestic funding for environmental protection and slow adoption of green technologies by the private sector. At present, foreign direct investment (FDI) and official development assistance (ODA) are the primary drivers of green investment in Uzbekistan.

Conclusions and recommendations

Pollution charges

Uzbekistan imposes fines and fees for environmental pollution to discourage harmful practices. However, the revenue generated from these charges remains modest relative to the scale of pollution, and the current system is largely ineffective. Many companies pay fines, but the amounts are insufficient to cover the environmental and health-related costs. Although the fines have increased, numerous enterprises continue to operate with outdated equipment. Air quality monitoring posts exist, but they are inadequate, and pollution fines and compensatory payments are not fully collected. As of August 2025, Uzbekistan lacks a true cost accounting platform to support evidence-based policymaking, particularly in the energy and industrial sectors. This gap hinders public awareness and regulatory action needed to quantify externalities such as damage to human health and ecosystems.

Recommendation 2.1:

The Government should:

(a) Enforce stricter penalties for non-compliance, including steeper fines and immediate administrative sanctions for repeat environmental pollution offenders;

(b) Implement true cost accounting, starting with pilot assessments in high-pollution sectors, to quantify externalities while ensuring multi-stakeholder collaboration, integration of data from environmental monitoring systems and regular updates to support evidence-based policymaking, public awareness campaigns and alignment with green finance initiatives;

(c) Update pollution charge rates to reflect real costs and regularly update them to ensure that rates for key pollutants effectively deter non-compliance and internalize socio-environmental costs.

Taxation of fuel

Uzbekistan has adjusted its fuel taxation framework as part of broader environmental and fiscal reforms. These changes include increased excise taxes on gasoline and diesel, alongside reduced taxes on natural gas to encourage the use of cleaner fuels. Despite these efforts, as of August 2025, fuel taxes still do not fully reflect the social and environmental costs associated with fossil fuel consumption, particularly in terms of air pollution and greenhouse gas emissions. Moreover, existing tax differentials may inadvertently incentivize greater use of carbon-intensive fuels such as diesel over cleaner alternatives. The absence of carbon pricing or emissions-based taxation (CO_2eq) further limits incentives for fuel efficiency. As of 2025, Uzbekistan applies a volume-based taxation system (soums/ton), which does not account for the carbon intensity of different fuels.

Recommendation 2.2:

The Government should:

(a) Increase excise taxes on high-emission fuels by introducing a carbon-based tax component to reflect their environmental impact, with revenues redirected to renewable energy subsidies and public transport upgrades;

(b) Complete the phase-out of AI-80 petrol by upgrading the Bukhara and Fergana refineries;

(c) Enforce the planned ban on Euro 4 and below vehicle imports;

(d) Increase customs duties on the import of used high-emission vehicles;

(e) Eliminate remaining fossil fuel subsidies, redirecting savings to electric vehicle infrastructure.

Households and utility tariffs

Uzbekistan is gradually transitioning to cost-reflective utility tariffs through tiered pricing structures and scheduled price increases. These reforms aim to reduce fiscal pressure and enhance efficiency. However, the social impacts of rising utility costs on vulnerable groups remain unassessed. While some subsidies for water and heating are still in place, recent tariff reforms seek to phase them out to further promote efficiency. Nonetheless, abrupt price hikes risk triggering public backlash. As of 2025, no smart meters for measuring the use of electricity, gas, water and heating, as appropriate, are installed in public buildings or state-owned enterprises, limiting access to real-time energy usage data for both consumers and suppliers. Moreover, smart meters, which could serve as effective tools for demand-side management and energy efficiency, are also absent in households.

Recommendation 2.3:

The Government should:

(a) Maintain lifeline tariffs for low-income households, ensuring affordability while phasing out blanket subsidies;

(b) Conduct annual environmental and economic audits of utilities to align tariff adjustments with efficiency goals, targeting a 10 per cent reduction in energy losses;

(c) Mandate smart metering in public buildings and large enterprises to enhance energy monitoring and efficiency;

(d) Implement predictable tariff increases (maximum 10 per cent annually), while taking into account low-income households and ensuring transparency through public consultations and the involvement of regional administration;

(e) Raise awareness about and roll-out the installation of smart meters in households.

Support for renewable energy

Uzbekistan has made considerable progress in promoting renewable energy, with several solar, wind and green hydrogen projects launched, contributing to a 15–18 per cent renewable energy share. However, fossil fuels remain dominant due to the country's large natural gas reserves, and the integration of renewables into the national grid is still under development. This continued reliance on fossil fuels, alongside financing gaps and limited private sector participation, poses challenges to achieving the ambitious target of 54 per cent renewables by 2030. Additionally, solar and wind projects are heavily dependent on foreign investors.

Recommendation 2.4:

The Government should:

(a) Ensure that the national grid accommodates the variability of renewable energy sources;

(b) Invest in storage and battery capabilities to reduce reliance on fossil fuels as a baseload power source;

(c) Implement transparent auctions annually using suitable auction models for solar and wind projects;

(d) Scale up public-private partnerships for renewable energy and waste-to-energy projects, offering feed-in tariffs and tax incentives to attract increased private investment;

(e) Develop green financing instruments, such as concessional loans, to support domestic renewable energy projects;

(f) Provide risk guarantees to de-risk private investments, targeting an increase in private sector participation in renewables;

(g) Streamline digital issuance and regular publication of green certificates via the Ministry of Energy's website;

(h) Ensure that incentives are available for household rooftop solar installations.

Tax on use of water resources

Uzbekistan has increased water resource tax rates and is gradually aligning sector-specific tariffs with industrial rates. Despite these efforts, water use remains highly inefficient, particularly in agriculture, which accounts for over 90 per cent of freshwater consumption. As of August 2025, tax rates do not sufficiently incentivize conservation, and enforcement of withdrawal limits is weak (see chapter 1). While urban water tariffs are approaching cost-recovery levels, rural water use is often underpriced or unmetered, and transparency regarding actual usage and payments is lacking.

Recommendation 2.5:

The Government should:

(a) Revise water tax rates to reflect resource scarcity, introducing progressive pricing for excessive use to encourage water conservation;

(b) Increase water tax rates for thermal power plants to incentivize cooling technology upgrades;

(c) Apply penalties for irrigation water use that exceeds withdrawal limits;

(d) Expand subsidies for drip irrigation systems, recognizing their socio-environmental benefits, such as water conservation, reduced soil degradation and lower energy use;

(e) Modernize irrigation infrastructure to improve water efficiency and reduce losses.

Environment-related funds

Uzbekistan has mobilized several environment-related funds, such as the Ecology, Environmental Protection and Waste Management Fund, the Forestry Development Fund and the Fund for Water Supply and Sanitation. However, some of these funds face challenges related to fragmented administration, limited transparency and declining revenues from pollution-related fees.

Recommendation 2.6:

The Government should:

(a) Enhance oversight of the environment-related funds, introduce clear spending guidelines and strengthen coordination of the efficient use of the funds;

(b) Prioritize use of resources in the environment-related funds for activities on afforestation, biodiversity protection, renewable energy generation, decarbonization and water efficiency;

(c) Publish annual reports on fund disbursements, detailing project outcomes, to enhance transparency and accountability;

(d) Develop and implement mechanisms for stable and sustained funding for environmental protection.

Green Public-Private Partnerships

Public-Private Partnerships (PPPs) have become a cornerstone of Uzbekistan's green transition, enabling the development of large-scale renewable energy and irrigation projects. However, regulatory and institutional bottlenecks persist, and many regions lack the capacity to prepare and manage PPPs effectively. While PPPs are essential for advancing green infrastructure, they often face bureaucratic delays and investor concerns, particularly regarding tariff risks. The application of the ECE PPP and Infrastructure Evaluation and Rating System methodology could support Uzbekistan's efforts in this area.

Recommendation 2.7:

The Government should:

(a) Develop sector-specific guidelines on green public-private partnerships, aligned with the National Green Taxonomy;

(b) Offer greater incentives for green public-private partnerships;

(c) Build capacity in regional and local administrations for the design, negotiation and monitoring of public-private partnership projects, especially in water and waste management;

(d) Implement a public-private partnerships waste-to-energy financial model with feed-in tariffs, tipping fees, carbon credits and tax incentives.

Green Public Procurement

Uzbekistan has revised its Law on Public Procurement to incorporate environmental considerations. However, green procurement still represents a relatively small share of total public purchases, constituting around 20 per cent. Institutional coordination remains limited and environmental criteria are narrow in scope and application.

Recommendation 2.8:

The Government, in cooperation with the Chamber of Commerce and Industry, should:

(a) Provide support and certification programmes to help small and medium-sized enterprises meet green public procurement standards and access procurement opportunities;

(b) Train officials on sustainability standards and establish a verification system for compliance.

Green finance

Uzbekistan has advanced in green finance. The Central Bank has begun integrating climate risks into its operations and now recognizes green bonds as High-Quality Liquid Assets, incentivizing sustainable investments. The issuance of 4.25 trillion soums in green Eurobonds in 2023 and US$1.5 billion in international bonds in 2025 has supported projects such as water-saving technologies and renewable energy, aligned with the Strategy for the Transition to a Green Economy (2019–2030) and the National Green Taxonomy. State-owned banks are undergoing transformation into green banks with support from the International Finance Corporation, while commercial green bonds are helping fund sustainable housing. However, challenges persist, including a state-dominated banking sector, limited private sector engagement—only 10 per cent of companies prioritize environmental issues—and an underdeveloped capital market. To meet the 2030 target of a 35 per cent reduction in greenhouse gas emissions, Uzbekistan needs to strengthen the application of its green taxonomy, introduce carbon pricing and build private sector capacity.

Recommendation 2.9:

The Government should:

(a) Scale up the National Green Taxonomy by applying it across all key sectors, integrating it into national budgeting, investments and procurement, and establishing a centralized system for monitoring and assessment of pilot project outcomes;

(b) Establish a Green Finance Facility offering low-interest loans, tax breaks and green bonds, aligned with the National Green Taxonomy, while launching capacity-building programmes and a digital platform to boost private sector investment in green technologies;

(c) Update bilateral investment agreements to incorporate international sustainability standards ensuring foreign investments support Uzbekistan's green economy goals;

(d) Encourage the Central Bank to accelerate the integration of climate-related financial risks into its supervisory framework by mandating climate risk management, stress testing and disclosure requirements for all banks, while introducing targeted incentives such as lower reserve requirements for green lending.

Green technology knowledge

Uzbekistan's decarbonization efforts face challenges due to limited technological readiness, regulatory hurdles and low private sector capacity. These barriers highlight the need for enhanced knowledge-sharing, increased investment in research and development (R&D) and stronger involvement of local governments to scale up sustainable practices.

Recommendation 2.10:

The Government should:

(a) Foster mechanisms to share green technology knowledge within special economic zones and eco-industrial zones to drive innovation and adoption;

(b) Increase and prioritize funding for research and development focused on green technologies to support sustainable development.

Decarbonizing business

Uzbekistan's business sector plays a pivotal role in achieving the national target of a 35 per cent reduction in greenhouse gas emissions by 2030. However, only 10 per cent of companies currently prioritize environmental issues in their business planning. Progress has been made through the adoption of a green taxonomy in 2022 and the establishment of pilot eco-industrial zones in Samarkand. Initiatives, such as UNIDO's eco-industrial park projects and the AgriTech4Uzbekistan programme, promote resource efficiency and climate-resilient technologies.

Recommendation 2.11:

The Government should:

(a) Develop mechanisms to support businesses in achieving the national decarbonization target, including in conducting assessments of their technological readiness levels;

(b) Provide targeted support to improve business capabilities in low-carbon technologies.

CHAPTER 3
CLIMATE CHANGE

Photo 3.1: Saxaul *(Haloxylon spp.)* planted on the Aral Seabed as a measure for climate adaptation, sand stabilization and ecosystem restoration

Photo credit: Press Service, National Committee on Ecology and Climate Change of Uzbekistan

3.1 CURRENT AND FORESEEABLE ECONOMIC AND ENVIRONMENTAL IMPACTS FROM CLIMATE CHANGE

Environmental impacts from climate change

Weather

Uzbekistan is a doubly landlocked country in Central Asia, with diverse topography ranging from deserts to mountainous regions. Summers are hot and dry, with an average monthly temperature of +27.2°C in the hottest month (July) and with an average daily maximum of +35°C in many of the major cities. Temperatures often exceed +40°C, especially in the southern regions where it can be four or five degrees warmer. Winters are cold, with average monthly temperatures of 0°C to +2°C between December and February. Western areas of the country experience relatively colder winter temperatures, whereas temperatures are highest in the south, near the borders with Turkmenistan and Afghanistan. In some areas, such as parts of the Aral Sea and Kyzylkum Desert, temperatures can drop to -40°C.

The country is predominantly arid, with low precipitation throughout the year. Annual precipitation ranges from 100 to 200 mm, primarily occurring in winter and spring. However, annual precipitation in the east and south-east regions can reach up to 800–900 mm per year.

By the end of the century, the average air temperature in Uzbekistan is expected to rise by 4.8°C above the 1986–2005 baseline under the highest emissions pathway.[317] This increase is significantly higher than the global average, which has risen by 1.1°C since 1850. The rise in average temperatures by the 2090s is expected to be strongest in the Aral Sea region and the Fergana Valley. A sharp increase in temperature conditions may significantly affect the availability of water resources and heighten the likelihood of natural disasters, posing serious risks for the country's sustainable development.

[317] ADB (2021).

Glaciers

The country's glaciers, primarily located in the Tien Shan and Pamir-Alai Mountain ranges, which form up to 50 per cent of the annual flow of the Amu Darya and Syr Darya rivers, have been retreating at an alarming rate. Since the 1980s, glacier coverage has decreased by more than 30 per cent.[318] This trend poses a serious threat to water security, especially in summer months when glacial meltwater is critical for agriculture and hydropower.

Water resources

Uzbekistan relies heavily on transboundary rivers, with approximately 90 per cent of its freshwater inflows originating outside its borders, in upstream neighbouring countries.[319] Climate change is affecting the volume of river flows, exacerbating water scarcity, particularly in regions dependent on irrigation. Prolonged droughts and inconsistent precipitation patterns further threaten the stability of the country's water resources. Water shortages are therefore expected to increase in frequency and severity, which may severely affect crop production and food security in the country.

According to a recent study,[320] over the past 20 years water supply per capita in Uzbekistan has decreased from 3,000 m^3 to 1,500 m^3, a 50 per cent reduction. Future projections indicate that, by 2050, water resources in the Amu Darya and Syr Darya basins may decrease by 15 per cent, leading to a 25 per cent reduction in water availability per capita.

Further, the risk of floods is increasing in Uzbekistan due to more frequent episodes of heavy rain. For example, in April 2022, heavy rain in the Samarkand and Jizzakh regions triggered floods and mudflows, that damaged crops, houses, schools and other buildings, causing the death of four persons.[321] At least 260 farms and buildings suffered damage and around 100 people were displaced.

Land and soil

The combination of high temperatures and reduced water availability is accelerating land degradation processes such as desertification, erosion and salinization. Over 20 per cent of irrigated lands (over 500,000 ha) in Uzbekistan are affected by salinity, significantly limiting agricultural productivity and food security (see chapter 1).[322] The country's susceptibility to droughts results in large areas of soil drying rapidly due to rising temperatures. Erosion is influenced by precipitation patterns and is impacted by vegetation and soil conservation practices, such as forests, agroforestry and physical infrastructure. Moreover, the drying Aral Sea accelerates desertification.

Forest and other natural vegetation

Uzbekistan's forests, including the ecologically important juniper and tugai (a type of riparian forest unique to the region) forests, are under increasing pressure from climate stressors. Droughts and pest infestations are leading to forest decline, while changing climatic conditions are affecting species composition and forest regeneration. In 2024, the country lost 4 ha of natural forest, equivalent to 660 t of carbon dioxide (CO_2) emissions. In Uzbekistan, the peak fire season typically begins in late March and lasts around 20 weeks. Between 5 August 2024 and 4 August 2025, 729 high confidence alerts were recorded using the visible infrared imaging radiometer suite, which provides near real-time alerts. The highest number of fires (1,018 fires) was recorded in 2021.[323]

The country is implementing ecosystem restoration efforts through programmes, such as RESILAND CA+, which promotes sustainable land use, reforestation and landscape rehabilitation.[324] Uzbekistan's afforestation of over 500,000 ha on the Aral Sea seabed is a notable example, aiming to reduce dust storms and improve ecological resilience. Regional frameworks, such as the United Nations Special Programme for the Economies of Central Asia, are helping to harmonize environmental governance and embed sustainability into national development plans.

318 Arabov (2024).
319 GWP (2025).
320 Arabov (2024).
321 FloodList (2022).
322 ADB (2024a).
323 Global Forest Watch (Uzbekistan).
324 World Bank (n.d. b).

Biodiversity

The main climate change-related threats to Uzbekistan's biodiversity are associated with habitat loss and degradation of natural ecosystems; decreases in population sizes and the loss of flora and fauna, including economically valuable species; and the loss of genetic diversity.[325]

Fluctuations in water availability and temperature are altering natural habitats and threatening endemic species. Wetland areas, critical for migratory birds and rare plant species, are particularly vulnerable. These shifts risk a loss of biodiversity and the collapse of fragile ecosystems. Worsening water stress and increasing aridity continue to impact biodiversity, rangelands and livestock production.[326]

Photo 3.2: Bukhara mountain sheep *(Ovis bocharensis)* — a rare endemic species of Central Asia

Photo credit: Press Service, National Committee on Ecology and Climate Change of Uzbekistan

Human health

Increasing climate pressures can also intensify environmental health challenges by reducing access to water, worsening air quality and increasing the transmission of diseases. Furthermore, rising temperatures and more frequent heatwaves are leading to higher incidences of heat stress and cardiovascular disease. The decrease in water availability may increase the risk of waterborne diseases. In many parts of the country, inadequate sanitation infrastructure adds to this problem.

Desertification also poses serious health risks by contributing to food and water insecurity, poor air quality and the spread of diseases. As fertile land degrades, dust storms become more frequent, exposing communities to airborne pollutants that cause respiratory illnesses like asthma and bronchitis. These storms pose major health risks to about 5.5 million inhabitants. In the Republic of Karakalpakstan, dust concentrations exceed safe thresholds by more than a factor of two. Reduced agricultural productivity also leads to malnutrition, especially in rural areas dependent on farming and livestock.[327]

Climate change-induced hazards

Due to Uzbekistan's complex topography and uneven distribution of precipitation, the risks of hazardous hydrometeorological phenomena are not homogenous throughout the country. Changes in the hydrological cycle have led to a significant increase in natural disasters such as floods, landslides and droughts. Between 2011 and 2022, 126 natural disasters were recorded, with 27 per cent caused by floods and 13.5 per cent by landslides.[328] Economic losses from climate-induced disasters are estimated at US$92 million (0.2 per cent of GDP) a year.[329]

325 UNDP (2015).
326 Arabov (2024).
327 WHO (n.d. a).
328 Akramkhanov (2024)
329 World Bank (2020).

In Uzbekistan, the risk exposure to climate change-induced hazards is expected to increase. In particular, landslides pose a high risk, with most triggered by snowmelt and heavy precipitation. Droughts are the most prevalent environmental hazard in the country, both in terms of the land area affected and the diversity of populations impacted. Droughts can lead to significant economic losses and a decrease in agricultural production. Other dangerous local hydrometeorological phenomena in the country include avalanches and mudslides. Uzbekistan has limited human and financial resources to address potential impacts from climate-induced disaster.

Climate change-induced disasters have also impacted food security and the well-being of the population. They exacerbate poverty, especially in rural areas dependent on agriculture. Women are particularly vulnerable due to a significant dependence on agriculture for income.

Furthermore, increasing variability and intensity of weather events due to climate change pose challenges for forecasting and disaster risk management. Incomplete observation networks, especially in remote and mountainous regions, can limit the accuracy of forecasts due to data gaps. The country lacks the continuous technological and methodological upgrades to keep pace with advancements in remote sensing, data analytics and modelling. Although there is progress in early warning systems, disaster impact-based forecasting and emergency response capacity are insufficient.

Dust storms

According to a 2024 report led by the Centre for Agricultural Research in the Dry Areas,[330] the highest dust deposition rates from dust storms in Central Asia were recorded in Uzbekistan, particularly in areas close to the Aralkum and Kyzylkum deserts. Dust deposition peaks occur during the summer months, with June showing the highest average deposition rates, driven by intense dust storm events (see box 3.1). A secondary peak is observed in February.

Photo 3.3: Two-humped camels grazing in the Kyzylkum Desert

Photo credit: Uzbekistan, two-humped camels grazing in the Kyzylkum Desert, by Angela Meier/stock.adobe.com

This dust storm activity can lead to various impacts affecting the environment and socioeconomic activities, highlighting the need for resilience and adaptability measures. The Aralkum Desert is marked by salt flats and shifting sand dunes, which generate dust storms often containing chemicals and pesticides from the former Aral Sea seabed. These dust storms pose serious environmental and health risks to the local population, contaminating air, soil and water sources. The impacts of dust storms on human health include respiratory diseases. Fine particles can penetrate the respiratory system and, in some cases, enter the bloodstream (see chapter 1). This can exacerbate respiratory conditions, provoke allergic reactions and impair lung function.[331]

330 Akramkhanov (2024).

331 Ibid.

Box 3.1. Severe dust storms in Uzbekistan

Uzbekistan faces large-scale dust storms. This is illustrated by the dust storm that occurred in November 2021, which is considered among the strongest as of August 2025. It affected Tashkent and the Fergana Valley, where a dense atmospheric dust layer reduced visibility to just 200 m. PM_{10} concentrations soared to 18,000 µg/m^3, 260 times the local long-term average. Additionally, $PM_{2.5}$ levels remained elevated above 300 µg/m^3 for nearly 10 days, marking this as an exceptionally prolonged event.

This dust storm was directly related to climate change as it originated from an extreme summer heatwave in Kazakhstan during 2021, characterized by increased temperatures that reached 46.5°C. The long-lasting drought dried the soil to a depth of 50 cm, triggering soil cover denudation as vegetation dried and lost moisture. This event was the worst since 1871 and, considering the increasing aridity of Central Asia, the onset of potentially recurring severe dust storms is alarming.

A more recent case occurred on 19 June 2023, when dust storms affected large areas of Uzbekistan, particularly the Bukhara, Jizzakh, Navoi and Samarkand regions. The strong winds led to widespread power outages, affecting over 40,000 households.

Source: Nishonov (2023).

Dust storms also contribute to soil quality degradation by removing topsoil and nutrients, negatively affecting agricultural productivity and exacerbating desertification.[332] Additionally, dust deposition can affect terrestrial and aquatic ecosystems by altering nutrient balances in both.

The economic impacts of dust storms are complex. In agricultural communities, for example, the loss of arable land and decreased crop yields can lead to economic instability and increased food prices. Moreover, dust can damage infrastructure, reduce visibility leading to accidents and transportation disruptions, and increase cleaning and maintenance costs.

Although dust storms impact the country, Uzbekistan lacks capacity for integrated management that encompasses forecasting, monitoring, community preparedness and response, and landscape rehabilitation to efficiently address the challenges posed by dust storms.

Economic impacts from climate change by sector and costs of mitigation and adaptation

In Uzbekistan, the economic cost of climate change impacts is projected to be 1 per cent of GDP by 2030, with the greatest impact on agriculture, followed by water and biodiversity, labour productivity and increased weather-related risks.[333] By 2050, up to 2.4 million "climate migrants" may move to more prosperous regions due to climate-induced reductions in water resources.

According to World Bank estimates,[334] Uzbekistan would require investments to address climate change threats, including around US$60 billion to mitigate adverse climate impacts on labour productivity, roads and bridges, livestock and irrigation alone. Additionally, the country would need about US$340 billion by 2060 to replace ageing energy infrastructure and introduce decarbonization measures.

Energy

The demand for electricity, especially for cooling during summer, is increasing due to higher temperatures. At the same time, declining river flows are negatively impacting hydropower generation. These challenges are aggravated by the lack of energy diversification and infrastructure modernization in the country.

According to Strategy Uzbekistan – 2030, Uzbekistan aims to increase the share of RES to 40 per cent of total power generation. Efforts include modernizing the electricity distribution system, promoting renewable energy adoption and implementing tax incentives for energy efficiency. In the meantime, Uzbekistan has launched several solar and wind projects, with plans to reach 27 GW of green power by 2030, helping to save 25 billion m^3 of natural gas annually and reduce carbon emissions by 34 million tons.[335] The construction of small and micro hydropower plants (HPPs) is underway (see chapter 1).

332 Ibid.

333 Arabov (2024).

334 World Bank (2022a); World Bank (2023a).

335 Jivraj (2024).

Industry

Droughts significantly impact the country's industrial output, mainly due to its reliance on hydropower for electricity. Water-intensive industrial sectors, including mining and manufacturing, are experiencing disruptions due to water shortages. Additionally, extreme heat can reduce operational efficiency and increase maintenance costs for industrial equipment. The industrial sector is crucial for Uzbekistan's economy and sustainable development. However, there is a lack of green finance instruments, like green bonds, to mobilize the private sector capital for green transition (see chapter 2).

Agriculture, fishery, apiculture

Climate impacts on the agricultural sector and fisheries have caused economic losses around the country. Agricultural productivity is under significant threat from heat stress, reduced water availability and increased salinity. Fisheries are also affected by changing aquatic ecosystems, while beekeeping suffers from disrupted flowering cycles and degraded forage quality.

According to an ADB report,[336] irrigation and drainage networks account for 95 per cent of agricultural production and constitute the backbone of the country's agricultural and food systems. Irrigated agriculture accounts for 90 per cent of water use (see chapter 1). Over 500,000 ha of land are already water-logged and degraded by salinization. Climate change is expected to reduce agricultural yields by 40 per cent by 2050 due to foreseen water scarcity and forecast increases in aridity.[337] Food production is vulnerable to water shortages, which are projected to increase in frequency and severity with climate change and rising economic and demographic pressures. The Government is actively supporting the agriculture sector in adopting water-saving technologies (see box 3.2).

Box 3.2: Reducing high water consumption in agricultural production

According to the Ministry of Agriculture, the agricultural sector utilizes 4.2 million ha of irrigated land. Irrigated agriculture is the largest consumer of water, utilizing over 90 per cent of the country's water resources. A large percentage of the irrigated land is planted with water-intensive crops. As climate change intensifies, the flow of major rivers is expected to decrease, exacerbating water scarcity.

The authorities are actively supporting farmers in adopting water-saving technologies to address the high water consumption in agriculture. Programmes are in place to enhance the use of drip irrigation and build drainage systems. For example, drip irrigation has been introduced to over 500,000 ha. Moreover, the Ministry of Agriculture has established the Department of Science, Innovation and Education Development responsible for identifying and developing innovative approaches to agriculture due to increasing water scarcity and desertification. In addition, the Ministry includes the Department for the Implementation of Agricultural Development Strategy and Innovation and the Department of Bio-Agriculture Development. The responsibilities of each department include fostering strategic guidance and innovation in their respective areas of work.

Source: Ministry of Agriculture.

In addition, land degradation is causing annual economic losses equivalent to 4 per cent of GDP.[338] By 2050, rising temperatures may result in productivity losses across the economy of 2–3.5 per cent yearly.[339] By the 2040s, livestock production could decline by 8–13 per cent.

Although agriculture contributes significantly to GHG emissions, measures to promote climate-resilient agricultural practices and reduce emissions from livestock are lacking. Furthermore, climate change exacerbates gender inequalities, particularly affecting women and vulnerable groups dependent on agriculture. Poverty incidence has increased in rural agricultural areas due to climate impacts on essential resources like water and arable land.

Forestry

Climate change impacts in forested areas relate to wildfires, pests and diseases. These risks hinder forestry productivity and reduce the forests' role in carbon sequestration and biodiversity conservation. No related estimates of economic losses are available.

336 ADB (2024a).
337 Arabov (2024).
338 World Bank (2022 a).
339 Ibid.

Transport

Due to more frequent episodes of high temperatures, flooding, landslides and erosion from extreme weather events causing damage to roads and railways, the integrity of the country's transport networks is threatened.

The Government intends to convert 80 per cent of public transport to natural gas and electric traction by 2030 to reduce GHG emissions.[340] To support this transition, the expansion of infrastructure for electric vehicles and the enhancement of policy frameworks are planned. Uzbekistan is also expanding its rail network for freight and passenger transport and electrifying existing lines.

Tourism and leisure

The tourism sector has a potential for development, but it is increasingly vulnerable to climatic conditions. High summer temperatures may deter tourists, while reduced snowfall affects winter tourism and recreation activities in mountainous areas. Climate-resilient and sustainable tourism models have not been introduced in the country.

Healthcare systems

Uzbekistan lacks official statistics and research data on the direct impacts of climate change and climate extremes on human health and the health system. Trends in weather and climate parameters linked to health are thus lacking. Besides, the national health system lacks early warning mechanisms, such as health indicators, hampering the implementation of preventive measures. This limited knowledge and skills of both the general population and health-care professionals regarding the relationship between climate change and health impacts aggravate this situation. The health impacts of climate change are expected to be severe. A rising incidence of waterborne and heat-related illnesses could result in a 0.6–1.2 per cent increase in mortality by 2050.

Costs of inaction

World Bank projections for Uzbekistan suggest that, without mitigating measures to address climate impacts, the economy could shrink by 10 per cent by 2050 compared to a no-climate change scenario, potentially escalating poverty and unemployment rates.[341] Economic losses from climate-induced disasters in Uzbekistan are estimated at US$92 million (0.2 per cent of GDP) a year. These vulnerabilities posed by climate change are expected to undermine economic resilience, leading to greater volatility and diminished growth prospects.

3.2 GREENHOUSE GAS EMISSIONS FROM SELECTED ECONOMIC SECTORS

Uzbekistan contributes 0.3 per cent to global carbon dioxide (CO_2) emissions. The 2024 Biennial Transparency Report (BTR) covers the period 1990–2022 and shows an increase of emissions of 32.1 per cent. This report includes the following GHGs: CO_2, methane (CH_4), nitrous oxide (N_2O) and hydrofluorocarbons (HFCs). Perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6) are not included in the inventory. CO_2 is the predominant GHG (64.7 per cent), followed by CH_4 (28.7 per cent), N_2O (6.1 per cent) and HFCs (0.5 per cent).

In 2022, total GHG emissions reached 209.61 Mt CO_2eq, excluding Land Use, Land Use Change and Forestry (LULUCF) (see table 3.1). From 2017 to 2022, total GHG emissions increased by 22.1 per cent (see figure 3.1). Net total emissions were 201.15 Mt CO_2eq (including LULUCF). The main sectors contributing to GHG emissions are Energy (63.6 per cent), Industrial Processes and Product Use (IPPU) (14.5 per cent), Agriculture (16.9 per cent) and Waste (5 per cent).

340 ADB (2024a).

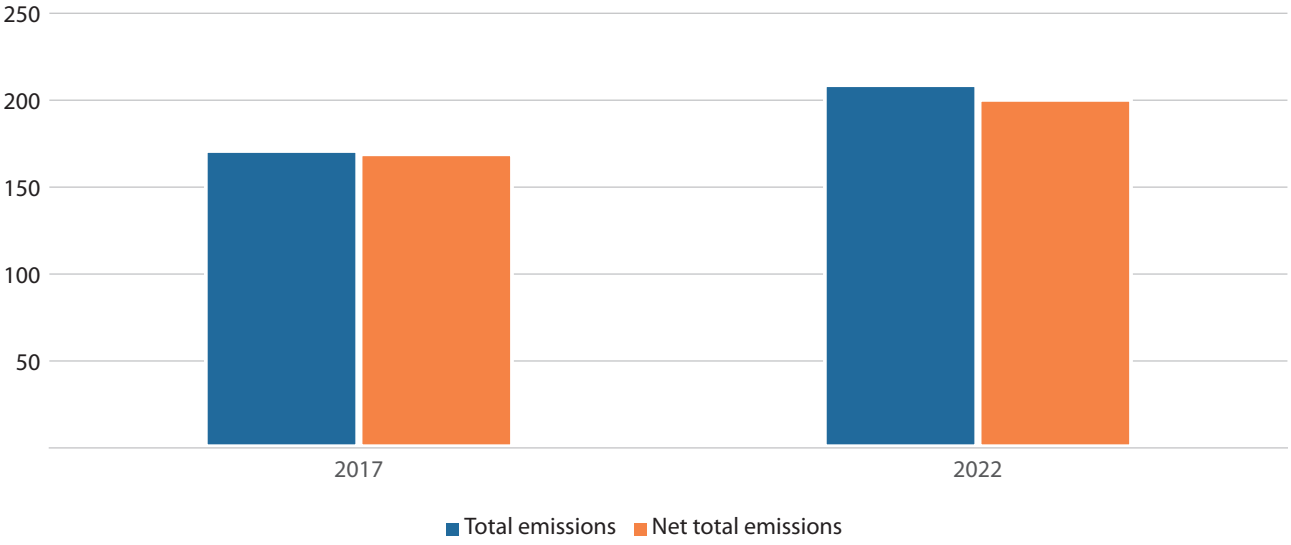
341 World Bank (2023a).

Table 3.1: GHG emissions by sector and removal, 1990, 2017–2022, Mt CO_2eq

	Energy	IPPU	Agriculture	Waste	Total	LULUCF	Net total emissions
1990	129.44	11.66	12.71	4.86	158.66	-16.06	142.60
2017	116.13	15.63	30.92	9.01	171.74	-1.88	169.86
2018	128.79	17.97	31.87	9.22	187.85	-1.32	186.54
2019	125.84	20.31	32.68	9.48	188.32	-1.96	186.36
2020	123.86	21.00	33.29	9.79	187.95	-2.99	184.96
2021	139.61	28.68	33.74	10.16	212.18	-4.53	207.65
2022	133.51	30.25	35.35	10.50	209.61	-8.46	201.15

Source: Uzbekistan (2024a).

Figure 3.1: Total GHG emissions, 2017 and 2022, Gg CO_2eq



Source: Uzbekistan (2024a).

To improve data collection and management of GHG emissions, conditions and procedures for a modern MRV system are being developed, under article 13 of the Paris Agreement. However, a comprehensive MRV system for the accurate monitoring and verification of GHG emissions, as well as for the monitoring of implementation of mitigation and adaptation measures, is not yet in place.

There has been no reporting on SDG indicator 132.2 (Total GHG emissions per year) for SDG target 13.2 (Integrate climate change measures into national policies, strategies and planning) since 2017.

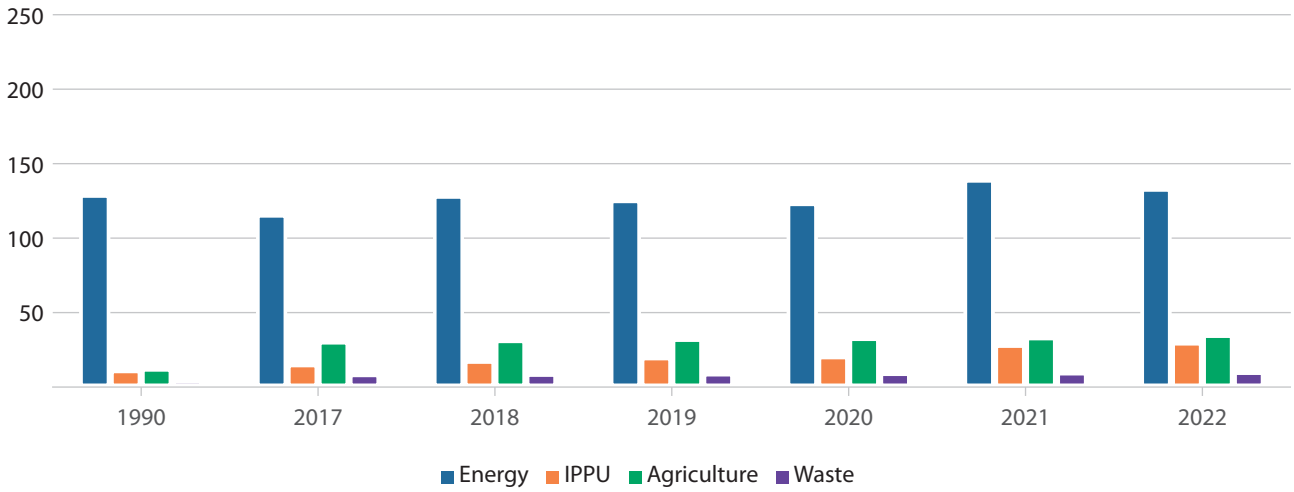
Energy

According to the 2024 BTR, the energy sector is the largest contributor to GHG emissions in Uzbekistan, accounting for 63.6 per cent of total emissions in 2022. Between 1990 and 2022, total GHG emissions from the energy sector increased by 3.1 per cent (see figure 3.2). CO_2 emissions accounted for 81 per cent of total emissions in the energy sector in 2022, primarily from fuel combustion processes in energy production, manufacturing industries, the residential sector, transport, and oil and gas systems. CH_4 and N_2O accounted for 18.8 per cent and 0.3 per cent of total emissions in the same year, respectively, with most stemming from fugitive emissions in oil and gas systems and fuel combustion processes.

In 2022, the energy sector emissions reached 133.5 Mt CO_2eq, showing an increase of 15 per cent compared to the 2017 level (see figure 3.2).[342] This growth in emissions is due to increased fuel consumption in heat and power generation, commercial and residential sectors and transportation. The energy sector emissions are divided into two main categories: Fuel Combustion Activities and Fugitive Emissions from Fuels. Among the Fuel Combustion Activities category, the largest contributors in 2022 were power and heat production (39.2 per cent), residential (23.3 per cent) and transportation (16.7 per cent). The Fugitive Emissions from Fuels category is mainly driven by CH_4 emissions from gas systems (85.6 per cent), with minor contributions from oil (13.5 per cent) and coal (0.9 per cent).

Efforts to reduce emissions have focused on improving energy efficiency, reducing natural gas leaks and transitioning to RES.

Figure 3.2: Structure of GHG emissions by sector, 1990, 2017–2022, Gg CO_2eq



Source: Uzbekistan (2024a).

Industry

Over the period 1990–2022, total GHG emissions in the IPPU sector increased by 159.5 per cent in the country (see figure 3.2). CO_2 emissions account for 90.8 per cent; N_2O emissions, for 5.5 per cent; HFCs emissions, for 3.7 per cent; and CH_4 emissions contribute less than 0.01 per cent of total emissions. The IPPU sector releases CO_2, CH_4 and N_2O during chemical and physical transformations of materials, and HFCs due to the use of refrigerants for cooling and air conditioning.

In the period 2000–2010, this significant increase in emissions was mainly due to growth in cement and glass production in the mineral industry. Since 2010, continued growth in industrial emissions has been driven by the mineral, chemical and metal industries, with the most intense growth in GHG emissions between 2018 and 2022. In 2022, total IPPU sector emissions reached 30.25 Mt CO_2eq.

Efforts to reduce emissions have focused on improving energy efficiency, modernizing production technologies and transitioning to cleaner processes.

Uzbekistan has reported national data on the national SDG indicator 9.4.1 (CO_2 emissions per unit of value added) up to year 2022, in support of attaining the national SDG target 9.4 (By 2030, upgrade infrastructure and retrofit industries to make them sustainable, through increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with engagement of all interested countries in accordance with their respective capabilities).[343] Between 2018 and 2022, national data show an overall decline in CO_2 emissions per unit of value added, from 0.42 in 2018 to 0.37 in 2022.[344]

342 Uzbekistan (2024a).

343 National Statistics Committee (National SDGs Data Portal), 2025.

344 Indicator 9.4.1 CO_2 emissions per unit of value added (calculations of GHG emissions based on the updated inventory data for 1990–2022 (BTR, 2024) were carried out in accordance with the 2006 IPCC Guidelines).

The table 3.2 presents updated data on CO_2 emissions from fuel combustion per unit of GDP (purchasing-power parity) (SDG indicator 9.4.1: CO_2 emissions per unit of value added) for the period 2018–2022. The Agency of Hydrometeorological Service calculated the indicator using the SDG methodology. The indicator values may differ slightly from similar values calculated by international organizations. The next data update and inclusion of the 2024 results is planned for 2026. Between 2018 and 2022, the value of indicator 9.4.1 decreased by 11.90 per cent.

Table 3.2: CO_2 emissions from fuel combustion, 2018–2022

	2018	2019	2020	2021	2022
CO_2 emissions (million tons)	99.16	96.52	98.78	112.36	107.29
GDP (PPP) 2017 (billion dollars)	234.59	248.62	253.58	272.36	287.80
CO_2/GDP (PPP) (kg CO_2 / US$ 2017)	0.42	0.39	0.39	0.41	0.37

Source: The Agency of Hydrometeorological Service, 2025.

Note: The indicator calculations used data on CO_2 emissions from fuel combustion according to the updated national inventory data for the period 1990–2022 (first BTR) prepared by the Agency of Hydrometeorological Service as part of the Fourth National Communication. World Bank GDP (purchasing-power parity) data: https://data.worldbank.org/country/uzbekistan?view=chart (GDP, purchasing-power parity (constant 2017 international $)).

For the global SDG indicator 9.4.1 (Carbon dioxide emissions from fuel combustion (millions of tonnes)), the International Energy Agency (IEA) estimated an increase from 97.94 million tons in 2018 to 113.41 million tons in 2022 with a peak in 2021 of 119.49 million tons. This represents 0.362 and 0.338 kg CO_2 emissions per unit of GDP at purchasing-power parity (kg CO_2 per constant 2021 US$) in 2018 and 2022, respectively.[345]

Agriculture

Agriculture is the second largest sector for GHG emissions in Uzbekistan, after the energy sector. The sector's contribution to total emissions increased by 8.85 per cent compared to 1990 (see figure 3.2). The agriculture sector's GHG emissions have also grown over the period 2017–2022, amounting to 35.35 Mt CO_2eq in 2022, (16.85 per cent of the total emissions). Enteric fermentation emissions have increased significantly, accounting for 65.99 per cent of total emissions in the agriculture sector in 2022. Manure management emissions have also increased, accounting for 10.89 per cent of total emissions in 2022. Similarly, N_2O emissions from managed soils have grown, accounting for 21.08 per cent of total emissions in 2022. In contrast, indirect N_2O emissions from manure management accounted for 1.69 per cent of total emissions in the same year. Rice cultivation emissions decreased due to a reduction in the area under rice cultivation, contributing 0.35 per cent to total emissions in 2022. Burning emissions from biomass were not calculated after 2005 due to the introduction of a legislative ban on stubble burning of grain crops.

Efforts to reduce emissions have focused on improving agricultural practices, promoting the use of organic fertilizers and implementing sustainable land management practices.

Waste

In 2022, GHG emissions from the waste sector amounted to 10.497 Mt CO_2eq, accounting for 5 per cent of the total emissions. Over the period 1990–2022, total GHG emissions in the waste sector increased by 116.2 per cent (see figure 3.2). CH_4 emissions from solid waste landfills and domestic and industrial wastewater accounted for 92.5 per cent of the total emissions in the waste sector. N_2O emissions from domestic wastewater account for 7.5 per cent of the total emissions in the waste sector.

Over the period 2010–2022, emissions from municipal solid waste (MSW) increased by 23.8 per cent, while emissions from industrial waste doubled. According to the 2024 BTR, the main reason for the increase in CH_4 emissions from MSW was the expansion of the population covered by centralized waste disposal and an upward change in the waste generation coefficient per capita.[346] CH_4 emissions from industrial waste increased due to increased production in the extractive and manufacturing industries.

Efforts to reduce emissions have focused on improving waste management practices, increasing recycling rates and implementing efficient waste-disposal technologies (see chapter 1).

345 IEA (Greenhouse gas emissions from energy), 2024.

346 Uzbekistan (2024a).

Land use, land-use change and forestry

In 2022, the total GHG sinks amounted to 8.46 Mt CO_2eq. This value is about 4 per cent of Uzbekistan's total GHG emissions. In general, over the period 1990–2022, the total CO_2 removals in the sector decreased by 1.9 times. The main CO_2 sinks in the sector are the categories Forest land and Cropland; the main source of emissions is the category Grassland. While forests act as carbon sinks, their overall mitigation potential is reduced due to deforestation and land degradation. However, Uzbekistan is taking actions to afforest its territory. The gradual increase in forest areas is the result of a targeted state policy to implement Strategy Uzbekistan – 2030, national SDGs and the Concept for the Development of the Forestry until 2030 (2020 Resolution of the President No. 4850), as well as the Yashil Makon Initiative (2024 Resolution of the Cabinet of Ministers No. 144).

Transport

In the period 2010–2022, transport emissions grew by 36.1 per cent. In terms of energy consumption, road transport ranks second after the residential sector. The growing number of vehicles and reliance on fossil fuels contribute to rising transport sector emissions. At the national level, the transportation category accounts for 15 per cent of total GHG emissions from fuel combustion. The main contributors to GHG emissions (excluding pipeline transport) are road transport (92.2 per cent), rail transport (1.8 per cent) and air transport (0.3 per cent). Carbon dioxide (99.9 per cent) dominates the composition of GHG emissions from motor transportation.

Photo 3.4: High speed train, Samarkand Train Station

Photo credit: Modern Afrosiab (Afrosiyob) high speed rail line at Samarkand Train Station in Uzbekistan, Spanish train RENFE Class 130, by Thiago Trevisan/stock.adobe.com

Tourism and leisure

Although currently a minor contributor, tourism-related emissions from are expected to rise as infrastructure expands and travel increases.

3.3 ADAPTATION AND MITIGATION

Uzbekistan joined the United Nations Framework Convention on Climate Change (UNFCCC) in 1993. Uzbekistan prepared and submitted four National Communications, the First Biennial Update Report (2021) and the Inventory Reports for 1990–2017 in accordance with the UNFCCC requirements and guidelines.

The Fourth National Communication (4NC) was submitted in 2024. It presents inventory data on CO_2, CH_4, N_2O, and HFCs for the period 1990–2021, climate change mitigation programmes, initiatives and strategies, and some adaptation measures. 4NC also presents a vulnerability assessment that focuses on several key areas, including water resources, agriculture, infrastructure, biodiversity and ecosystems, forests, health and disaster risk management. This assessment highlights the

significant risks posed by climate change to Uzbekistan's water resources, agriculture and overall socioeconomic stability, emphasizing the need for comprehensive adaptation measures to enhance the country's resilience to climate change.

In 2017, Uzbekistan signed the Paris Agreement and submitted its first Intended Nationally Determined Contribution (NDC 1.0) to the UNFCCC Secretariat. The country ratified the Paris Agreement in 2018 (Law No. 491). In accordance with the first NDC, in the long-term perspective until 2030, the country seeks to strengthen measures and actions to combat climate change, aiming to reduce specific GHG emissions per unit of GDP by 10 per cent from the 2010 level. In 2021, Uzbekistan submitted its updated NDC (NDC 2.0). According to NDC 2.0, the country aims to reduce GHG emissions per unit of GDP by 35 per cent by 2030, compared to 2010 levels, instead of the previous target of 10 per cent. Conditional reductions may go further with international support. However, both reports lack detailed mitigation and adaptation measures for the country. NDC 3.0 is under preparation and expected to be finalized by the end of 2025, with the support of UNDP.

The 2024 BTR provides a comprehensive overview of the country's efforts to address climate change. The report, developed by the Agency of Hydrometeorological Service with support from GEF and UNEP, includes detailed information on GHG inventories for the period 1990–2022 and on progress in implementing NDCs and adaptation measures for selected sectors.

However, these reports (4NC, NDC 1.0, NDC 2.0 and BTR) do not include gender issues, measures to enhance public participation and cost estimations (state budget and others) to secure the continuity of these processes in the country. Moreover, they do not emphasize nature-based solutions (NbS) as an important instrument for mitigation and adaptation to climate change.

Commitments and scenarios

4NC provides a detailed assessment of current and future climate change scenarios based on the climate models of Coupled Model Intercomparison Project (CMIP5).

Current climate conditions

There has been a stable warming trend since the early 1930s. The most significant increases in mean annual air temperatures from 1928 to 2019 were observed in Samarkand (2.9°C), Chimbay (2.8°C), Tashkent (2.6°C) and Fergana (2.5°C). Concerning heatwaves, the average of summer days with maximum temperatures above 25°C has increased by 18 days, hot days (≥37°C) by 13 days and very hot days (≥39°C) have more than doubled. The number of days with heatwaves has increased to an average of 17 days per year. The highest rates of warming are observed in the Republic of Karakalpakstan (Ustyurt and Priaralie: 0.41–0.43°C per decade), followed by the plains of the Tashkent region and the Zeravshan valley (0.36°C and 0.32°C per decade, respectively).

Future climate scenarios

Two scenarios were considered for emission reduction:[347]

- Realistic Scenario: Projects with guaranteed financing, currently being implemented or planned for the near future; total GHG emission reduction potential by 2030 is 41.8 Mt CO_2eq.
- Ambitious Scenario: Projects with a relatively high degree of uncertainty for implementation; total GHG emission reduction potential by 2030 is 60.1 Mt CO_2eq.

Under all Representative Concentrations Pathway (RCP) scenarios, Uzbekistan is expected to experience significant climate changes. The climate scenarios were constructed using estimates from a multi-model ensemble of Global Climate Models from the CMIP5 suite. The scenarios considered for the periods of 2040–2059 and 2080–2099 are RCP2.6 (Low Emission Scenario with an average annual temperature increase of 1.3°C), RCP4.5 (Intermediate Emission Scenario with an average annual temperature increase of 2.5°C) and RCP8.5 (High Emission Scenario with an average annual temperature increase of 5.0°C). The most severe impacts are under RCP8.5. The resulting impacts would affect various sectors, especially water resources, agriculture, health and the frequency of hazardous events.

The largest increases in average annual temperatures are projected for the Republic of Karakalpakstan and Navoi region. The smallest increases in average annual temperatures are projected for mountainous areas, such as Tashkent and Kashkadarya regions. Precipitation projections in the short-term (2020–2039) include a slight increase in precipitation in all seasons, whereas in the medium-term (2040–2059) it is foreseen that there will be a continued slight increase in winter precipitation

[347] Uzbekistan (2012).

(5–8 per cent) and a decrease in summer and autumn precipitation under all scenarios. Only RCP8.5 shows a long-term decrease in spring precipitation.

Besides the current efforts made by Uzbekistan to mitigate and adapt to climate change impacts, climate vulnerability scenarios and adaptation measures are not sufficiently mainstreamed into policies and plans. The country faces limited specialized capacity at the national and local government levels to implement and monitor adaptation projects.

Mitigation measures

According to 4NC, Uzbekistan has implemented a comprehensive set of measures and projects to mitigate climate change across various sectors. Uzbekistan's climate change mitigation measures are comprehensive and cover multiple sectors, including energy, industry, waste, forestry and transport.

Energy

Mitigation measures for the energy sector include the construction of modern thermal power plants (TPPs) and the upgrading of old TPPs, resulting in a total reduction of 8,542,490 tons of CO_2 and 4,478.97 million m^3 of natural gas savings. Main projects implemented between 2017 and 2022 included:

- Expansion of the following TPPs: Talimarjan, Navoi, Turakurgan, Takhiatash and Fergana;
- Introduction of highly efficient cogeneration gas turbine units;
- Construction of new TPPs in Tashkent, Khorezm, Bukhara and Kashkadarya regions.

The projects planned until 2026, with a total GHG emissions reduction potential of 13,068,950 tons of CO_2, include the construction of combined-cycle TPPs in Surkhandarya and Syrdarya regions and the expansion of Talimarjan and Navoi TPPs.

The development of RES is also considered a main goal. The Government plans to develop photovoltaic power plants (PVPPs), with a total emissions reduction potential of 3,042,400 tons of CO_2. The construction of PVPPs in Navoi and Samarkand regions are examples of such implementation. In addition, PVPPs in the Samarkand, Jizzakh, Surkhandarya, Bukhara, Kashkadarya and Namangan regions being implemented.

Concerning wind power plants (WPPs), the estimated total GHG emissions reduction potential is 3,072,300 tons of CO_2. The WPPs in the Bukhara and Navoi regions and the Republic of Karakalpakstan are under construction.

The Government has also planned to further develop HPPs, with total emission reduction potential of 1,065,400 tons of CO_2, mainly through the construction and modernization of around 3,000 small and micro HPPs (see chapter 1). The following projects have already been implemented: small HPPs at Tuyabuguz Reservoir, Great Fergana Canal, Kamchik, Zarchob and others. There are several other related projects, both ongoing and planned.

Concerning the power transmission and distribution, the main measures include the modernization and reconstruction of main and distribution networks, implementation of automated metering and control systems, and reduction of technological power losses in transmission and distribution networks. The oil and gas industry has a total GHG emission reduction potential of 850,000 tons of CO_2. To this end, the country plans the modernization of gas transportation systems and compressor stations, the implementation of automated metering and control systems and energy management systems (including energy audits), and the development of projects to utilize associated petroleum gas and deep processing of natural gas.

Industry

Mitigating measures for industry include the introduction of modern technologies and practices in industrial processes (such as best available techniques), energy management systems, automated control systems, reduction of energy intensity and improvement of energy efficiency in production.

Waste

Mitigation measures in the waste sector require improvements in the waste management systems. These include enhancing waste management practices, increasing recycling rates, implementing efficient waste-disposal technologies and undertaking land reclamation activities. Additionally, targeted projects to improve solid waste management and reduce landfill methane emissions are essential (see chapter 1).

Forestry

Mitigation measures in the forestry sector are mainly related to afforestation and reforestation, with total CO_2 sequestration potential by 2030 of 10 million tons of CO_2. These measures include the creation of protective forest plantations on the dried bed of the Aral Sea, the continued implementation of the Yashil Makon Initiative and the expansion of green parks and fast-growing plantations.

Transport

Regarding road transport, the main measures include limiting emissions and reducing energy consumption in transportation, promoting alternative fuels, renewing the vehicle fleet and gradually transitioning to electric transport. To improve the public transportation system, measure planned are to expand the metro, purchase modern buses (including electric buses), develop road infrastructure (including bicycle paths), expand production of electric and environmentally friendly vehicles, expand logistics systems and strengthen control over the environmental condition of motor vehicles.

For railway transport, phased electrification of railway lines and renewal and modernization of rolling stock are the main measures.

Adaptation measures

Uzbekistan has no National Adaptation Plan (NAP) to climate change for the entire country. However, the country is developing five sectoral adaptation plans covering the following sectors: health, water management, agriculture, disaster risk reduction (DRR) and infrastructure. These sectoral adaptation plans are not publicly available. A financial strategy for the implementation of sectoral NAPs is also being developed with the support of UNDP, with an estimated cost of around US$8 billion. Although adaptation efforts have increased since the third EPR of Uzbekistan, some sectors have not been included in adaptation efforts (e.g., energy, industry and transport).

Securing financial and technical support is essential for implementing adaptation measures. However, leveraging support from international organizations, development partners and climate funds, integrating climate finance into national budgeting and project appraisal processes, and engaging the private sector in adaptation projects through public-private partnerships are not adequate in Uzbekistan as there is no adaptation strategy in place.

Uzbekistan's adaptation measures identified by the 2024 BTR focus on efficient water use, resilient agriculture, ecosystem protection, infrastructure resilience and addressing the Aral Sea crisis.

Efficient use of water resources

The country is focusing on improving water use efficiency through several initiatives:

- Modernization of infrastructure: with support from the World Bank, ADB, European Union and other partners, Uzbekistan is modernizing and rehabilitating drinking water supply, sanitation and irrigation infrastructure;
- Water-saving technologies: the adoption of technologies, such as drip irrigation and sprinklers, is being promoted to reduce water consumption while maintaining agricultural productivity;
- Incentive mechanisms: expanding mechanisms to incentivize water conservation among farmers and other water users.

Agriculture

Adaptation measures in agriculture aim to ensure food security and improve the resilience of agricultural systems. These include:

- Introducing and promoting the cultivation of drought-resistant crop varieties;
- Implementing scientifically-based crop rotation systems and achieving at least two harvests per season;
- Using technologies such as mini-till and no-till to improve soil health and reduce erosion;
- Developing modern greenhouse agriculture to enhance productivity and reduce vulnerability to climate variability;
- Promoting the production and use of organic fertilizers through modern technologies;
- Conducting applied research to improve livestock and crop productivity.

Photo 3.5: Ugam-Chatkal National Park

Photo credit: Ugam - Chatkal National Park located near Tashkent, Uzbekistan, by Zaneta/stock.adobe.com

Ecosystems and biodiversity

The main adaptation measures to protect and enhance ecosystems and biodiversity include: (i) improving the management and maintenance of existing protected areas and creating new protected and recreational areas; and (ii) developing scientific research, education and information dissemination to support ecosystem conservation.

Infrastructure and strategic assets

Enhancing the resilience of infrastructure to climate impacts is vital for sustainable development. The main adaptation measures are investing in infrastructure that can withstand extreme weather events and other climate-related hazards and integrating climate resilience into planning and development of strategic infrastructure projects. According to the Ministry of Construction and Housing and Communal Services, new buildings, such as schools, hospitals and houses, are increasingly using more sustainable insulation materials, such as basalt and foamed concrete. Old buildings are also expected to start using these materials to replace insulation. However, the Government is yet to introduce green building standards (e.g., zero-emission building commitments) and develop climate-resilient cities.

Although there are subsidies for energy audits, solar panels and collectors, and heat pumps, as of 2025, Uzbekistan lacks financial incentives for investing in low-carbon buildings, designed to reduce carbon emissions and enhance energy performance throughout their entire lifecycle.

Addressing the Aral Sea Crisis

The Aral Sea disaster has had severe environmental and socioeconomic impacts. Adaptation measures focus on:

- Reforestation: planting trees and creating green belts to stabilize soils and reduce dust storms;
- Sustainable land management: implementing sustainable land management practices to restore degraded lands and improve livelihoods;
- Community engagement: involving local communities in adaptation projects to ensure their needs and knowledge are incorporated.

Photo 3.6: Green facade on a residential building in Tashkent

Photo credit: EPR Team

3.4 LEGAL, POLICY AND INSTITUTIONAL FRAMEWORK

Legal framework

The 2025 Law No. 1073 on Limiting Greenhouse Gas Emissions establishes a framework for emission control, state emissions monitoring, target setting and support for international GHG trade, in line with article 6 of the Paris Agreement.

The 2019 Law No. 539 on the Use of Renewable Energy Sources establishes the legal and regulatory framework to accelerate the implementation of renewable energy projects. Uzbekistan intends to raise the share of RES in electricity generation to 26 per cent and to 40 per cent in the overall generation capacity structure. Later, the President announced the ambitious target of achieving a 54 per cent share of renewable energy in energy generation by 2030.[348] To achieve this target, the country plans to construct new RES facilities with a total capacity of 10 GW, including 5 GW of solar, 3 GW of wind and 1.9 GW of hydropower.

The 2024 Resolution of the President No. 213 on the Concept for Implementing the National Transparency System in the Transition to a Green Economy introduces the basis for developing an improved version of the current national MRV system. The Ministry of Economy and Finance has been designated as the national body responsible for implementing the National Transparency System (NTS). The Resolution establishes that every five years, starting in 2025, Uzbekistan will develop NDCs to mitigate the effects of climate change. It also defines several measures, including:

- Introducing a national register for reducing GHG emissions;
- Launching the online platform of the NTS;
- Carrying out an inventory of GHGs in certain industries, regions and enterprises as a pilot test until 2025;
- Regulating the procedures and functions of the MRV system implementation;
- Creating methodological manuals for calculating GHG emissions.

The main challenges for implementing the national MRV system include the need for technical expertise and capacity building to develop and apply country-specific emission factors and methodologies, and investment in data collection, research and analysis.

Although there are several sectoral resolutions and decrees to fight the climate crisis and increase resilience, Uzbekistan lacks a unified climate change law, resulting in fragmented policies. Efforts are underway to integrate climate policies into the state budget and public financial management system. However, infrastructure deficiencies and fragmented processes hinder the effective implementation of climate-relevant investments.

In Uzbekistan, the legal framework for systematically considering the introduction of NbS into strategic documents and plans, to mitigate the effects of climate change and increase resilience, have not been developed (see chapter 4).

348 Eurasianet (2025).

Policy framework

To ensure the implementation of commitments under the Paris Agreement, in 2019, Uzbekistan identified priorities for the transition of the economy to a green development path and adopted the Strategy for Transition to a Green Economy for 2019–2030 (2019 Resolution of the President No. 4477). The country has developed a road map to implement this strategy, which includes the following climate change-related targets:

- Doubling the energy-efficiency indicator and reducing the carbon intensity of GDP;
- Further developing RESs to bring their share to 25 per cent of the total power generation;
- Ensuring access to modern, affordable and reliable energy supply for up to 100 per cent of the population and sectors of the economy;
- Upgrading the infrastructure of industrial enterprises, and ensuring their sustainability by increasing energy efficiency by at least 20 per cent and by wider use of clean and environmentally friendly technologies and industrial processes;
- Expanding the production and use of motor fuels and vehicles with improved energy-efficiency and environmental performance, as well as developing electric transport;
- Increasing the water use efficiency in all sectors of the economy, introducing drip irrigation technologies on up to 1 million ha of land and increasing the yield of crops cultivated on this land by up to 20–40 per cent;
- Achieving Land Degradation Neutrality.

Although the Strategy for Transition to a Green Economy is essential to Uzbekistan's climate policy, a national climate change adaptation strategy is missing to implement related national targets effectively. A long-term low-GHG-emission development strategy, in compliance with article 4 of the Paris Agreement, is also lacking.

The integration of climate change risks into the planning process requires the development of the National Adaptation Plan to Climate Change. However, Uzbekistan has not yet developed its NAP.

In 2021, the Government, together with UNDP and GCF, initiated the preparation of a NAP for five sectors of the economy to identify climate change risks and opportunities for adaptation measures.

The Concept of Development of the Water Sector for 2020–2030 sets the task of introducing water-saving technologies across at least 50 per cent of the country's 4.3 million ha of irrigated land. The National Programme for Agricultural Adaptation to Climate Change and Mitigation of its Negative Impacts (2024 Resolution of the President No. 233) ensures the implementation of adaptation measures and actions to reduce risks and increase resilience to climate change, including gender aspects and capacity building. The National Action Plan on Climate Change and Disaster Risks and the Roadmap for its implementation (2023 Resolution of the Cabinet of Ministers No. 362) are aimed at implementing a set of measures to reduce disaster risks and increase resilience to climate change.[349]

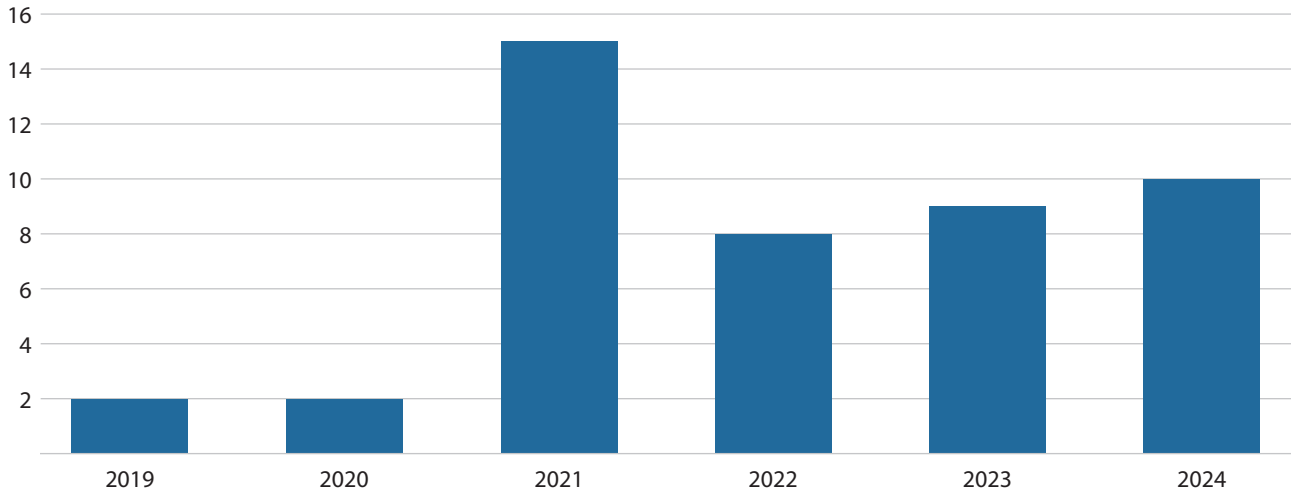
Additionally, since 2010, WHO and UNDP have implemented several pilot projects aimed at improving the adaptive capacity of national health system institutions to respond to the health risks associated with climate change. These activities were carried out under the first global project for climate change adaptation in public health, implemented in Uzbekistan by the ministry responsible for health and other national partners. Moreover, the Multi-Partner Human Security Trust Fund for the Aral Sea Region, under the auspices of the United Nations, has been established.[350] The Fund provides for the implementation of a comprehensive programme of actions to overcome the Aral Sea crisis, including afforestation and other measures. Although the country is developing sectoral adaptation plans, climate change is not fully integrated into all sectoral policies.

Uzbekistan collects data on two indicators for SDG 13 (Take urgent action to combat climate change and its impacts), one of which is at the development stage. Data is only available for SDG target 13.2 (Integrate climate change measures into national policies, strategies and planning). Uzbekistan nationalized the global indicator 13.2.1, into the national indicator 13.2.1.1 (see figure 3.3). It is defined as the number of "comprehensive development programmes and strategies that include measures and actions to reduce GHG emissions and improve climate resilience". It has shown a significant increase in the period 2019–2024.

349 UzDaily (2023a).

350 UNDP and FAO (2024).

Figure 3.3: Comprehensive development programmes and strategies that include measures and actions to reduce GHG emissions and improve climate resilience, 2019–2024, number



Source: National Statistics Committee (National SDGs Data Portal), 2025.

The Yashil Makon Initiative includes several measures aimed at improving the environment in Uzbekistan and expanding green areas. Within the Initiative, 138.1 million tree saplings were planted during the 2024 spring planting season.

The 2022 World Bank-funded project "Strengthening Hydromet and Multi-hazard Early Warning Services in Uzbekistan: A Road Map" outlines a comprehensive strategy for enhancing Uzbekistan's hydrometeorological and multi-hazard early warning services.[351] The project is under implementation. Additionally, the "Enhancing Multi-Hazard Early Warning System to Increase Resilience of Uzbekistan Communities to Climate Change Induced Hazards" project, a joint UNDP and GCF initiative with the Ministry of Emergency Situations and the Agency of Hydrometeorological Service, aims to modernize Uzbekistan's early warning system into an impact-based Multi-Hazard Early Warning System by 2027.[352] The project is expected to enhance the system's ability to monitor, analyse and forecast climate-induced floods, mudflows, landslides, avalanches and hydrological droughts in the Ferghana Valley, ultimately improving the climate resilience of vulnerable communities.

Uzbekistan is part of the Land Degradation Neutrality (LDN) initiative, which is linked to the SDG target 15.3 (By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world) that aims for a land degradation-neutral world by 2030. This initiative focuses on assessing land degradation, desertification and drought processes, and developing monitoring systems for degraded and desertic pastures.[353] No data are available in the national SDG database. However, in the United Nations Statistics SDG Indicators Database, the proportion of land that is degraded relative to the total land area (SDG indicator 15.3.1) decreased from 30.22 per cent in 2015 to 26.14 per cent in 2019, according to the former State Committee on Forestry. No more recent data are available in the Database.

The country joined the Global Methane Pledge (GMP) in 2022, committing to a 30 per cent reduction in methane emissions by 2030 relative to the 2020 level.[354] Since 2022, EBRD has been implementing a project in Uzbekistan to develop a national methane emissions programme to help fulfil the GMP's goals.[355] As part of national efforts to reduce methane emissions, in 2023 UzNeftegaz implemented a project that reduced methane emissions by 16 million m^3.

Furthermore, activities related to climate change mitigation and adaptation measures are reflected in various sectoral strategies, plans and the country's development programmes, including the Innovative Development Strategy for 2019–2021, Strategy for solid municipal waste management for the period 2019–2028 (2019 Resolution of the President No. 4291), the Strategy for the Development of Agriculture for 2020–2030 (2019 Degree of the President No. 5853) and the Concept of Environmental Protection until 2030 (2019 Decree of the President No. 5863).

351 World Bank (2022e).
352 UNDP (n.d. a).
353 FAO (2025a).
354 Gazeta.uz (2024e).
355 EBRD (n.d.)

Disaster management

The National Strategy for the Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030 and its Action Plan (2019 Resolution of the Cabinet of Ministers No. 299) emphasizes understanding disaster risk, strengthening DRR governance, investing in risk reduction and enhancing preparedness for disasters.

The National Programme Combating Dust Storms and Mitigating Their Consequences (2024–2030) outlines coordinated national actions in international cooperation, monitoring and early warning systems, regional mitigation efforts, land restoration and construction site regulation. The plan engages various ministries, regional administrations and scientific institutions. Besides this programme, there is the Regional Mid-term Strategy for Sand and Dust Storms Management in Central Asia for 2021–2030,[356] aimed at reducing the vulnerability of Central Asian countries to sand and dust storms by mitigating their sources and planning proactive measures, including in Uzbekistan.

The SDG indicator 1.5.4 (Proportion of local governments that have adopted and are implementing local DRR strategies in line with national DRR strategies) of the SDG target 1.5 (By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters) shows large uncertainties surrounding the validity of the national data. The sharp fluctuation from 100 per cent to 0.3 per cent from 2019 to 2023 likely reflects inconsistencies in methodology or reporting capacity, rather than actual policy reversals. This is also reflected by the global SDG indicators 11.b.2 of SDG target 11.b (By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels) and 13.1.3 of the SDG target 13.1 (Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries).

The SDG indicators 1.5.3, 11.b.1 and 13.1.2 report a score of adoption and implementation of national DRR strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030 for the period 2019–2021, which indicates full adoption and comprehensive implementation in line with the Sendai Framework.[357] The SDG indicator 1.5.3 is a nationalized binary indicator on whether there exist national DRR strategies in line with the Sendai Framework.

Concerning the SDG target 11.5 (By 2030, significantly reduce the number of deaths and the number of people affected by disasters, especially women and children, and substantially decrease the direct economic losses caused by disasters with a focus on protecting people in vulnerable situations), Uzbekistan reports on two indicators to measure progress. The first is the global indicator 11.5.1: (Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population), whereas the second is a nationalized variant of global indicator 11.5.2, labelled indicator 11.5.2.1: (Direct economic loss attributed to disasters in relation to GDP). The Ministry of Emergency Situations reported for SDG indicator 11.5.1 (Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population) an average of 0.04 deaths for 100,000 population in the period 2018–2023 and, for indicator 11.5.2.1 (Direct economic losses due to disasters as a percentage of GDP), an average of 0.01 per cent of the GDP in the same period.[358]

Uzbekistan has nationalized global indicators 1.5.1 (Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population) and 1.5.2 (Direct economic loss attributed to disasters in relation to GDP), which replicate national indicators 11.5.1 and 11.5.2, respectively. While this harmonization supports data consistency, definitional limitations apply concerning the broad definition of "disaster", complicating efforts to monitor climate adaptation progress under both SDG targets 1.5 and 11.5. The Ministry of Emergency Situations defines an emergency as any event arising from an accident, catastrophe, dangerous natural phenomenon, natural or other disaster, the spread of quarantine and other infectious diseases dangerous to humans, which may result or have resulted in human casualties, harm to human health or the environment natural environment, significant material losses and disruption of people's living conditions. This broad scope limits the ability to separate natural disasters from other types of disasters (e.g., the COVID-19 pandemic).

Furthermore, the nationalized SDG indicators 1.5.1 and 11.5.1 replicate the SDG indicator 13.1.1 (not nationalized). They present a broad scope that does not imply only natural disasters. For the global SDG indicators 1.5.1, 11.5.1 and 13.1.1, the number of deaths and missing persons attributed to disasters per 100,000 population was 0.01 in 2019 and 0.03 in 2021, with a peak of 0.41 in 2020.[359]

356 UNCCD (2021).

357 United Nations Statistics SDG Indicators Database, 2025.

358 National Statistics Committee (National SDGs Data Portal), 2025.

359 United Nations Statistics SDG Indicators Database, 2025.

Institutional framework

National Council for Climate Change

The National Council for Climate Change, established in 2024, is the body under the President aimed at addressing climate change mitigation and adaptation (2024 Decree of the President No. 106).[360] It serves as the highest consultative body on, and develops policies in, these areas. The Council also ensures Uzbekistan's fulfilment of its obligations under UNFCCC and the Paris Agreement.[361]

Ministry of Ecology, Environmental Protection and Climate Change

The Ministry of Ecology, Environment Protection and Climate Change is the leading institution responsible for climate policy development, implementation and monitoring. Besides, the Ministry plays a central role in managing the environment and the sustainable use of natural resources in the country.

With the 2023 Decree of the President No. 81, units responsible for environmental topics (including climate change) were established in the ministries responsible for foreign affairs, water resources, agriculture, and mining and geology. Further, the 2024 Decree of the President No. 106 introduced such units in more 11 ministries.

The Climate Change Centre, under the Ministry of Ecology, Environment Protection and Climate Change, is the working body of the National Council for Climate Change. It is also the focal point for UNFCCC, GEF and the Adaptation Fund. The Centre monitors the implementation of commitments under UNFCCC and the Paris Agreement and plays a key role in coordinating climate change projects related to green cities, desertification, green finance, and green technologies and innovation. The Centre has 25 specialists.

The Agency of Hydrometeorological Service, subordinated to the Ministry of Ecology, Environment Protection and Climate Change, monitors meteorological conditions and operates the environmental monitoring of air, water and radiation (see chapter 1). It issues short-, medium- and long-range forecasts. It uses statistical models developed during the Soviet era and the MODSNOW tool for snow cover monitoring. The Agency also coordinates climate information and data, ensuring its use in analyses of the challenges that require adaptation action. It is currently responsible for updating the GHG emission inventory and leads the preparation of NDC 3.0. In collaboration with the Ministry of Emergency Situations, the Agency carries out field surveys and hazard monitoring. It issues warnings for floods, mudflows and avalanches and provides climatological information. Moreover, the Agency is developing methods for improving drought monitoring.

Ministry of Energy

The Ministry of Energy is responsible for improving the management system of the fuel and energy sectors (2019 Decree of the President No. 5646). The Ministry is also responsible for the continuous promotion of energy savings and the development of renewable energy in line with the Government's targets.

Ministry of Economy and Finance

The Ministry of Economy and Finance plays a significant role in climate action by coordinating green economy initiatives and projects and managing the development of the international GHG trade, crucial for bolstering Uzbekistan's climate response capabilities. The Ministry oversees the implementation of the 2025 Law No. 1073 on Limiting Greenhouse Gas Emissions, including international carbon market activities under the law.

Ministry of Emergency Situations

The Ministry of Emergency Situations oversees emergency services, including protecting the population and assets during natural and anthropogenic disasters. It is also responsible for multisectoral coordination and cooperation in DRR. The Ministry also implements a state programme, funded by GCF, to modernize the early warning system for natural disasters. The Ministry is the key body responsible for implementing this strategy and action plan. DRR is not systematically integrated into local development planning or local DRR strategies across the country.

360 Kun.uz (2024k).

361 Glosema Goup (2024).

National Energy Efficiency Agency

The National Energy Efficiency Agency was established in 2025 under the Cabinet of Ministers to manage energy efficiency development in the country (see chapter 2). The Agency has already introduced subsidies for energy audits, solar panels and solar collectors, and heat pumps.

Central Asian Green University

The Central Asian Green University was established in 2023 (Resolution of President No. 174) to foster regional cooperation, scientific research and the formulation of innovative approaches to environmental and climate change issues shared by Central Asian countries.

Coordination between institutions

Coordination among ministries and agencies concerning climate change is improving. The establishment of the National Council for Climate Change demonstrates Uzbekistan's commitment to addressing climate change. The Council supports innovation related to climate change and coordinates the work of various ministries and departments on these issues. Additionally, its focus on scientific research and green technologies underscores a proactive approach to tackling climate change.

However, the lack of proper integration of climate change into local development plans hampers the efficient implementation of climate-related policies, programmes and projects.

Regulatory, economic and information measures

Uzbekistan has not established a carbon pricing and emissions trading system, covering emissions from the industrial and power sectors.[362] The adoption of the 2025 Law No. 1073 on Limiting Greenhouse Gas Emissions is expected to facilitate the future implementation of such mechanisms.[363]

The country intends to establish a loss and damage fund for adaptation, especially in relation to the Aral Sea crisis. However, further guidance is lacking to develop such a fund in Uzbekistan.

Uzbekistan is developing an online MRV platform for managing information on stakeholders, engagement activities, datasets, quality assurance/quality control activities, climate actions and vulnerabilities, impacts, more comprehensive benefits and other matters.

Climate change-related topics are gradually being integrated into curricula across primary, secondary and higher education, as well as vocational training. As 2025 was declared the "Year of environmental protection and green economy", several provisions to raise awareness on environmental topics were formulated. Although public awareness and access to climate change-related information are improving, targeted outreach is lacking. However, no information is available on the SDG target 13.3 (Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning) in Uzbekistan. As of 2025, the SDG indicator 13.3.1 (Extent to which (i) global citizenship education and ii) education for sustainable development are mainstreamed in: (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment), nationalized with the same formulation, is at the development stage.

362 Umarova (2025).

363 Ministry of Economy and Finance (2025c).

3.5 ASSESSMENT, CONCLUSIONS AND RECOMMENDATIONS

Assessment

Uzbekistan is highly vulnerable to climate change impacts, with its economy, environment and population already facing the consequences. Within the Government's initiatives and reforms, the Strategy of Transition to a Green Economy, along with improvements in environmental legislation, are crucial for combating climate change. These efforts demonstrate the country's commitment to increasing resilience to climate change. Although there are several sectoral resolutions and decrees related to climate change, Uzbekistan lacks a law on climate action.

In Uzbekistan, the economic cost of climate change impacts is estimated to reach 1 per cent of GDP by 2030, with the greatest impacts on agriculture, followed by water and biodiversity, labour productivity and increased weather-related risks. These economic impacts highlight the lack of a comprehensive climate change adaptation strategy as well as a unified state policy in this area.

Furthermore, integrating climate change risks into the planning process requires developing the NAP. However, Uzbekistan has not yet developed its NAP. Additionally, the systematic consideration of introducing NbS into policies and plans, to enhance climate change adaptation and resilience, is lacking.

In accordance with the Paris Agreement, Uzbekistan is encouraged to develop a long-term low-GHG-emissions development strategy based on its national circumstances. The country also intends to establish a loss and damage fund. As of August 2025, neither the strategy nor the fund have been developed.

The country's NDCs lack detailed adaptation and mitigation measures, including those based on NbS. Enhanced public participation mechanisms, gender issues and cost estimations (state budget and others) to secure the continuity of these processes in the country are also missing. The lack of a comprehensive MRV system hinders the accurate monitoring of emissions and the implementation of effective mitigation and adaptation measures, thereby limiting transparency and accountability.

The energy sector remains the dominant source of GHG emissions. Since 2016, the country has accelerated policy reforms focusing on energy efficiency and renewable energy. However, investments in renewable energy and efficiency are insufficient. Moreover, as of August 2025, no carbon tax or emissions trading system has been put in place.

Local construction materials such as basalt are not used enough in the construction sector. There are significant gaps in infrastructure resilience planning and maintenance of existing of existing infrastructure does not address climate change. The Government is not sufficiently integrating green development into urban planning, lacking green building standards and climate-resilient cities. Besides, financial incentives for investments in the design and construction of low-carbon buildings are lacking.

The agriculture and water sectors are the most affected by climate change in Uzbekistan, requiring urgent mitigation and adaptation measures. Despite the country's efforts to reduce climate impacts, promotion of climate-resilient agricultural practices and modernization of irrigation and drainage infrastructure are lacking, and institutional coordination is inadequate.

Uzbekistan lacks official statistics and research data on the direct impacts of climate change on human health and the health system. Besides, the national health system lacks early warning mechanisms, such as health indicators related to extreme climate conditions, hampering the implementation of preventive measures. The limited knowledge and skills of both the general population and health-care professionals regarding the relationship between climate change and health impacts aggravate this situation.

Although disaster risk management has advanced, the increasing variability and intensity of weather events due to climate change undermine the accuracy of forecasts. Continuous upgrading of technology and methodologies to keep pace with advancements in remote sensing, data analytics and modelling is a major challenge as well. Early warning systems have improved, but disaster impact-based forecasting and emergency response capacity remain insufficient. Sand and dust storms have substantial impacts on the environment and socioeconomic activities, requiring specific adaptation measures to increase resilience to this hazard.

Conclusions and recommendations

Policy and legal framework

A national strategy for adaptation to the effects of climate change and a comprehensive law on climate change are missing. Although sectoral adaptation plans are being developed, some sectors have not been considered (e.g., energy, industry, transport). A comprehensive National Adaptation Plan covering the entire country and all sectors affected by climate change is lacking. The lack of specific legislation on this topic hampers the systematic consideration of introducing nature-based solutions into policies and plans.

Recommendation 3.1:

The Government should:

(a) Adopt a national climate change adaptation strategy;

(b) Develop and promote the adoption of a national law on climate change;

(c) Develop and adopt a comprehensive National Adaptation Plan covering the whole territory with measures and programmes for all sectors affected by climate change;

(d) Ensure that nature-based solutions are reflected in all climate change strategic documents.

International commitments

Nationally Determined Contributions lack detailed adaptation measures and more ambitious targets, such as carbon-neutrality targets for the energy sector and the overall economy. Enhanced public participation mechanisms, attention to gender issues and detailed cost estimations to secure the continuity of these processes in the country are also missing. The National Transparency System provides for improvement of the monitoring, reporting and verification (MRV) system on the fulfilment of commitments and requirements under article 13 of the Paris Agreement. However, a comprehensive MRV system for accurately monitoring and verifying emissions, and for implementing effective mitigation and adaptation measures, is not yet in place. A long-term low-GHG-emission development strategy, under article 4 of the Paris Agreement, and a loss and damage fund for adaptation, especially in relation to the Aral Sea crisis, are also lacking.

Recommendation 3.2:

The Government should:

(a) Enhance nationally determined contributions by including carbon neutrality targets, increasing public participation and gender issues and detailing cost estimates to secure the continuity of the process;

(b) Further develop and implement the national Monitoring, Reporting and Verification system and its online platform;

(c) Develop and adopt a long-term low greenhouse gas emission development strategy;

(d) Identify resources for financing adaptation measures;

(e) Establish a loss and damage funding mechanism.

Energy sector

Efforts to reduce emissions have focused on improving energy efficiency and transitioning to renewable energy sources. Although the replacement or modernization of old power plants and investment in renewable energy are ongoing, these actions require acceleration to achieve the expected results. Implementing market-based incentives, such as carbon pricing measures (including an emissions trading system), can support public finances. However, these mechanisms are not yet in place. Furthermore, energy audits in industry and housing sectors are not systematically carried out.

Recommendation 3.3:

The Government should:

(a) Modernize or replace aging energy infrastructure to reduce emissions;

(b) Introduce nature-based solutions as a means to address the climate resilience of existing energy infrastructure;

(c) Scale up investments in renewable energy, especially solar and wind;

(d) Introduce carbon pricing measures to generate revenue and support public finances;

(e) Enforce the carrying out of energy audits in industry and housing sectors.

Green urban development

Uzbekistan is not adequately introducing green development in urban planning. Green master plans and green building standards are lacking. Green development should embed climate change considerations at the neighbourhood scale. Foreseeing permeable soil and green areas within the built-up environment, to reduce the threats of extreme weather events. Financial incentives for investments in low-carbon buildings, designed to minimize carbon emissions throughout their life cycles, from material sourcing and construction to operation and end-of-life, are not in place. Moreover, nature-based solutions are not sufficiently used in urban areas.

Recommendation 3.4:

The Government should:

(a) Establish green master plans, which foresee adequate pervious soils and green areas, to ensure the development of climate-resilient cities and regions;

(b) Develop and implement green building standards;

(c) Introduce financial incentives for green and low-carbon buildings;

(d) Also, introduce nature-based solutions in urban areas to increase their climate resilience.

Climate resilience in agriculture and water management

Climate change is greatly impacting the agriculture and water sectors in Uzbekistan, underscoring the need to strengthen climate resilience measures. Efforts to adapt to climate change need to place greater emphasis on improving agricultural practices, such as shifting to smart agriculture and implementing sustainable land and water management practices. Further support for farmers in adopting water-saving technologies to reduce water consumption in agriculture, enhancing drip irrigation use and building drainage systems is also necessary.

Recommendation 3.5:

The Government should:

(a) Strengthen incentives for climate-smart agriculture;

(b) Prioritize investments in landscape restoration with a focus on areas with high potential for adoption of climate-smart practices;

(c) Further promote water- and energy-efficient technologies and improve water management practices to increase water-use efficiency in irrigation;

(d) Introduce nature-based solutions to protect existing and future water reservoirs and water infrastructure from extreme weather events and the effects of climate change.

Health and climate

Uzbekistan does not produce research and data on the effects of climate change on human health and the health system. This hampers the use of climate and health data for planning adequate mitigation and adaptation measures. Enhanced capacity building of health professionals and the population to raise awareness and improve early warning systems is missing, although these are essential to build resilience in the country.

Recommendation 3.6:

The Government should:

(a) Enhance research capacity in health-climate modelling, impacts and mitigation strategies;

(b) Develop climate and health data systems for better planning and response;

(c) Establish a heatwave early warning system;

(d) Develop training programmes and manuals for health professionals, as well as community education campaigns, to raise awareness about climate-sensitive diseases.

Disaster risk management

Although there is progress in the development of early warning systems, disaster impact-based forecasting and emergency response capacity are lacking. Moreover, there is insufficient integration of natural disaster risk management into urban and land-use plans. The increase in the frequency and intensity of sand and dust storms in Uzbekistan has largely affected the environment and socioeconomic conditions. However, mitigation and adaptation measures, and management capacity to efficiently address the challenges posed by dust storms, including forecasting, monitoring, preparedness, response and recovery, are insufficient.

Recommendation 3.7:

The Government should:

(a) Enhance natural disaster impact-based forecasting and emergency response capacity;

(b) Enhance the integration of natural disaster risk management in urban and land use planning;

(c) Implement measures to combat sand and dust storms and improve air quality, especially in disaster-prone areas, and make publicly available progress reports on implementing these measures;

(d) Improve capacity for sand and dust storms preparedness, response and recovery.

CHAPTER 4
NATURE-BASED SOLUTIONS

Photo 4.1: Samarkand University Boulevard

Photo credit: Samarkand University Boulevard Park 02, by Aleksandar/stock.adobe.com

4.1 IMPLEMENTATION OF NATURE-BASED SOLUTIONS

Nature-based solutions (NbS) are widely used in Uzbekistan's efforts to preserve biodiversity, combat desertification and water scarcity, enhance climate resilience and improve urban liveability. The country is engaged in large-scale afforestation efforts aimed at planting 1 billion trees, as well as in pasture restoration, agroforestry, landscape rehabilitation, riparian forest conservation and wetland restoration. All these initiatives bring multiple benefits to the environment and human health and well-being.

Biodiversity loss

The Aral Sea disaster stands as one of the most severe biodiversity catastrophes of the 20th century. Over 90 per cent of the lake was lost, nearly all freshwater fish vanished, invertebrate communities were decimated, and more than half of the genetic diversity of plants and animals disappeared. This led to massive cascading effects across ecosystems and local livelihoods.

The disaster also inspired several initiatives to restore biodiversity in the Aral Sea region. Current efforts in Uzbekistan are paving the way for scalable, impactful interventions involving NbS. Recognizing the crucial role of vegetation in stabilizing soils and reducing dust emissions, Uzbekistan restored approximately 500,000 ha[364] in this area by 2020 as part of its commitment to the Bonn Challenge.[365]

[364] Bonn Challenge (Uzbekistan).

[365] The Bonn Challenge is a global goal to bring 150 million ha of degraded and deforested landscapes into restoration by 2020 and 350 million ha by 2030.

The most used NbS in this field are afforestation and reforestation using natural vegetation, agroforestry (including the irrigated areas or croplands) and wetland restoration. Apart from biodiversity conservation and ecosystem restoration, all these activities have additional co-benefits, such as carbon sequestration, soil stabilization and desalinization, reduced erosion and landslide risk, infrastructure resilience and adaptation to climate change.

Afforestation

With 3.7 million ha of forest covering 8.7 per cent of its land area, Uzbekistan is considered a Low Forest Cover Country.[366] The most common tree genus is saxaul (*Haloxylon). Afforestation with black saxaul (Haloxylon aphyllum) has been going on since the beginning of the 21*st century as an internationally supported environmental effort to restore the dried-up area of the Aral Sea. To restore the area, black saxaul seedlings are planted and seeds sown. However, the probability of success of the afforestation is still low.[367]

Photo 4.2: Vegetation restoration in the foothills of Uzbekistan

Photo credit: Press Service, National Committee on Ecology and Climate Change of Uzbekistan

The main afforestation initiative in Uzbekistan is the Yashil Makon Initiative, started in 2021 intending to plant 200 million trees and shrubs annually by 2030, double the forest cover in the country and expand the greening of the country from about 8 per cent to 30 per cent of the territory. Until mid-2025 over one billion tree and shrub saplings have been planted across the country under the project.[368] Furthermore, 126,200 ha of the dried-up bed of the Aral Sea and surrounding areas have been greened, including 71,900 ha in the Republic of Karakalpakstan, 23,300 in Bukhara region, 16,000 in Navoi region and 15,000 in Khorezm region. In desert, mountainous and foothill areas, 256 ha of protective forest plantations have been created to combat soil erosion.[369]

Part of this project is also the Tashkent Initiative, which plans to build a "Green Belt" around the city. In two phases (spring and autumn 2019), city authorities planted thousands of fast-growing deciduous and coniferous trees along the Tashkent ring road and major highways.

The project implementation encountered many problems, such as unplanted seedlings recorded as planted, seedlings planted in areas without any irrigation system, millions of seedlings dying due to lack of water and insufficient care and the planting of trees and bushes on unsuitable land without taking into account the natural climatic features.[370]

366 Inforest (n.d.).
367 UNDP (2024b)
368 Kun.uz (2025b).
369 Ibid.
370 Daryo.uz (2022).

In 2023, the UNDP office in Uzbekistan developed a feasibility study to design a master plan for afforestation in Uzbekistan, exploring the readiness to establish a master plan for the Yashil Makon Initiative at the Government level and identifying gaps in preparation for a tree planting campaign at the operational level. While preparing this study, the scope of the programme was extended with the support of other United Nations agencies (ECE, UNEP, FAO and UNHCR), elevating it from an annual tree-planting campaign to a holistic, nationally coordinated green infrastructure initiative. It now includes components such as landscape restoration and forest stabilization, city greening and public park creation, climate resilience features (e.g., windbreaks, dust mitigation) and financial sustainability via carbon markets and budgeting. During 2025, UNDP and ECE jointly developed the Master Plan for the Yashil Makon Initiative (see box 4.1).[371]

Box 4.1: The Master Plan for the Yashil Makon Initiative

The Master Plan provides detailed technical guidelines for the planning, implementation and monitoring of afforestation and reforestation efforts within Yashil Makon Initiative. The document outlines a structured process for identifying optimal planting locations, based on environmental, social and economic indicators such as soil salinity, water access, land use history and stakeholder priorities. To improve efficiency and sustainability, the guidelines propose establishing of forestry productivity norms tailored to Uzbekistan's conditions. It also recommends various planting techniques and species selection dependent on planting site conditions. The Plan supports NbS through sustainable pest management, utilizing natural ecosystems to regulate pest populations by, for instance, encouraging natural predators such as ladybugs, parasitoid wasps and predatory beetles. It promotes the integration of natural processes into forestry and afforestation management, reducing unnecessary human intervention while improving efficiency and sustainability through biological rationalization. Integration of social compliance measures is one of the key objectives.

In 2023, in accordance with the Decree of the President No. 199 on Measures to ensure environmental sustainability by further increasing the level of landscaping in the country and the consistent implementation of the Yashil Makon Initiative, over 250 million trees have been digitized in Uzbekistan, so that the progress of the programme can be better monitored and controlled. The Research Institute of Environment and Nature Conservation Technologies, under the Ministry of Ecology, Environmental Protection and Climate Change, created a digital map of all the trees in the country using satellite imagery, remote sensing, geographical information systems and artificial intelligence technologies. Coordinates of 254,162,505 trees were determined in parallel with the enhancement of the Yashil Makon Initiative electronic platform.[372] The 2025 Decree of the President No. 90 extends the implementation of the Yashil Makon Initiative to the forest management system. It also establishes the Agency for Afforestation, Green Area Expansion and Combating Desertification under the Ministry of Ecology, Environmental Protection and Climate Change.

Through a joint project "Addressing the urgent human insecurities in the Aral Sea region through promoting sustainable rural development", UNDP and UNESCO are working to enhance the technical and institutional capacity of the Takhtakopir Forestry Department in the Republic of Karakalpakstan for a successful afforestation process.

Agroforestry

Typical agroforestry practices found in Central Asia include alley cropping (trees planted in rows between crop fields), silvopasture (grazing under trees), windbreaks, live fences, riparian buffer zones, forest gardens (for fruit production) and managed woodlands on farm plots.[373] Fruit-based agroforestry is particularly common in Uzbekistan, with many farmers choosing intercropping fruit orchards with various annual crops, including wheat.

Current land-use policies constitute a major obstacle to the further development of agroforestry in Uzbekistan, as households are legally limited to a maximum farm size of 0.62 ha, with little potential to expand production.

Restoration of wetlands

In October 2023, the Sudochye Lake system was designated as a Ramsar Wetland of International Importance. This site was previously part of the Aral Sea but has become a separated remnant that receives its water inflow mainly from the Amu Darya River and some irrigation canals. Despite its transformation, the area has rich and specific biodiversity. The landscape includes dense reedbeds, salt marshes, shrubs and saxaul (*Haloxylon ammodendron*) plantations. It also provides habitat for several nationally threatened fauna species, including the Asiatic caracal (*Caracal caracal schmitzi*), the goitered gazelle (*Gazella subgutturosa*) and the bulatmai barbel (*Luciobarbus capito*). The Sudochye Lake system plays a critical role along the Central Asian flyway, serving as a key stopover and breeding site for migratory birds. In 2019, approximately 26.5 per cent of Uzbekistan's recorded ornithofauna was observed within this lake system, underscoring its significance for bird conservation.

371 UNDP (2022).

372 Usmanova (2024); Yashil Makon Initiative (electronic platform).

373 FAO (2024).

The GIZ-supported project "Policy Dialogue and Knowledge Management on Climate Protection Strategies", implemented from March 2014 to June 2025,[374] aimed to provide a climate risk analysis of the Sudochye Lake system to assess potential adverse effects that climate change may cause to protected areas and wetlands. Additionally, the project supported the development of a Ramsar strategy for Uzbekistan, along with a Management Plan and Visitor Concept for Sudochye.

The Ugam-Chatkal State Biosphere Reserve, the Khorezm National Nature Park, the South Ustyurt National Nature Park and the Sudochie-Akpetki State Reserve were established between 2019 and 2021, resulting in an almost two-fold increase in the share of protected areas in the country. By the end of 2022, the area of protected areas in categories I–IV of the International Union for Conservation of Nature (IUCN) and biosphere reserves in Uzbekistan was 6.321 million ha, or 14.08 per cent of the country's area.[375] The expansion of protected areas and improvements in their management are considered as NbS components of various projects. While these efforts can contribute to enhancing biodiversity and achieving SDG target 15.2, the main threat to wildlife in protected areas is water scarcity.

For instance, the Sudochye wetlands depend on irrigation channels during the drought season, but the conservation of wetlands competes with other water needs in the area, such as fishery and agriculture. The Sudochye Lake Management Committee oversees water management and coordinates water allocation from irrigation networks and the Amu Darya River. Other protected areas, such as Zarafshan national park targeted by the RESILAND CA+ project, also face water scarcity issues that are not addressed by the proposed NbS of the project.

Photo 4.3: A natural treasure of the Tashkent Region

Photo credit: Press Service, National Committee on Ecology and Climate Change of Uzbekistan

Desertification and water scarcity

The most common nature-based solutions for combating desertification in Uzbekistan are afforestation with desert shrubs to achieve soil stabilization and dust control, pasture rotation and reseeding to restore soil productivity, riparian forest protection to prevent erosion and protect biodiversity, and agroforestry techniques to protect crops and mitigate soil salinization.

374 GIZ (n.d.).

375 Uzbekistan (2023).

The 2023 Voluntary National Review provides the following data on SDG target 15.3: "Only 4.3 million hectares of the country's 44.9 million hectares (about 10 per cent) are irrigated. About 2 million hectares (45 per cent) of these lands were subjected to secondary salinization. About 800,000 hectares have water erosion problems. More than 2 million hectares of land are affected by wind erosion."

In general, projects designed for afforestation have significant co-benefits related to the protection of biodiversity and human health, improvement of climate resilience and contributions to carbon sequestration and mitigation of water scarcity.

Nature-based solutions in riparian zones

Riparian areas in Uzbekistan—especially along major rivers like the Amu Darya and Syr Darya—are critical green corridors that help combat desertification, support biodiversity and provide ecosystem services in an otherwise arid region. They are natural buffers that prevent erosion and limit desertification, and they provide soil stabilization, flood regulation, habitat for wildlife and moisture retention in drylands.

Commonly used NbS in riparian zones include reforestation with native floodplain trees, controlled flooding to restore natural water flows and allow forest regeneration, invasive species control (especially of salt-tolerant weeds that crowd out native riparian plants) and biosphere reserves and protected corridors to conserve and buffer sensitive areas.

The riparian forest ecosystem (*tugai* forests) in the lower reaches of the Amu Darya River in Uzbekistan officially belongs to the UNESCO World Network of Biosphere Reserves.[376] UNDP implemented the project "Conservation and sustainable management of lakes, wetlands and riparian corridors as pillars of a resilient and land degradation-neutral Aral basin landscape supporting sustainable livelihoods" to enhance the resilience of the ecosystems and livelihoods in the Lower Amu Darya and Aral Sea Basin through integrated land-water management that is compatible with land degradation neutrality.

Water scarcity

Uzbekistan faces significant water management challenges due to its arid climate, dependence on agriculture and the impact of the Aral Sea disaster. Every year, Uzbekistan saves approximately 7 billion m^3 of water through adoption of water-saving technologies, digitalization and efficient water resource management. The total length of irrigation networks restored in clusters and farms has reached 11,000 km. Despite these measures, water scarcity remains a significant issue. Approximately 80 per cent of water resources in Uzbekistan originate from neighbouring countries, leaving only 20 per cent sourced domestically. This necessitates critical agreements with neighbouring countries.

Blue Peace Central Asia 2.0

This regional initiative builds on the results of Blue Peace Central Asia 1.0, which has promoted the benefits of transboundary water cooperation since 2019. This initiative has increased the capacity for glacier monitoring and digital hydrometeorological services, through projects such as the CICADA Project,[377] Cromo-Adapt and SAPPHIRE.[378] The second phase aims to improve transboundary water cooperation between Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, as well as to conserve biodiversity, restore ecosystems and strengthen climate resilience.

Glaciers to Farms

Melting glaciers are altering waterflows, disrupting livelihoods and damaging ecosystems. In the short to medium term, increased runoff from glacial melt can intensify flooding. Over the long term, the retreat of glaciers may lead to water scarcity, affecting agricultural productivity, hydropower generation and domestic water supply.

Shifting melt patterns also make seasonal water availability harder to predict, with earlier spring surges and reduced late-summer flows disrupting crop planting, irrigation planning and reservoir operations. As rainfall and runoff become more erratic, NbS are helping communities adapt. Wetland restoration and slope reforestation—through techniques such as terracing, planting native grasses and digging shallow trenches—help slow floodwaters, reduce soil erosion and recharge groundwater.

376 Succow Foundation (2021).

377 The project is part of the larger Cryospherlc Climate Services for Improved ADAptation (CICADA) initiative.

378 International Water Management Institute (Blue Peace Central Asia).

In 2024, ADB launched the regional programme "Glaciers to Farms", which will promote sustainable water use and food security in Central Asia, the South Caucasus and Pakistan amid the catastrophic impacts of accelerated glacial melt due to climate change.[379] The programme envisages mobilizing up to US$3.5 billion from ADB, GCF, governments, development partners and the private sector to support these efforts. In addition to water and agriculture investments, the programme is expected to help vulnerable communities threatened by glacial melt, particularly in fragile mountain regions.

Climate change and resilience

Nearly all NbS have positive effects on combating climate change. However, they are often integrated into climate resilience projects as a minor component, with modest funding allocated to pilot activities. While NbS are generally considered as an underused climate adaptation instrument, they are often a necessary component of climate finance strategies, coupled with sustainable infrastructure programming.

While afforestation and reforestation efforts in Uzbekistan will undoubtedly increase the country's carbon sinks, this increase is not yet quantifiable. NbS are more valuable for achieving SDG targets related to adaptation measures (see chapter 3).

Urban green spaces

Urban green spaces are crucial for preventing heat islands, improving air quality and mitigating the effects of dust and sandstorms. In addition, green spaces positively affect stormwater drainage, preventing flooding and preserving urban biodiversity.

The 2023 Strategy Uzbekistan – 2030 insists on ensuring at least 30 per cent of green spaces in cities during urban planning, and on planning of green spaces for each new building, proportional to the number of inhabitants. Implementation of the Yashil Makon Initiative has been recently boosted by the 2025 Decree of the President No. 90, which prescribes the establishment of green gardens and green public parks within the framework of the "My garden" project, planting and maintenance of saplings along the corridors in the "Shaded Walking Streets" programme, organization of planting events under the slogan "Breath to the future", and measures to establish 257 green gardens in the regions.

The Air Quality Assessment for Tashkent[380] went a step forward from tree planting, recommending needs assessment for microclimate improvements in densely populated, socio-culturally important areas and the creation of artificial water bodies and lakes to stabilize the microclimate and improve air quality.

Photo 4.4: A green sanctuary in the heart of Central Asian Green University

Photo credit: Press Service, National Committee on Ecology and Climate Change of Uzbekistan

379 GCF (2024).

380 World Bank (2024).

In May 2025, legal provisions on the further improvement of the procedure for the use of land plots entered into force, including the prohibition of the privatization or any other transfer of state-owned land designated for cultural and recreational use. Additionally, the construction of new buildings or structures on these lands, the expansion of existing ones and any reduction in the size of such areas are banned. Botanical gardens have officially been recognized as protected natural areas, forbidding any activity posing a threat to plant life. During Senate discussions, it was revealed that 184 parks across the country had experienced reductions in green areas and forests. A total of 944 buildings and structures covering 431,600 m^2 had been constructed within these parks. Additionally, 91 illegal structures were identified in 18 parks, along with 1,248 unauthorized amusement structures installed in 98 parks.[381]

In the period 2022–2024, the Zamin Foundation implemented the Yashil Zamin project, which aimed to introduce a systematic approach to urban greening and raise Tashkent green-coverage levels to internationally recognized standards for safe and healthy urban living. The project focused on preserving and restoring existing green areas, creating new public green spaces and establishing dust- and wind-protective forest belts along the city's perimeter to help reduce drought impacts, prevent water and wind erosion and protect agricultural lands, soils and reservoirs. In total, 16,765 trees and shrubs were planted on 23.5 ha.[382] In addition, a public green park project is being implemented within the "Yashil Bog'lar" (green gardens/parks) initiative. The park covers 7.5 ha and is being developed from 2024 to 2025. The growing of more than 1,200 tree saplings and 23,000 shrubs will be supported by an artificial pond and a well powered by solar energy.[383]

Uzbekistan is planning to launch a project for the "Ethnoecological Research Centre", which will propose optimal solutions for traditional architecture adapted to local conditions, combining the rich cultural history of local ethnic design with the principles of sustainable urban development. In the 14th century, Amir Temur built a 12-garden belt around Samarkand. The restoration of the parks created by Amir Temur, supported by the World Tourism Organization, is an important factor in the development of ecotourism and agritourism in Uzbekistan.

In 2023 alone, "green gardens" bloomed in every region of Uzbekistan, totalling more than 600 ha. Green gardens were established in 16 districts and cities of the Republic of Karakalpakstan, 13 districts and cities of the Andijan region, 5 districts and cities of the Bukhara region, 11 districts and cities of the Jizzakh region and 11 districts and cities in the Kashkadarya region. The public can monitor the development of green gardens across the country via an interactive map available on the portal of the Ministry of Ecology, Environmental Protection and Climate Change.

Another example of the interactive portals showing the greening efforts in Uzbekistan is the Green Cities portal (see box 4.2).

Box 4.2: Green Cities

The Ministry of Ecology, Environmental Protection and Climate Change created environmental passports for 14 regional centres, based on indicators from the international Green City Index methodology. The methodology of the Green City Index in Uzbekistan includes seven groups of indicators: air quality, land use, water consumption, transport, energy, waste and sanitation. Almost half of the indicators are quantitative, based on official data.

The National Centre for Climate Change, in cooperation with the *khokimiyats* (governing bodies at district, city or region level) of Bukhara and Samarkand, as pilot cities, and the regional departments of the Ministry, developed environmental master plans. It is planned that environmental master plans and environmental passports for each region of the country will be gradually developed, and revised and updated annually.

Source: Green Cities. Ministry of Ecology, Environmental Protection and Climate Change (2024e).

Funding and support

The Ministry of Ecology, Environmental Protection and Climate Change, in cooperation with the UNDP BIOFIN Initiative, completed a national Biodiversity Finance Plan in March 2025.

In July 2021, Uzbekistan became one of the first countries in the world to issue SDG bonds to finance the SDGs. The issue volume was 2.5 trillion soums (about US$235 million) at 14 per cent for three years. The funds are used to implement activities and projects in seven SDG areas: education (SDG 4), water management (SDG 6), health (SDG 3), green transportation (SDG 11), pollution control (SDG 11), management of natural resources (SDG 15) and green energy (SDG 7).

381 UzDaily (2025a).

382 Zamin Foundation (n.d.).

383 Ministry of Ecology, Environmental Protection and Climate Change (2025c).

The International Fund for Saving the Aral Sea (IFAS) is implementing its fourth Aral Sea Basin Programme,[384] which includes a portfolio of 25 major projects with a combined budget of US$591.3 million.

The Multi-Partner Human Security Trust Fund for the Aral Sea Region in Uzbekistan, established in 2018, has attracted approximately US$16 million for United Nations agencies to implement people-centred, comprehensive, context-specific and prevention-oriented interventions.

In April 2025, the United Nations General Assembly unanimously adopted the United Nations Decade for Afforestation and Reforestation in line with Sustainable Forest Management (2027–2036),[385] proposed by Uzbekistan.[386] The document proclaims the period from 2027 to 2036 as the Decade of Action for Afforestation and Reforestation, calling on the global community to take active measures in this field. The resolution received broad support, with more than 80 countries from various regions of the world joining as co-sponsors.

Uzbekistan has successfully used GEF funds across multiple replenishment cycles, with cumulative grants around US$11 million and co-financing surpassing US$180 million. Key initiatives include:

- Conservation and Sustainable Use of Agricultural Biodiversity to Improve Regulating and Supporting Ecosystem Services in Agricultural Production;
- Sustainable Forest and Rangeland Management in the Dryland Ecosystems of Uzbekistan;
- Integrated Conservation Management and Restoration of High-Value Landscapes in Uzbekistan;
- National Biodiversity Planning;
- Ecosystem Restoration Projects.[387]

GCF supports seven projects in Uzbekistan totalling US$159.7 million.[388] One notable project, supported with US$68.8 million, focusses on adaptation efforts in Tajikistan and Uzbekistan,[389] incorporating NbS to support climate resilient measures in priority areas for the most vulnerable communities, including agricultural, land and water management practices.

The World Bank supports Uzbekistan in implementing NbS through the RESILAND CA+ project (US$142 million). In 2024, ADB allocated technical assistance for the project "Enhancing Outcomes of the Nature Solutions Finance Hub for Asia and the Pacific," engaging Uzbekistan.[390] The financing amount is US$5.44 million, sourced from various contributors, including ADB, the French Development Agency and GCF. By 2028, expected key outcomes include attracting US$1 billion in investments for NbS, with 15 per cent from private capital, and developing sustainable financing models for NbS projects.[391]

GGGI has mobilized over US$1 billion through sustainable and green bonds in partnership with Uzbekistan banks committed to green financing initiatives.[392] Additionally, GGGI designed a Climate-Smart Agriculture Financing Facility to meet the agricultural sector's demand for green finance and supports a green building initiative in Uzbekistan.

Italy and Uzbekistan have signed a €100 million financing agreement to support initiatives to combat climate change and enhance environmental protection. The funding is part of the Italian Climate Fund, an instrument established by the Italian Ministry of the Environment and Energy Security and managed by the Italian Deposits and Loans Fund.[393] The agreement is designed to assist Uzbekistan in its green economic transition through comprehensive reforms of its legislative framework.

The loan will specifically support the implementation of policies and institutional reforms focussed on decarbonization and environmental sustainability. Key areas include introducing fiscal instruments to promote the green transition of strategic economic sectors and strengthening the legislative and regulatory framework. These efforts aim to foster the development of RES and improve energy efficiency. The financing will be provided through "policy-based" funding, which is conditional upon the achievement of measurable results in the agreed reform areas.

384 Agency of IFAS (n.d.).
385 A/RES/79/283.
386 Ministry of Ecology, Environmental Protection and Climate Change (2025e).
387 GEF project database (Uzbekistan).
388 GCF (Republic of Uzbekistan)
389 GCF (Climate Adaptation and Mitigation Program for Aral Sea Basin (CAMP4ASB)).
390 ADB (n.d. d).
391 Ibid.
392 GGGI (n.d.).
393 *Cassa Depositi e Prestiti.*

Launched by ADB at the UNFCCC Conference of the Parties in December 2023, the Nature Solutions Finance Hub is mobilizing at least US$5 billion in blended public- and private-sector finance to integrate high-integrity NbS across Asia and the Pacific. The platform combines policy advice, capacity building and innovative de-risking instruments to convert concessional funds into bankable projects that deliver measurable biodiversity and climate resilience benefits. The inaugural Partners' Forum, held in April 2024, convened founding financiers including the OPEC Fund, the French Development Agency, the Catalytic Green Finance Facility of the Association of Southeast Asian Nations and the Saudi Fund for Development. Technical partners such as BirdLife International, Conservation International, IUCN, Nature Finance, The Nature Conservancy and the World Wildlife Fund also joined, all committed to accelerating a robust pipeline of scalable nature investments.

Globally, current spending on NbS is estimated at US$200 billion per year, with over 80 per cent sourced from public finance.[394] To meet international climate and biodiversity targets under the Paris Agreement and the Kunming-Montreal Global Biodiversity Framework, this figure must nearly triple.[395] As of August 2025, Uzbekistan has yet to assess its current spending on NbS and the financing needs.

4.2 INTEGRATED APPROACHES

Almost all NbS initiatives considered were embedded into more complex projects. Even as standalone interventions, most have multiple effects. For example, afforestation activities stabilize soils, reduce toxic dust storms, improve the microclimate and provide habitats for wildlife. The creation of urban green spaces can prevent heat islands, mitigate air pollution, positively impact human health and contribute to carbon sequestration, flood risk reduction and biodiversity conservation by providing green refuges for native plants, insects (especially pollinators) and birds. Landscape restoration projects also offer numerous benefits.

Landscape restoration

RESILAND CA+ Programme

The World Bank's "RESILAND CA+ Programme: Uzbekistan Resilient Landscapes Restoration Project" is a complex, multiannual (2022–2029) transboundary intervention with several components. Implementation focuses on the transboundary corridors between Uzbekistan, Tajikistan, Kazakhstan and Kyrgyzstan, which the programme defines as geographical spaces that provide connectivity between landscapes, ecosystems and natural or modified habitats, ensuring the maintenance of ecosystem services. Ecosystem service-oriented interventions include:

- Farmer-managed natural regeneration and protection of isolated natural forest patches;
- Watercourse and feeder stream stabilization and flood control through a mix of mechanical and biological means;
- Slope stabilization measures for soil erosion control on hillsides and plains, addressing wind- or water-driven erosion, and enhancing water capture and infiltration through mixed mechanical and biological measures;
- Roadside tree planting.

This programme envisages NbS for road infrastructure resilience, restoring and leveraging natural vegetation and other natural resources to mitigate and adapt to climate impacts. This includes slope stabilization by vegetation and road protection through roadside tree planting, which are cost-efficient ways to reduce the risk of flooding, erosion and landslide impacts on roads while restoring natural ecosystems and creating local jobs.

The project's climate co-benefits are also reflected in carbon sequestration achieved through reforestation, farmer-managed natural regeneration, agroforestry, pasture management and enhanced management of two protected areas. Improved landscape management through these activities reduces landscape vulnerability to climate change impacts and enhances resilience. Project investments in improved management of two protected areas, sustainable nature-based tourism and landscape restoration, including reforestation with native species, are expected to help conserve globally and regionally important biodiversity. This includes mountain juniper forests, desert shrub-steppe and riparian *tugai* forests, as well as wildlife of national and global conservation interest within the project areas.

394 UNEP (2023).

395 UNEP (2024a).

Food Systems, Land Use and Restoration Impact Programme

The impact of food systems on land use and land restoration is assessed within the Food Systems, Land Use and Restoration Impact Programme in Uzbekistan (FOLUR), implemented from April 2024 to March 2026.[396] IUCN is promoting and applying NbS, including the Restoration Opportunity Assessment Methodology, to transform degraded landscapes into productive ecosystems. This approach addresses agricultural challenges such as land degradation and declining productivity, while delivering co-benefits such as carbon sequestration, increased biodiversity and community resilience. It demonstrates a forward-looking vision of sustainable agriculture, in which NbS support healthy ecosystems and long-term food security.

The project aims to adopt efficient land management technologies and conservation approaches and promote green value chains to shift from ecosystem degradation to sustainable management. It is expected to sequester 1 million tons of CO_2, restore 50,000 ha and play a key role in placing 350,000 ha under improved land management within the wheat-dominant landscapes of the project regions in the country.

Integrated Conservation Management and Restoration of High-Value Landscapes

In close collaboration with the Government of Uzbekistan, UNDP has developed and launched in 2024 a new project on "Integrated Conservation Management and Restoration of High-Value Landscapes in Uzbekistan". Funded under the GEF-8 cycle, this project focuses on practical measures to create favourable conditions for ecosystem restoration. It will involve innovative ecosystem restoration approaches and the development and testing of effective, sustainable biodiversity conservation financing mechanisms.

A key partner in this effort is IUCN. The project's pilot areas include the landscapes of the Western Tien Shan, the Nurata Mountains and Kugitang. Key objectives of the project are to restore 53,000 ha of forests and pastures, enhance management systems for 200,000 ha of state forest fund lands, strengthen governance for 142,000 ha of protected natural areas and improve living conditions for 30,000 residents through eco-tourism, sustainable pasture management and livelihood enhancements.

Nature-based solutions and health

NbS that address air pollution through urban forests, street trees, or green transport routes can provide health benefits, both directly by reducing exposure to pollution and heat, and indirectly through broader benefits to mental health and well-being associated with physical activity and access to nature.[397] Such an initiative was recently launched in Uzbekistan in cooperation between the Ministry of Ecology, Environmental Protection and Climate Change, UNEP and the Finnish Meteorological Institute (see box 4.3).

The Air Quality Assessment for Tashkent[398] shows that air quality data and city wind patterns can inform the selection of areas for greening interventions to reduce dust transport into the city. The impact on air quality can then be tracked through air quality monitoring, modelling and other appropriate analytical tools. The results from the pilot greening interventions can inform future greening measures to improve air quality in cities. It recommends establishing green belts around high- and medium-impact industrial facilities by planting 1.3 million of trees around 173 industrial enterprises in the Tashkent region and 300,000 trees around 30 enterprises in Tashkent City.

Box 4.3: Nature-based solutions and air quality

The Ministry of Ecology, Environmental Protection and Climate Change, UNEP and the Finnish Meteorological Institute have launched a joint project to assess air quality in the city of Termez (see chapter 1). Special attention will be paid to the influence of sand and dust storms, which significantly impact air quality in the region. Combining advanced technologies, international experience and local knowledge, the project aims to promote the use of NbS to improve air quality and protect human health.

Moreover, in accordance with the 2023 Resolution of the President No. 171, the Directorate for Landfill Management works on the reclamation of municipal landfills, minimizing negative impacts on public health and the environment and returning the land to nature. So far, 39 of 184 municipal landfills have been levelled and covered with soil. As part of the Yashil Makon Initiative, 461,000 tree saplings were planted around 123 landfill sites in 2024. In spring 2025, a further 367,700 trees were

396 FOLUR (n.d.).
397 WHO (n.d.).)
398 World Bank (2024).

planted around 130 landfills, forming green belts. Looking ahead, the plan is to reclaim 970 ha of land, prevent air pollution, reduce fire risk and reduce the impact on groundwater.[399]

One Health in Nature Conservation in Central Asia

An important framework relevant to infectious diseases and natural environments is One Health. The project "One Health in Nature Conservation in Central Asia", aims to mitigate the risk of zoonotic diseases exacerbated by biodiversity loss and changes in human-wildlife interactions in the region. Nature conservation will play a crucial role in reducing zoonotic risks by enhancing the resilience of Central Asian landscapes, which is essential for safeguarding human, animal and environmental health at the heart of the One Health approach. The project is funded by the then German Ministry for Environment, Nature Conservation, Nuclear Safety and Consumer Protection through the International Climate Initiative and executed by IUCN, in collaboration with a consortium of national and international organizations across five Central Asian countries: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

4.3 RESEARCH AND INNOVATION IN NATURE-BASED SOLUTIONS

Aral Sea – Aralkum desert

Since 2018, Uzbekistan has been intensifying its efforts to improve agroecosystems on saline soils, test salt- and drought-resistant crops and develop innovative technologies for sustainable water use and afforestation. These initiatives aim to mitigate the effects of drought, adapt local crops to climate change and foster PPPs to address the environmental and social consequences of the Aral Sea's desiccation.

The adoption of a special resolution by the United Nations General Assembly, declaring the Aral Sea region a zone for ecological innovations and technologies, has helped attract investments and facilitate the exchange of technologies with other countries with experience in desert ecology, such as Mexico and Tunisia. As of May 2025, 38 projects are being implemented in the area, alongside the development of scientific foundations for their further implementation.

A new salt desert ecosystem (the Aralkum Desert) has emerged on the dried-up lakebed of the South Aral Sea. Therefore, all efforts underway to restore and utilize the Aralkum ecosystem are considered NbS.

Phytoremediation

Phytoremediation is the cultivation of plants to reduce soil and water contamination by organic and inorganic pollutants. It is an effective and economical method for removing or reducing contaminants, particularly over large areas. Phytoremediation using halophytes is often performed for salt removal in salt-accumulated soils,[400] making it a perfect method for use in Uzbekistan's contaminated Aral Sea dry bed.

Afforestation of the salt-affected areas

Afforestation with black saxaul has been ongoing since the beginning of the 21st century to restore the dried-up area of the Aral Sea. An innovative crowdfunding platform to raise funds for tree planting was established, with an ambitious goal on planting 100,000 trees by the end of 2020.[401] As of June 2025, the counter on this platform stands at 65,912 trees.

According to the latest monitoring results,[402] from 2018 to 2023, forest reclamation work was carried out on the dried bottom of the Aral Sea over an area of 1.73 million ha. The survival rate of new forest crops is uneven and varies depending on the method of planting (airplane, hang glider, agricultural machinery), type of soil, level and mineralization of groundwater and compliance with silvicultural practices.

About 500,000 ha of forest reclamation work were carried out under the "Yashyl qoplama" (green cover) programme in the Akpetkey zone, where the plants are in good condition. In the Muynak zone, on slightly and moderately saline soils, the survival rate of forest plantations is 55–64 per cent, while in the pasture territories of Kyzyl Kum, the survival rate is only up to 20 per cent. Expeditions from 2019 to 2023 determined that due to self-overgrowth, vegetation covered 10 per cent of the drained bed area.

399 Ministry of Ecology, Environmental Protection and Climate Change (2025d).
400 Yamanaka (2020).
401 Aral Forest (web portal).
402 UNDP (2024b).

Utilization of halophytes and biosaline agriculture

According to the 2023 Voluntary National Review,[403] Uzbekistan recognizes that, while its agricultural sector is highly exposed to climate risks, current sustainability practices remain limited. The report notes that the share of agricultural land under sustainable practices is not systematically measured, pointing to a data gap in tracking SDG indicator 2.4.1. However, efforts are underway to address land degradation and salinization through actions that align with NbS. Specifically, the Review highlights the restoration of degraded land and the use of salinity-adapted crops, which contribute to both resilience and sustainable production; the support of soil fertility improvement through organic and environmentally-sound practices; and introduction of water-saving irrigation systems in response to water scarcity.

Biosaline agriculture is a relatively new approach to addressing salinity in agricultural land. It develops cropping systems for saline environments, using the capacity of halophytes and salt-tolerant non-conventional crops. It also produces good-quality seeds under saline conditions by improving soil and water quality and enhancing natural agroecosystem functions.

The utilization of halophytes includes growing crops for human consumption (quinoa, amaranth) and other edible plants (capers, Jerusalem artichoke), as well as some livestock fodder plants. Biomass from halophytes represents a valuable renewable energy source. The dwarf glasswort or dwarf saltwort (*Salicornia bigelovii*), an annual plant of the family *Amaranthaceae* growing in salt marshes, is perhaps the most promising of all halophytes currently under commercial cultivation. It is a coastal halophyte that grows in seawater and is used as fodder and to produce high-quality oil suitable for human consumption.

There is also cultivation of salt-tolerant legumes (mung and yardlong beans), medicinal and aromatic plants, and mulberry fruit trees. Cultivation of liquorice (*Glycyrrhiza glabra*), a highly salt- and drought-tolerant crop, presents a feasible alternative in soil remediation by lowering groundwater levels (it is successfully grown in Kyzylkum Desert, Uzbekistan). Since 2006, the International Centre for Biosaline Agriculture has been conducting research and field trials in the central Kyzylkum area to introduce cold-, heat- and drought-tolerant halophytes, such as pearl millet, sorghum, amaranth, safflower, quinoa and other crops, using mineralized artesian water.

Many initiatives related to the introduction of halophytes were realized through the Science and Technology Research Partnership for Sustainable Development (SATREPS).[404] For example, SATREPS "BLUE" is a project implemented by the Japan International Cooperation Agency (JICA) on "Development of innovative climate resilient technologies for monitoring and controlling water use efficiency and the impact of salinization on crop productivity and livelihood in Aral Sea region".[405] It is implemented in cooperation with the International Innovation Centre for the Aral Sea Basin, the Uzbek Hydrometeorology Institute, the Tashkent Institute of Irrigation and Agricultural Mechanization Engineers, the National University of Uzbekistan, the Uzbek Design Research Institute and the Nukus Branch of Tashkent Agrarian University. Another SATREPS initiative, "Adaptation and promoting innovative approaches and climate resilient technologies for water management and optimal land use based on quasi-real-time monitoring, climate scenarios and value chain analysis in saline and drought-prone agricultural landscapes across Amu Darya River Basin",[406] executed four scientific experiments at a test site in Karabuga (Karauzyak district) to test and adapt quasi-real monitoring of soil salinization, water-salt regime and observations of the growth of halophytes and non-traditional crops, as well as their screening, evaluation and verification, and analysis of the value chain as a whole. FAO and ADB also support different initiatives involving the introduction of halophytes in combating soil salinization.

Hydroponics and aquaponics

The promotion of hydroponics and aquaponics systems is an activity of the International Innovation Centre for the Aral Sea Basin, created to support local communities. The Centre organized a master class on growing microgreens at home to strengthen social protection, reduce poverty, provide employment and retrain people who want to acquire new skills, and develop entrepreneurship and self-employment. This project was selected from the Centre's incubator for innovative ideas, as microgreens are an eco-friendly, organic product that can be used year-round, promoting healthy nutrition for the population.

The Centre also developed a project proposal for the "Creation of a Smart Aquaponic System". The project plans to demonstrate and disseminate knowledge and experience in creating a smart aquaponic system. It aims to show that it is a much more efficient and profitable alternative for growing fish and agricultural products than catching and growing

403 Uzbekistan (2023a).

404 Science and Technology Research Partnership for Sustainable Development (2020).

405 Japan Science and Technology Agency (n.d.).

406 FAO (n.d. a).

them in the natural environment, or farming in open areas where water is consumed. The project will demonstrate to the population how to produce necessary food and achieve high profits without damaging the environment.

The regional project ECO ARAL (Ecologically Oriented Development of the Aral Sea Region), implemented by GIZ, has initiated a pilot project in the Republic of Karakalpakstan to showcase the feasibility of sustainable Artemia[407] cultivation in environmentally friendly earth ponds.

In accordance with the 2022 Resolution of the Cabinet of Ministers No. 460 on Measures to stimulate the use of biological protection methods in the production of agricultural products, it is planned to allocate 40 billion soums to cover part of the costs of using biological plant protection products. Besides the agricultural sector, where the National Centre for Knowledge and Innovation in Agriculture promotes innovations and climate-resilient solutions nationwide, NbS have great potential in the building and construction sector through the promotion of green architecture and infrastructure.

Green infrastructure

Sustainable construction and design are being developed in Uzbekistan. The country has several certified green buildings that focus on energy efficiency and environmental responsibility. The integration of conservation practices into urban planning is an important factor for the development of the new Tashkent city and throughout the country. Sustainability is another key component of Uzbekistan's architectural renaissance. While modern technology is embraced, traditional building techniques from the Silk Road era are also being re-examined. By adopting green architecture and sustainable construction practices, Uzbekistan is creating a greener and more sustainable built environment.

Resilient infrastructure (SDG 9) is prioritized in Strategy Uzbekistan – 2030 with emphasis on low-carbon and climate-adaptive designs. Green infrastructure elements are being integrated into transport and urban development, especially in Tashkent and Samarkand. Afforestation along roads and urban corridors acts as windbreaks and helps prevent dust storms.

Photo 4.5: Solar furnace of Uzbekistan

Photo credit: Innovative design of Institute of the Sun showcases solar energy technology in Uzbekistan, by keleny/stock.adobe.com

[407] Artemia or brine shrimp is a tiny crustacean able to survive in extreme environments, including high salinity. When conditions are inhospitable, artemia can switch from live birth to cyst production. The cysts may be metabolically dormant for hundreds, perhaps thousands, of years, which makes them perfect for transport and storage. Once introduced to the more favourable conditions cysts hatch and can be used as food in fish nurseries.

Modern green architecture is focusing on climate-informed land-use planning, climate-resilient building codes and the inclusion of NbS to reduce urban heat island effects by tree planting, creating urban water bodies and incorporating green roofs and walls. Building guidelines are used to improve temperature regulation in buildings and encourage the use of heat-resistant materials. Modern green architecture promotes green-blue infrastructures such as urban green spaces and water features (see box 4.4).

Box 4.4: "Sponge cities"

By using intelligently planned and protected urban green spaces, cities can significantly reduce the risk of floods and manage water resources in a sustainable way, while also making urban spaces more liveable and greener. So called "sponge cities" absorb, harvest, store, filter, purify and slowly release rainwater, like a sponge. Rainwater is retained, naturally filtered and cleaned, and then slowly discharged into rivers and drained into the soil. In a sponge city, groundwater is recharged through a variety of green infrastructure such as preserved floodplains, stormwater wetlands, retention ponds, sunken parks, seepage wells and green roofs.

Source: ADB (2017).

In recent urban developments in Tashkent, there is a lack of sufficient pervious soils and greenery, which increases the effects of the urban heat island phenomenon in the hot season. Conversely, widespread impervious soil exacerbates the risk of flooding in the case of extreme weather events.

4.4 LEGAL, POLICY AND INSTITUTIONAL FRAMEWORK

Legal framework

NbS are not explicitly referenced in Uzbekistan's legislation. As a result, their incorporation into national policies, urban planning frameworks, legal instruments and enforcement mechanisms remains unfeasible due to the absence of formal recognition or definition within the legal system. Other countries encounter the same challenges regarding the lack of legal provisions on NbS (see box 4.5).

Box 4.5: IUCN methodology for assessing the integration of nature-based solutions into legal and policy frameworks

In 2022, IUCN developed a methodology for legal and policy analysis to address the integration of NbS into development strategies, based on the IUCN Global Standard for Nature-based Solutions, and tested it in six economies in the Western Balkan region.[408] This analysis, the first application of the IUCN Global Standard to analyse policies, focused on NbS in climate change adaptation and disaster risk policies.

Consequent replication of the use of this methodology is not known. However, the authors state that the analysis provides general insights into progress on NbS, functional both within the subregion and more broadly. The study concludes that most countries do not legally define NbS, making it challenging to incorporate them into planning regulations, laws and enforcement mechanisms.

The Constitution provides a foundation for the country's commitment to ecological balance and biodiversity preservation. It emphasizes the right of citizens to a healthy environment and the responsibility of the State to safeguard natural resources. There is an extensive national legislative framework comprising several hundred legal acts that regulate environmental protection, biodiversity, climate change, land management and agriculture.

The making of legislation is relatively frequent and intentionally recurring, regulating specific issues with multiple legal acts over time. For example, from July 2021 to April 2023, measures to implement the special resolution of the United Nations General Assembly of 18 May 2021 "On declaring the Aral Sea region as a region of ecological innovation and technology", were regulated by dozens of legal acts (decisions and resolutions of the Senate of the Parliament, resolutions and decrees of the President and resolutions of the Cabinet of Ministers). The substance of these acts is similar, reinforcing the previous ones, for example, "On measures to implement the special resolution…", "On additional measures to implement the special resolution …" and "On measures to further improve the implementation of the special resolution …". Although it might be practical to sequence legal obligations of various bodies on certain issues, it complicates the compilation and analysis of these fragmented acts. Similarly, around 30 laws and 100 decrees related to climate change have been passed through presidential approval or ministries, the Cabinet of Ministers and Parliament.[409]

408 Bisaro (2022).

409 World Bank (2023a).

Policy framework

Uzbekistan has established a comprehensive domestic policy framework and is actively aligning it with various international goals and objectives. The 2023 Strategy Uzbekistan – 2030 sets the main development directions, including environmental reforms. The eight environmental reform measures provide a robust framework for developing NbS projects, especially the following measures:

- Ensuring that at least 30 per cent of urban areas are designated as green spaces during urban planning;
- Allocating green spaces for each new building proportional to the number of inhabitants;
- Implementing the Yashil Makon Initiative, which includes the creation of additional green gardens, green belts and parks;
- Expanding the territory of protected areas;
- Increasing forested areas;
- Developing eco-tourism;
- Undertaking remediation projects in the Aral Sea region;
- Establishing 600,000 ha of protective forest plantations to combat desertification, drought, dust and sandstorms and rising temperatures.

The Strategy is implemented by annual state programmes adopted with a thematic focus, such as 2023 – the year of care for people and quality education; 2024 – the year of support for youth and business; and 2025 – the Year of Environmental Protection and Green Economy. The Republican Commission for the Implementation of Strategy Uzbekistan – 2030 is responsible for preparing and coordinating the implementation of these annual programmes. Progress in implementation can be followed at the portal,[410] which currently shows that 60 activities have been implemented so far, while the implementation of 396 activities is ongoing.

Strategy for the Transition to a Green Economy (2019–2030)

The Strategy for the Transition to a Green Economy (2019–2030) promotes adaptation to climate change, increased efficiency in the use of natural resources and preservation of natural ecosystems. It prioritizes the use of green tools and approaches to achieve socioeconomic development goals. In the forestry sector, the Strategy aims to promote reforestation and the preservation of natural vegetation cover across all natural areas. In the agricultural sector, it foresees restoring degraded pastures, introducing sustainable pasture management mechanisms and promoting organic farming. The tourism sector is also set to benefit from initiatives that promote forest expansion and ecotourism, with designated forests aimed at combating soil erosion.

In December 2022, an update to this Strategy was released via the Resolution of the President No. 436 on Measures to improve the effectiveness of reforms aimed at the transition of Uzbekistan to a green economy until 2030.[411]

An interagency Green Economy Council oversees the implementation of the strategy, supported by UNDP. A 2022 publication "Green growth strategic framework Uzbekistan"[412] states that the Government is in the process of updating the current strategy, extending it to 2050, and many of the actions are yet to be formulated. As of July 2025, there is no evidence that the Strategy was updated to extend the time horizon; data or reports on implementation are not publicly available.

Concept of Environmental Protection until 2030

The Concept of Environmental Protection until 2030 envisages the expansion of protected natural areas, scientific support for environmental protection, the introduction of comprehensive land-use planning and management, an increase in the area of protective forest plantations on the Uzbek side of the dried-up part of the Aral Sea, and the development and implementation of rehabilitation and reclamation programmes for degraded land.

The Concept is expected to be implemented with the support of three-year road maps, developed based on the results achieved, targets and the main directions of environmental protection for the corresponding period. However, these roadmaps are not available for the period beyond 2019–2021.

410 Uzbekistan – 2030 (National strategy Online portal).

411 UNDP (2023f).

412 Ministry of Economic Development and Poverty Reduction, UNDP, WB, FDA (2022).

Agriculture Development Strategy (2020–2030)

One of the priorities of the Agriculture Development Strategy (2020–2030) is ensuring the rational use of natural resources and protecting the environment.

There is a report on the implementation of this Strategy in the period 2020–2021, developed by World Bank.[413] The report concludes that the record of agricultural reforms in that period has been impressive. Some of the achievements are relevant for the development of NbS. Major reforms include:

- Trade liberalization and export promotion;
- Abolishment of the state quota systems for cotton;
- Elimination of the use of forced and child labour in cotton harvesting;
- Acceleration of agricultural diversification;
- Recognition of unique problems faced by smallholder farmers (*dekhan*) and introduction of public programmes to support them;
- Modernization of agricultural education, restoration of agricultural research and creation of new advisory services;
- Scaling up of investments in water-efficient irrigation and initiation of reforms in agricultural land tenure security.

National Programme for Combating Sand and Dust Storms for the period 2024–2030

The National Programme for Combating Sand and Dust Storms for the period 2024–2030 contains 28 measures, many of which support the development of NbS:

- Develop a dust storm mitigation programme for Surkhandarya (Afghan wind);
- Establish protective forests on 15,000 ha in mountain and foothill areas;
- Use mulching and hydrogel methods in non-irrigated areas;
- Mandate anti-dust technology in construction permits;
- Select resilient fodder plants for arid regions.

As of July 2025, there are no available implementation reports.

Updated Nationally Determined Contribution (2021)

This Updated Nationally Determined Contribution (2021)[414] contains adaptation measures related to water management, agriculture, the Aral Sea and ecosystem adaptation (see chapter 3). Some measures are formulated as:

- Reforest mountain foothills and preserve native plant species in semi-deserts and deserts;
- Preserve, restore and maintain ecological balance in protected areas;
- Improve the sustainability of the management of fragile desert ecosystems.

In addition, Uzbekistan commits to achieving land degradation neutrality by implementing sustainable land management practices and restoring degraded lands, especially in the Aral Sea region. This is part of its commitments under UNCCD and the SDG target 15.3, which calls for a land-degradation-neutral world by 2030.

The 2024 UNDP "Uzbekistan NDC2 Stocktake" report[415] assesses progress in implementing the NDC pledged by Uzbekistan in 2021. The report was prepared by the Ministry of Ecology, Environmental Protection and Climate Change along with its National Climate Centre and Agency for Hydrometeorological Service, and the Ministry of Economy and Finance, with support from UNDP under the Global Programme "Climate Promise". The analysis revealed that, between 2010 and 2021, the carbon intensity of Uzbekistan's GDP decreased by 37.2 per cent without carbon removals and by 40.1 per cent with carbon removals in the land use, land-use change and forestry sector. In addition to increased carbon sinks, the report highlights key adaptation measures. The main achievements include:

- Adoption of irrigation water-saving technologies (drip irrigation);

413 World Bank (2022d).
414 Uzbekistan (2021).
415 UNDP (2024c)

- Construction of reservoirs to collect water from Tajikistan and Kyrgyzstan during the autumn-winter seasons for hydropower generation;
- Transition from water-intensive crops (e.g., cotton) to less water-intensive alternatives;
- Supplying settlements and cities with access to clean drinking water and water for greenery needs;
- Afforestation, agroforestry and climate-resilient economic development.

National Biodiversity Strategy and Action Plan

The 2019 NBSAP includes several quantified targets related to land restoration, biodiversity and sustainable land management. The country has made significant progress towards achieving some NBSAP targets. For instance, the territory of protected areas increased from 4 per cent in 2016 to 14 per cent in 2023,[416] which is 2 per cent higher than the target set in the NBSAP.

Uzbekistan's new national biodiversity conservation targets[417] formulate Target 11 as: "Restore, maintain, and enhance nature's contributions to people, including ecosystem functions and services, such as the regulation of air, water, climate, soil health, pollination and reduction of disease risk, as well as protection from natural hazards and disasters, through nature-based solutions and/or ecosystem-based approaches for the benefit of all people and nature." This is the first national policy document to explicitly mention NbS.

Institutional framework

The Cabinet of Ministers is the executive body responsible for the functioning of the economy, social and cultural development, and coordination of the implementation of legislative and policy framework, including sectors of special importance for NbS such as nature protection and biodiversity, climate change and DRR, water management, forestry, agriculture, land management, spatial planning and green infrastructure.

The Ministry of Ecology, Environmental Protection and Climate Change plays a central role in monitoring the country's environmental condition and the sustainable use of natural resources. Local government authorities are tasked with developing and monitoring territorial programmes and identifying local protected areas.[418] In May 2025 the Decree of the President No. 90 established the Agency for Afforestation, Expansion of Green Areas and Combating Desertification under the Ministry of Ecology, Environmental Protection and Climate Change. The new institution is entrusted with a list of 46 tasks, in the form of a "Roadmap" to increase forest and green areas, combat desertification, set priority measures in this direction and develop the sector.

The International Innovation Centre for the Aral Sea region under the President, established in Uzbekistan in 2018 (Resolution of the President No. 3975), aims to improve the productivity of agroecosystems on the saline soils of the dried bottom of the Aral Sea and adjacent territories. It works to create experimental pilot sites for testing various salt-drought-resistant and frost-resistant crops and shrubs on saline soils and degraded pastures, to develop and introduce innovative technologies and approaches including the sustainable use of water resources and the afforestation of the dried bed of the Aral Sea.

The Climate Council, established in 2024 by the Decree of the President No. 106, coordinates activities to combat climate change; develop policy in this area; and ensure the fulfilment of the country's obligations under the Paris Agreement. It also supports projects to combat climate change, including the use of green technologies, scientific research and innovation. The National Centre for Climate Change, under the Ministry of Ecology, Environmental Protection and Climate Change, also plays an important role, serving as the executive body of the Climate Council.

The Central Asian Green University is a pioneering higher education institution dedicated to environmental and climate change studies. Established by the 2023 Resolution of the President No. 174, the University serves as a hub for sustainability education, research and policy development in Uzbekistan and the Central Asian region. Its mission is to become a unified platform for Central Asian countries to foster regional cooperation, innovation, scientific research and the formulation of novel approaches to critical and shared environmental problems. As of June 2025, the Central Asian Green University hosts the IUCN Central Asia Office.

416 Daryo.uz (2023b).
417 UNDP (2025).
418 BIOFIN (2024).

Coordination between institutions at national, regional and local levels on matters related to nature-based solutions

Institutional cooperation on NbS is limited due to the project-based nature of these activities, which are mainly coordinated by donors and implementation agencies. National NbS initiatives, such as the Yashil Makon Initiative, are managed through a top-down approach. The Government, the Ministry of Ecology, Environmental Protection and Climate Change, and the Agency for Afforestation, Green Area Expansion and Combating Desertification (established under the Ministry primarily for this purpose), play the main roles in implementing the Initiative.

Regional and local authorities are involved at an operational level, including identifying land, allocating entrusted budgets and organizing staff and nurseries. Municipal *khokimiyats* are responsible for managing irrigation infrastructure, implementing urban greening plans, coordinating planting schedules and engaging with communities. At the district and *mahala* levels, responsibilities include education campaigns, volunteer events, monitoring of tree survival and reporting to the Yashil Makon Initiative platform or local forestry officers.

Stakeholder engagement

Stakeholder engagement is an essential element of the implementation of NbS. In Uzbekistan, the population is primarily involved in afforestation activities but is not usually consulted during the planning phase, where the public does not have a guaranteed role. Among the many projects with elements of NbS, some are more people-centred and could serve as a good example of stakeholder engagement. However, limited data on the success of these projects prevents conclusions being drawn about the importance of stakeholder engagement in the early phase of project planning.

Building knowledge and skills of local partners and communities to address environmental insecurities through innovative air, land, and water management solutions in the Aral Sea Region

In the period July 2024–May 2025, FAO, in collaboration with UNDP, implemented the joint project "Building knowledge and skills of local partners and communities to address environmental insecurities through innovative air, land and water management solutions in the Aral Sea Region", funded by the Multi-Partner Human Security Trust Fund for the Aral Sea Region in Uzbekistan.[419] The Project aims to be: innovative by piloting new technologies; people-centred by involving communities in planning and implementation; context-specific by considering the unique conditions of the region; and integrated by addressing multiple insecurities simultaneously. A participatory resource mapping approach was planned to be applied using local knowledge and experience to analyse geo-referenced information on *tugai* and pasture ecosystem services. Local communities were expected to be involved from the beginning in the selection, application, evaluation and verification of methods. This "inclusive participatory ecosystem services mapping" was planned to be conducted in selected pilot sites, including the organization of science-based capacity building for communities.[420] In practice, stakeholder engagement was conducted through a training workshop attended by over 50 participants from ecology, water, agriculture and other relevant sectors, as well as farmers and students. The workshop featured a combination of theoretical sessions led by international and national experts in the first half of the day, followed by hands-on fieldwork in the afternoon. Participants received practical instructions on planting seedlings using innovative methods.[421]

GEF Small Grants Programme

Many smaller scale NbS initiatives have been carried out via the GEF Small Grants Programme and local NGOs. Since the mid-2000s, at least 14 community-level biodiversity projects have been implemented. Examples include village ecotourism in the Nuratau Mountains, sustainable pistachio woodlot planting in dry areas to restore degraded hillsides, and educational projects to reduce illegal logging for fuel by promoting solar cookers.

Networking and capacity building

Through the regional component of the RESILAND CA+ Programme, a Central Asian network for NbS is planned to be established to facilitate information sharing, coordination and collaboration among stakeholders, fostering regional and transboundary cooperation in priority landscapes. Other initiatives, such as the Regional Dialogue on "Scaling-Up Nature-Based Solutions for Resilient Landscapes in Central Asia" organized by IUCN in 2023, provided a platform for stakeholders to share knowledge, experiences and best practices and to start building a common understanding around NbS and their potential to respond to the challenges the region faces.

419 UN Multi-Partner Trust Fund Office (n.d.).

420 UNDP and FAO (2024).

421 FAO (2024a).

Benefiting from international cooperation

Uzbekistan actively participates in many MEAs, including UNFCCC, CBD, UNCCD and the Convention on Wetlands of International Importance.

Uzbekistan joined in adopting the Kunming-Montreal Global Biodiversity Framework. It recently adopted new biodiversity targets that supersede the Aichi targets through the initiative "Comprehensive Programme to Support the Renewal of the NBSAP and the Seventh National Report".[422] This initiative is part of a global project being implemented in 69 countries, including Uzbekistan. It aims to assist countries in updating their NBSAPs and preparing their seventh national biodiversity reports. Through this project, Uzbekistan is expected to update its NBSAP to align with the Global Biodiversity Framework.

Uzbekistan can also benefit from NbS initiatives in other countries (see boxes 4.6 and 4.7).

Box 4.6: Nature-based solutions innovation accelerator: sustainable infrastructure and nature-based solutions

In 2025, the Italian Ministry of Environment and Energy Security, recognizing the urgency of integrating NbS into existing and new infrastructure (including for logistics) and of catalysing resilience interventions, launched together with UNEP the Nature-Based Solutions Innovation Accelerator (NBS-IA). This new initiative aims to promote the application of NbS approaches to enhance resilience, with a focus on infrastructure assets in Central Asia and 14 African priority countries in the Italian "Piano Mattei for Africa". NBS-IA aims to engage the private sector, research institutes and PPPs to implement pilot projects that demonstrate NbS as a profitable, bankable and scalable adaptation option.

The primary focus is to demonstrate the convenience of upgrading existing grey infrastructure by enhancing its reliability and resilience to climate change and extreme weather events through intelligent nature-based solutions tailored to specific contexts. The pilot projects (funded by grants, starting from 2026) will be selected through a competitive process managed by UNEP, which will also support engagement with relevant multilateral funds and development finance institutions to identify potential co-financing opportunities for further scalability. OECD will participate in the initiative by developing specific activities related to the policy dimensions of NbS and infrastructure.

Box 4.7: Canada Fund for Local Initiatives supporting community-based nature-based solutions in Uzbekistan

In 2025, the Government of Canada, through its Canada Fund for Local Initiatives (CFLI), launched a call for proposals in Uzbekistan under its thematic priorities, including environment and climate action focussing on adaptation and mitigation and water management. CFLI provided small-scale, high-impact funding (CAD$20,000–60,000) to support locally designed and implemented projects, with a strong emphasis on innovation, measurable results and gender equality. While CFLI is not dedicated exclusively to NbS, this initiative creates opportunities for civil society organizations, academic institutions and local authorities in Uzbekistan to pilot NbS in areas such as sustainable water management, land restoration and climate-resilient livelihoods. By targeting community-level action and encouraging partnerships, CFLI projects can demonstrate how NbS approaches can be scaled up as practical, cost-effective options for adaptation measures.

Source: Government of Canada (2025).

4.5 ASSESSMENT, CONCLUSIONS AND RECOMMENDATIONS

Assessment

Nature-based solutions are used in Uzbekistan in several internationally and nationally led projects. However, the concept itself is not prominently promoted or widely recognized, even among those involved in its implementation, leading to limited awareness. Consequently, there is a lack of systematized information on implemented NbS, their effectiveness, obstacles in implementation and success stories. Often a small part of larger complex programmes, NbS are implemented on a small scale, making it difficult to calculate the investment required for these measures. NbS are not yet used as an adaptation component for existing and future energy, transport, water and urban infrastructure.

The most prominent NbS is afforestation. Uzbekistan is a sparsely forested state, with forest coverage at 8.7 per cent, according to the former Forestry Agency under the Ministry of Ecology, Environmental Protection and Climate Change. In 2021, a total of 609,000 ha of forest was planted, mostly in desert areas, increasing the forest coverage by 0.1 per cent since 2019. In May 2025, Uzbekistan established the Agency for Afforestation, Expansion of Green Spaces and Combating Desertification, reaffirming its commitment to achieving 30 per cent forest coverage in the country (SDG targets 15.1 and 15.2). Greening the Aral Sea region remains a challenge due to harsh desert conditions, including high salinity, extreme temperatures and water scarcity, which pose severe challenges for newly planted vegetation. Ensuring the survival of

[422] UNDP (n.d.).

these plants requires careful species selection and ongoing maintenance. However, the concept of NbS extends beyond planting trees and shrubs. It can contribute to various sectors, such as agriculture, construction, urban development, and environmental and health protection, through innovative approaches.

NbS are not explicitly addressed in Uzbekistan's laws. Nevertheless, a patchwork of resolutions and decrees of the President, government resolutions and sectoral strategies, creates a favourable framework for the further development of the NbS concept. It can also be concluded that the policy framework in Uzbekistan, especially in the recent years, is favourable to the development of NbS across various sectors. However, this approach is explicitly mentioned only in the new national biodiversity conservation targets.

Conclusions and recommendations

Knowledge-sharing platform for nature-based solutions

Many practitioners implement actions aligned with nature-based solutions but lack terminology, shared frameworks or access to local evidence. As of May 2025, no national platform exists to bridge this gap, consolidate best practices and promote replication. As a result, capacity building is not strengthened, cross-sectoral learning is not promoted, and implementation effectiveness is not improved.

Recommendation 4.1:

The national authority in charge of the environment should, in cooperation with Green University, the IUCN office and/or other relevant actors, create a centralized, multilingual online platform to document, exchange and scale up nature-based solutions practices across sectors.

Mainstream nature-based solutions across economic sectors

As of May 2025, nature-based solutions are primarily confined to afforestation and the expansion or management of protected areas. The concept of nature-based solutions is not integrated in sectoral and cross-cutting policies. Due to the lack of scaling up and expansion of nature-based solutions into other areas, multi-sectoral co-benefits through cost-effective natural alternatives are not being achieved. Sectors such as urban development, disaster risk reduction, health, agriculture and transport do not integrate nature-based solutions into their activities. However, the term "nature-based solutions" is not clearly defined or featured in major strategies, leading to missed opportunities for integrated planning. Implementation of the World Bank's "RESILAND CA+ Programme: Uzbekistan Resilient Landscapes Restoration Project" (2022–2029) would benefit from complementary activities addressing water scarcity through nature-based solutions.

Recommendation 4.2:

The Government should introduce:

(a) Legal provisions on nature-based solutions, including to support their integration in all economic sectors;

(b) Identify adequate sources of funding for the implementation and scaling-up of nature-based solutions, including from IFIs and other donors;

(c) Implement nature-based solutions to address water scarcity, building upon landscape restoration projects.

Nature-based solutions supporting resilient infrastructure

All infrastructure systems are vulnerable to climate-related hazards, which can manifest as gradual shifts or sudden extremes. Each sector faces a unique risk profile. In Uzbekistan, not all infrastructure is resilient to climate change, which would ensure its longevity and the continuity of services. Climate resilience is not integrated into every stage of the asset life cycle.

Not all new projects are designed, constructed and managed with consideration for evolving climate conditions. Additionally, existing assets may need retrofitting and adjustments to meet resilience standards. Success hinges on thorough adaptation planning, effective implementation and strong collaboration among public and private stakeholders.

Innovative, nature-based solutions can be an effective way to enhance infrastructure resilience in order to enhance its reliability and resilience to climate change and extreme weather events, while protecting the environment and providing additional benefits.

Recommendation 4.3:

The Government should:

(a) Upgrade existing grey infrastructure, through the use of nature-based solutions tailored to the specific context;

(b) Ensure the use of nature-based solutions in the development of new infrastructure;

(c) Encourage cross-sectoral collaboration and pilot projects demonstrating how nature-based solutions can support national goals in terms of climate resilient infrastructure;

(d) Involve the private sector, local authorities, national and international entities and research institutions in developing and implementing innovative nature-based solutions targeting infrastructure resilience to climate change.

Implementation of Yashil Makon Initiative

The Yashil Makon Initiative, which proposes nature-based solutions, has strong potential to become a long-term investment in the environment and the well-being of people in Uzbekistan. However, as of 2025, the Initiative is not fully aligned with national priorities such as climate adaptation, combating desertification, biodiversity protection and rural development. Clear guidelines for certified seedling production, site selection criteria, forestry productivity norms, species selection, planting techniques and post-planting care, including pest and disease management, are lacking to ensure the successful implementation of the Initiative.

Recommendation 4.4:

The Government should adopt the Master Plan for the Yashil Makon Initiative to enhance implementation of the Initiative.

ANNEXES

ANNEX I:
Status of implementation
of the recommendations of the Third EPR of Uzbekistan

ANNEX II:
SDG targets addressed
in the Fourth EPR of Uzbekistan

ANNEX III:
Participation of Uzbekistan
in multilateral environmental agreements

ANNEX IV:
List of environmental laws,
including those used in the Fourth EPR of Uzbekistan

ANNEX V:
Sources

ANNEX I
STATUS OF IMPLEMENTATION OF RECOMMENDATIONS OF THE THIRD EPR OF UZBEKISTAN

General overview

The tables below provide an overview of the implementation status of the recommendations from the Third Environmental Performance Review (EPR) of Uzbekistan (2020). The Third EPR made 99 recommendations, comprising a total of 277 recommendations including sub-recommendations. Of these 277, 120 (43 per cent) have been implemented or partially implemented, 93 (34 per cent) are currently in progress and 64 (23 per cent) have not been implemented. Overall, Uzbekistan has an implementation rate of 77 per cent when considering recommendations that have been implemented, partially implemented or are in progress.

The status of implementation of EPR recommendations is considered as follows:

- Implemented: the recommendation has been addressed and integrated into national policies, legislation or practices;
- Partially implemented: the recommendation has been acted upon to some extent;
- In progress: actions to implement the recommendation have begun and are underway;
- Not implemented: no substantial steps have been taken to address the recommendation.

In some cases, elements of recommendations categorized as "not implemented" or "partially implemented" have been reflected to a varying degree in the new EPR recommendations. The reviewed country is encouraged to take action to implement the recommendations from the previous EPR and to continue monitoring their implementation, in addition to implementing the new EPR recommendations.

Legend:

✔ Implemented

◐ Partially implemented

➜ In progress

✖ Not implemented

Chapter 1: Legal, policy and institutional framework

1.1 (a) – ✔ Implemented	1.2 (b) – ✖ Not implemented
1.1 (b) – ◐ Partially implemented	1.2 (c) – ➜ In progress
1.1 (c) – ✔ Implemented	1.3 (a) – ➜ In progress
1.1 (d) – ✖ Not implemented	1.3 (b) – ➜ In progress
1.1 (e) – ✖ Not implemented	1.3 (c) – ➜ In progress
1.1 (f) – ✔ Implemented	1.3 (d) – ✔ Implemented
1.1 (g) – ✔ Implemented	1.4 (a) – ◐ Partially implemented
1.1 (h) – ✖ Not implemented	1.4 (b) – ➜ In progress
1.2 (a) – ◐ Partially implemented	1.4 (c) – ✖ Not implemented

Chapter 2: Regulatory and compliance assurance mechanisms

2.1 – ✔ Implemented	2.3 (b) – ◐ Partially implemented
2.2 (a) – ◐ Partially implemented	2.3 (c) – ✔ Implemented
2.2 (b) – ✖ Not implemented	2.4 (a) – ✖ Not implemented
2.2 (c) – ✔ Implemented	2.4 (b) – ✖ Not implemented
2.2 (d) – ✖ Not implemented	2.4 (c) – ✖ Not implemented
2.3 (a) – ✔ Implemented	

Chapter 3: Greening the economy

3.1 (a) – ◐ Partially implemented	3.5 (a) – ✔ Implemented
3.1 (b) – ✖ Not implemented	3.5 (b) – ✖ Not implemented
3.1 (c) – ✖ Not implemented	3.5 (c) – ✔ Implemented
3.1 (d) – ✔ Implemented	3.6 – ✖ Not implemented
3.2 – ✔ Implemented	3.7 (a) – ✔ Implemented
3.3 (a) – ✔ Implemented	3.7 (b) – ➜ In progress
3.3 (b) – ➜ In progress	3.8 (a) – ➜ In progress
3.3 (c) – ✔ Implemented	3.8 (b) – ➜ In progress
3.4 – ✔ Implemented	

Chapter 4: Environmental monitoring, information and science

4.1 (a) – ✔ Implemented	4.4 (b) – ✖ Not implemented
4.1 (b) – ◐ Partially implemented	4.4 (c) – ➜ In progress
4.1 (c) – ✖ Not implemented	4.4 (d) – ➜ In progress
4.2 (a) – ➜ In progress	4.4 (e) – ➜ In progress
4.2 (b) – ➜ In progress	4.4 (f) – ✖ Not implemented
4.2 (c) – ✔ Implemented	4.5 (a) – ✖ Not implemented
4.3 (a) – ✖ Not implemented	4.5 (b) – ✖ Not implemented
4.3 (b) – ➜ In progress	4.6 (a) – ✔ Implemented
4.3 (c) – ➜ In progress	4.6 (b) – ✔ Implemented
4.3 (d) – ✔ Implemented	4.7 (a) – ✖ Not implemented
4.3 (e) – ✖ Not implemented	4.7 (b) – ✖ Not implemented
4.4 (a) – ◐ Partially implemented	

Chapter 5: Access to information, public participation and education on the environment

5.1 (a) – ➜ In progress	5.5 (a) – ✔ Implemented
5.1 (b) – ➜ In progress	5.5 (b) – ✔ Implemented
5.1 (c) – ➜ In progress	5.5 (c) – ✔ Implemented
5.1 (d) – ➜ In progress	5.5 (d) – ✔ Implemented
5.1 (e) – ➜ In progress	5.6 (a) – ✔ Implemented
5.1 (f) – ✖ Not implemented	5.6 (b) – ✔ Implemented
5.2 – ✖ Not implemented	5.6 (c) – ✖ Not implemented
5.3 (a) – ➜ In progress	5.6 (d) – ✔ Implemented
5.3 (b) – ➜ In progress	5.6 (e) – ✔ Implemented
5.3 (c) – ✖ Not implemented	5.6 (f) – ✔ Implemented
5.3 (d) – ✔ Implemented	5.7 (a) – ✖ Not implemented
5.4 (a) – ✖ Not implemented	5.7 (b) – ✖ Not implemented
5.4 (b) – ✔ Implemented	

Chapter 6: Implementation of international agreements and commitments

6.1 (a) – ✔ Implemented	6.2 (e) – ✖ Not implemented
6.1 (b) – ✖ Not implemented	6.2 (f) – ✔ Implemented
6.1 (c) – ✔ Implemented	6.3 – ✔ Implemented
6.1 (d) – ✔ Implemented	6.4 – ✔ Implemented
6.1 (e) – ➜ In progress	6.5 – ✔ Implemented
6.2 (a) – ✖ Not implemented	6.6 (a) – ✔ Implemented
6.2 (b) – ✖ Not implemented	6.6 (b) – ✔ Implemented
6.2 (c) – ✔ Implemented	6.6 (c) – ◐ Partially implemented
6.2 (d) – ✔ Implemented	

Chapter 7: Climate change

7.1 (a) – ✖ Not implemented	7.4 (a) – ➜ In progress
7.1 (b) – ✖ Not implemented	7.4 (b) – ➜ In progress
7.1 (c) – ✖ Not implemented	7.5 (a) – ✔ Implemented
7.2 (a) – ✔ Implemented	7.5 (b) – ✔ Implemented
7.2 (b) – ✔ Implemented	7.5 (c) – ✔ Implemented
7.3 (a) – ✔ Implemented	7.6 (a) – ✔ Implemented
7.3 (b) – ✔ Implemented	7.6 (b) – ✔ Implemented
7.3 (c) – ➜ In progress	7.6 (c) – ➜ In progress

Chapter 8: Air protection

8.1 – ◐ Partially implemented	8.3 – ✔ Implemented
8.2 (a) – ✔ Implemented	8.4 (a) – ✔ Implemented
8.2 (b) – ✔ Implemented	8.4 (b) – ✔ Implemented
8.2 (c) – ✔ Implemented	8.4 (c) – ✔ Implemented

Chapter 9: Water management

9.1 (a) – ➜ In progress	9.2 (c) – ➜ In progress
9.1 (b) – ✔ Implemented	9.2 (d) – ➜ In progress
9.1 (c) – ✔ Implemented	9.3 (a) – ➜ In progress
9.2 (a) – ➜ In progress	9.3 (b) – ◐ Partially implemented
9.2 (b) – ◐ Partially implemented	9.3 (c) – ➜ In progress

Chapter 10: Waste and chemicals management

10.1 – ➜ In progress	10.7 – ✖ Not implemented
10.2 (a) – v In progress	10.8 (a) – ➜ In progress
10.2 (b) – ✔ Implemented	10.8 (b) – ➜ In progress
10.3 – ✖ Not implemented	10.9 (a) – ➜ In progress
10.4 – ➜ In progress	10.9 (b) – ◐ Partially implemented
10.5 – ✔ Implemented	10.9 (c) – ✖ Not implemented
10.6 – ➜ In progress	

Chapter 11: Biodiversity and protected areas

11.1 (a) – ◐ Partially implemented	11.2 (b) – ✖ Not implemented
11.1 (b) – ◐ Partially implemented	11.2 (c) – ✔ Implemented
11.1 (c) – ◐ Partially implemented	11.2 (d) – ✖ Not implemented
11.1 (d) – ◐ Partially implemented	11.3 (a) – ✖ Not implemented
11.1 (e) – ➜ In progress	11.3 (b) – ✔ Implemented
11.1 (f) – ✔ Implemented	11.3 (c) – ◐ Partially implemented
11.2 (a) – ➜ In progress	11.3 (d) – ◐ Partially implemented

Chapter 12: Energy and the environment

12.1 (a) – ➜ In progress	12.3 (g) – ◐ Partially implemented
12.1 (b) – ✔ Implemented	12.4 – ✔ Implemented
12.1 (c) – ➜ In progress	12.5 (a) – ➜ In progress
12.2 – ✖ Not implemented	12.5 (b) – ➜ In progress
12.3 (a) – ✔ Implemented	12.5 (c) – ➜ In progress
12.3 (b) – ✔ Implemented	12.6 (a) – ✔ Implemented
12.3 (c) – ✖ Not implemented	12.6 (b) – ➜ In progress
12.3 (d) – ✖ Not implemented	12.6 (c) – ➜ In progress
12.3 (e) – ➜ In progress	12.6 (d) – ➜ In progress
12.3 (f) – ◐ Partially implemented	

Chapter 13: Agriculture and the environment

13.1 – ◐ Partially implemented	13.3 – ✔ Implemented
13.2 – ➜ In progress	13.4 – ✔ Implemented

Chapter 14: Transport and the environment

14.1 (a) – ➜ In progress	14.5 (a) – ➜ In progress
14.1 (b) – ➜ In progress	14.5 (b) – ➜ In progress
14.1 (c) – ➜ In progress	14.5 (c) – ✔ Implemented
14.2 (a) – ➜ In progress	14.5 (d) – ✔ Implemented
14.2 (b) – v In progress	14.5 (e) – ➜ In progress
14.3 – ✔ Implemented	14.5 (f) – ➜ In progress
14.4 (a) – ✔ Implemented	14.5 (g) – ➜ In progress
14.4 (b) – ➜ In progress	14.5 (h) – ➜ In progress
14.4 (c) – ➜ In progress	14.5 (i) – ➜ In progress
14.4 (d) – ➜ In progress	

Chapter 15: Industry and the environment

15.1 (a) – ✔ Implemented	15.5 (a) – ✔ Implemented
15.1 (b) – ➜ In progress	15.5 (b) – ✔ Implemented
15.2 (a) – ✖ Not implemented	15.5 (c) – ◐ Partially implemented
15.2 (b) – ➜ In progress	15.6 – ◐ Partially implemented
15.3 – ✖ Not implemented	15.7 – ➜ In progress
15.4 – ✔ Implemented	

Chapter 16: Human settlements and the environment

16.1 (a) – ➜ In progress	16.4 (c) – ➜ In progress
16.1 (b) – ✖ Not implemented	16.5 (a) – ✖ Not implemented
16.1 (c) – ➜ In progress	16.5 (b) – ✖ Not implemented
16.1 (d) – ◐ Partially implemented	16.5 (c) – ➜ In progress
16.1 (e) – ➜ In progress	16.6 (a) – ✖ Not implemented
16.1 (f) – ➜ In progress	16.6 (b) – ◐ Partially implemented
16.1 (g) – ✖ Not implemented	16.6 (c) (i) – ◐ Partially implemented
16.1 (h) – ➜ In progress	16.6 (c) (ii) – ➜ In progress
16.1 (i) – ✖ Not implemented	16.6 (c) (iii) – ➜ In progress
16.1 (j) – ➜ In progress	16.7 – ➜ In progress
16.2 (a) – ✖ Not implemented	16.8 (a) – ✖ Not implemented
16.2 (b) – ✔ Implemented	16.8 (b) – ✖ Not implemented
16.3 (a) – ✖ Not implemented	16.9 (a) – ◐ Partially implemented
16.3 (b) – ✖ Not implemented	16.9 (b) – ◐ Partially implemented
16.3 (c) – ✔ Implemented	16.10 (a) – ✖ Not implemented
16.4 (a) – ➜ In progress	16.10 (b) – ◐ Partially implemented
16.4 (b) – ➜ In progress	16.10 (c) – ➜ In progress

Chapter 17: Health and the environment

17.1 (a) – ✖ Not implemented	17.4 (b) – ✖ Not implemented
17.1 (b) – ✖ Not implemented	17.4 (c) – ➜ In progress
17.1 (c) – ✖ Not implemented	17.4 (d) – ✔ Implemented
17.2 (a) – ◐ Partially implemented	17.5 (a) – ➜ In progress
17.2 (b) – ◐ Partially implemented	17.5 (b) – ➜ In progress
17.2 (c) – ➜ In progress	17.5 (c) – ➜ In progress
17.3 (a) – ◐ Partially implemented	17.5 (d) – ➜ In progress
17.3 (b) – ➜ In progress	17.5 (e) – ➜ In progress
17.4 (a) – ✔ Implemented	17.6 – ◐ Partially implemented

Detailed overview

Chapter 1: Legal, policy and institutional framework

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 1.1: *The Cabinet of Ministers should:* *(a) Ensure regular and transparent activities throughout the entire institutional framework for national Sustainable Development Goals implementation and monitoring;* *(b) Ensure the effective participation of civil society in the institutional framework for national Sustainable Development Goals implementation and monitoring;* *(c) Actively involve the local authorities in implementation and monitoring of the national Sustainable Development Goals, in particular to reduce the regional differences in the achievement of the national targets;* *(d) Ensure that the national Sustainable Development Goals are explicitly integrated into all future strategic planning documents;* *(e) Define baseline, midterm and final values to be achieved for national Sustainable Development Goals indicators;* *(f) Ensure the regular preparation of reports on national Sustainable Development Goals implementation;* *(g) Ensure that a voluntary national review is organized in 2020 with the involvement of all stakeholders in its preparation;* *(h) Consider reviewing the national targets with a view to encompassing additional targets in line with the 2030 Agenda for Sustainable Development.*	(a) Implemented. Implementation is coordinated by an interdepartmental coordination council, led by the Deputy Prime Ministers. Up-to-date information is publicly available on the website. In addition, there are annual reports on SDG implementation and Uzbekistan has twice submitted a voluntary national review (2020, 2023) https://nsdg.stat.uz/. (b) Partially implemented. The Parliamentary Commission on SDGs regularly conducts public multi-stakeholder hearings that include civil society and development partners. However, human rights reports continue to indicate challenges regarding the enabling environment for civil society, limiting the effectiveness of civil society participation. (c) Implemented. According to the 2023 Voluntary National Review, the Parliamentary Commission held quarterly discussions implementation of the SDGs in 2021 and 2022 which included local authorities. (d) Not implemented. (e) Not implemented. (f) Implemented. National reports on SDGs have been published since 2021. (g) Implemented. Uzbekistan has submitted the respective National Voluntary Reports on SDG implementation with the involvement of stakeholders. (h) Not implemented.
Recommendation 1.2: *The Cabinet of Ministers should ensure:* *(a) Comprehensive coverage of the entire spectrum of environmental issues in the national policy framework;* *(b) Provision of free online access to the reports on implementation of strategic documents on environmental protection and on sectoral development with a possible impact on the environment;* *(c) Support to local authorities in the development and adoption of strategic documents on environmental protection.*	(a) Partially implemented. The strategic coverage of environmental topics has been extended. Relevant examples are the NDC 2.0 submitted in 2021, 2019 Strategy for the Transition to a Green Economy for the period 2019–2030 that covers most economic sectors and the 2023 Strategy Uzbekistan – 2030 that includes a chapter on water and environment. However, for some topics, strategies are still in development (air pollution) and for others, there are no strategies available (noise, environmental compliance and enforcement). (b) Not implemented. (c) In progress. The 2023 Decree of the President No. 81 requires the development of ecological master plans by August 2025, in consultation with the Ministry responsible for the environment. Environmental master plans have been developed for the cities of Bukhara, Samarkand and Andijan, which have been approved by the People's Councils of the respective regions. Work on the preparation of environmental master plans is continuing.
Recommendation 1.3: *The State Committee on Ecology and Environmental Protection should progressively introduce strategic environmental assessment (SEA) by:* *(a) Developing the legal framework to introduce a fully fledged SEA system in line with the Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context;* *(b) Ensuring that SEA and EIA are part of a coherent environmental assessment framework;* *(c) Raising awareness and providing capacity-building on SEA to governmental authorities and other stakeholders;* *(d) Organizing one or more pilot SEAs.*	(a) and (b) In progress. The 2025 Law No. 1036 on Ecological Expertise, Environmental Impact Assessment and Strategic Environmental Assessment introduced SEAs in the country and expands provisions on EIA. The development of related by-laws is on-going as of 2025. (c) In progress. A training workshops was organized under an ongoing project with OSCE and GIZ on SEA implementation, further workshops are planned. Furthermore, two public meetings were organized as part of the SEA project. (d) Implemented. A pilot SEA for the National Forestry Roadmap was carried out under the GIZ project in 2024. Another pilot SEA was also conducted in 2023–2024, coordinated by GGGI and funded by France.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 1.4: *The Cabinet of Ministers should strengthen horizontal coordination on environmental protection issues by:* *(a) Reviewing the need for interagency coordination in the areas of climate change, environmental health, chemicals and air pollution or other areas requiring such coordination;* *(b) Ensuring meaningful stakeholder participation in interagency councils and commissions;* *(c) Making meeting reports of the interagency councils and commissions publicly available.* *See Recommendations 7.2, 17.6.*	(a) Partially implemented. In 2024, the National Council on Climate Change was established. Additionally, Uzbekistan created an interdepartmental council for the implementation of its 2019 Strategy for the Transition to a Green Economy for the period 2019–2030 in 2022. Under an ongoing ECE project in support of the ECE/WHO Protocol on Water and Health, Uzbekistan has established an interministerial working group on water and health. Under an ongoing FAO project on hazardous pesticides, an interagency working group on pesticide permits been set up. However, there are no interagency coordination mechanisms for air pollution, chemicals and environmental health. (b) In progress. NGOs are participating in the meetings of the National Council on Climate Change. Ensuring meaningful stakeholder participation in other interagency bodies is in progress. (c) Not implemented.

Chapter 2: Regulatory and compliance assurance mechanisms

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 2.1: *The Cabinet of Ministers should revise the legal and regulatory framework on state ecological expertise in line with international standards laid down by the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters and the Convention on Environmental Impact Assessment in a Transboundary Context, in particular such aspects of the environmental impact assessment as screening, scoping, effective public participation and transboundary impact assessment, and by extending the relevant time limits.*	Implemented. The 2025 Law No. 1036 on Ecological Expertise, Environmental Impact Assessment and Strategic Environmental Assessment revises the system for EIA and state ecological expertise and includes provisions related to screening, scoping, effective public participation and transboundary impact assessment. Regarding extension of time limits, time for SEE have not been extended, but shortened. In how far the law will fully align with international standards will depend on the by-laws still to be developed for the implementation of the Law.
Recommendation 2.2: *The State Committee on Ecology and Environmental Protection should:* *(a) Develop effective mechanisms for citizen environmental enforcement by ensuring public access to the environmental information on planned and ongoing development projects and by providing incentives to citizens for triggering environmental compliance review through submission of complaints to enforcement authorities, including on environmental aspects of industrial activities;* *(b) Develop and implement measures to strengthen the capacity of environmental inspectors for planning inspections on the basis of risk assessment of industrial and mining facilities;* *(c) Regularly disclose data and information about the performance of the environmental compliance assurance system;* *(d) Ensure that data on activities of public environmental inspectors are available to enable effective use of this tool.*	(a) Partially implemented. The 2025 Law No. 1036 on Ecological Expertise, Environmental Impact Assessment and Strategic Environmental Assessment revises provisions related to publication of information and public participation. On the website of the Ministry of Ecology, Environmental Protection and Climate Change, the conclusions of the state ecological expertise are published. The 2024 Resolution of the Cabinet of Ministers No. 101 on approval of the Regulation on the public environmental inspectorate revises the regulations for citizen environmental enforcement and includes incentives for citizen review, also addressing industrial activities. No information was provided on the effectiveness of the citizen environmental enforcement. (b) Not implemented. (c) Implemented. Information about activities of environmental inspections is published regularly on the website of the Ministry for Ecology, Environmental Protection and Climate Change. (d) Not implemented.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 2.3: *The State Committee on Ecology and Environmental Protection should:* *(a) Develop and provide incentives for the application of environmental audit;* *(b) Raise awareness of global initiatives on voluntary environmental and sustainability reporting by companies;* *(c) In cooperation with the Uzbek Agency for Standardization, Metrology and Certification, promote scheme-based eco-labelling, including the application of internationally recognized eco-labelling schemes, and raise public awareness of eco-labelling.*	(a) Implemented. The 2021 Law No. 678 on Environmental Audit establishes procedures for environmental audits and includes incentives for its adoption, i.e., companies adopting audits are exempted from routine controls for one year. (b) Partially implemented. 2024 Decree of the President No. 37 on the State Programme for the Implementation of the Strategy "Uzbekistan – 2030" in the "Year of Support for Youth and Business" requires state-owned enterprises to annually publish reports on environmental, social, and governance performance. However, no similar provision exists for private companies. (c) Implemented. 2025 Resolution of the Cabinet of Ministers No. 20 introduced the National "Yashil belgi" (green label) system, which is aligned with ISO standard 14024.
Recommendation 2.4: *The Cabinet of Ministers should initiate:* *(a) A review of the proportionality of administrative fines for environmental offences on the basis of consideration of their deterrent effect and possible environmental impact;* *(b) The development of legislation providing the right of individuals and NGOs to claim compensation for damage to their health and property due to violation of environmental legislation;* *(c) Development of the legal framework enabling the application of compulsory and voluntary environmental insurance.*	(a)–(c) Not implemented.

Chapter 3: Greening the economy

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 3.1: *The State Committee on Ecology and Environmental Protection should:* *(a) Reform the system of pollution charges by focusing on (a few) major air and water pollutants;* *(b) Abandon the pollution charges on enterprise vehicles to avoid double taxation;* *(c) Replace the pollution charges on industrial waste with cost-reflective tariffs for waste collection, transport and disposal;* *(d) Ensure effective pollution control and abatement by a judicious combination of pollution charges and command-and-control regulation.*	(a) Partially implemented. There has been no reduction of the pollutants covered under the system. Yet, base rates for key pollutants such as nitrogen oxide, ammonia, and phenol, with multipliers for hazard classes (up to 20x for severe violations) were revised. Furthermore, fines for violations increased sharply (e.g., fines for construction-related air pollution now range from 3.75 million soums to 18.75 million soums for repeat offenders). (b) Not implemented. (c) Not implemented. Pollution charges on industrial waste still exist. (d) Implemented. The Government has strengthened regulatory measures (e.g., bans on fuel oil in thermal plants, mandatory air filters for coal-fuelled greenhouses) and economic instruments (e.g., higher pollution fees, penalties).
Recommendation 3.2: *The Cabinet of Ministers should continue with the liberalization of prices of motor fuels and raise tax rates on motor fuels, taking into account the development of incomes of the population.*	Implemented. Uzbekistan has gradually moved toward market-based fuel pricing. In April 2025, the Government increased excise taxes on gasoline and diesel with further hikes planned to align with international standards. Natural gas excise taxes were reduced (from 20 per cent to 12 per cent) to encourage cleaner fuel use, while taxes on gasoline rose to 375,000 soums/ton. The Government has not fully liberalized prices, but adjustments reflect a shift toward cost-reflective pricing. The Government linked tax hikes to income growth by introducing social protections (e.g., subsidies for low-income households) alongside tariff increases. These changes are considering increases of the national minimum wage (1,155,000 soums/month in 2024) as well as introducing tiered electricity/gas tariffs to protect low-income users (e.g., 200 kWh/month at subsidized rates).

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 3.3: *The Cabinet of Ministers should:* *(a) Continue the process of gradually bringing utility tariffs to cost-recovery levels;* *(b) Support measures designed to ensure comprehensive and accurate water metering from the stage of water abstraction to the stage of final water consumption;* *(c) Design an effective mechanism for providing targeted social assistance to ensure vulnerable consumers have adequate access to utility services.*	(a) Implemented. Electricity tariffs were raised in May 2024 and 2025, gas tariffs follow a 10 per cent annual increase policy (2025–2027) to reduce subsidies, water tariffs rose by 10 per cent in 2025, and hot water/heating tariffs increased twice in 2025 (e.g., 5,144 soums/m^3 for metered users). Currently, reforms are underway to gradually bring utility tariffs, including electricity tariffs, to the level of cost recovery. In particular, the Ministry of Economy and Finance, in collaboration with the World Bank, developed a tariff methodology, and the Cabinet of Ministers adopted 2024 Resolution No. 337 on additional measures to further improve tariff policies in the fuel and energy sector. This tariff methodology provides for the gradual recovery of the costs of electricity generation, transmission and distribution. (b) In progress. Smart metering pilots exist, but coverage is uneven. However, there is no evidence of nationwide real-time monitoring from abstraction to endpoints, and agricultural water (90 per cent of total use) remains unmetered in most areas. In 2024, a total of 645 water meters were installed in drinking water facilities, and it is planned to install 955 modern water meters in main water networks this year. Also, 640,000 water meters were installed for consumers in 2024, and it is planned to install more than 275,000 water meters this year. (c) Implemented. Progress in supporting low-income households amid rising energy costs includes the introduction of "social norm" tariffs, subsidizing electricity (200 kWh/month) and gas (100–500 m^3/month), and a minimum wage increase to offset expenses. Electricity and gas tariffs are set to rise 10 per cent annually from 2024 to 2037 to align with costs, as part of a broader tariff policy outlined in 2024 Resolution No. 337, aiming for gradual subsidy reduction and targeted social protection by 2035. Additionally, the 2025 Resolution of President No. 134 and 2024 Resolution of Cabinet of Ministers No. 204 establish a compensation scheme from 1 May 2025 to 1 April 2027, for families in the Unified Register of Social Protection or low-income households. This scheme, implemented in six stages, covers electricity and gas cost differences, ensuring targeted assistance.
Recommendation 3.4: *The Cabinet of Ministers should continue the planned phasing out of fossil fuel subsidies and the ongoing transition to cost-reflective energy tariffs, while coordinating and synchronizing them with the introduction of effective renewable energy sources support schemes, incentives, such as feed-in tariffs, and competitive bidding auctions for promoting the increased use of renewable energy.*	Implemented. Uzbekistan has made notable progress in energy sector reforms, reducing natural gas subsidies from 6.6 per cent of GDP in 2020 to 0.8 per cent in 2024, with a full phase-out planned by 2027. However, challenges persist, including residual gas subsidies for industrial users paying below-market rates and a 1.6 trillion soum deficit in thermal plants, indicating incomplete cost recovery despite 2025 tariff increases. To boost renewable energy, Uzbekistan introduced premium feed-in tariffs for solar and wind in April 2025, awarded 1.3 GW of solar projects through competitive auctions, offered tax exemptions, and announced US$1.3 billion in waste-to-energy investments by 2027. The 2025 Year of Environmental Protection and Green Economy declaration aligns fossil subsidy cuts with a 25 per cent renewable energy target by 2030. 2024 Resolution of the Cabinet of Ministers No. 337 outlines a tariff policy shift toward cost-reflective energy tariffs and gradual subsidy elimination by 2035, while the 2019 Law No. 539 on the Use of Renewable Energy Sources and 2022 Decree of the President No. 220 promote renewable adoption through tax and customs duty exemptions, interest-free instalment plans for solar and wind installations, and partial cost reimbursements for individuals.
Recommendation 3.5: *The Cabinet of Ministers should:* *(a) Apply the water use tax to all water abstracted by water companies;* *(b) Review the costs and benefits of introducing water abstraction charges for irrigation water to recover the costs of water delivery to the operational areas of water user associations;* *(c) Earmark revenues from the water use tax for the financing of water sector infrastructure management.*	(a) Implemented. Since 2025, water use taxes now cover agricultural irrigation (previously exempt). The tax for the use of water resources is paid by business entities engaged in primary water use or water consumption from surface and underground water sources. This includes water supply enterprises, which are required to pay this tax in accordance with the volume of water withdrawn. (b) Not implemented. (c) Implemented. According to 2024 Resolution of the President No. 5, 40 per cent of tax revenues for the use of water resources are directed to finance the activities of Water Supply Services, which are responsible for maintaining hydraulic structures and irrigation networks.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 3.6: *The Cabinet of Ministers should ensure the publication of detailed annual reports on revenues and expenditures of the Fund for Ecology, Environmental Protection and Waste Management, Forestry Development Fund and Fund for Development of Water Supply and Sanitation Systems.*	Not implemented.
Recommendation 3.7: *The Cabinet of Ministers should:* *(a) Strengthen efforts to establish an effective and transparent public–private partnership (PPP) framework that meets advanced international standards;* *(b) Ensure that the administrative capacities and competencies for the evaluation of the benefits and costs of PPPs are developed.*	(a) Implemented. Legal reforms such as the 2019 Law of Public-Private Partnership and 2021 amendments introduced competitive bidding, standardized contracts and dispute resolution mechanisms. Additionally, the Development Agency on Public-Private Partnerships under the Ministry of Economy and Finance was established in 2018 and oversees projects, with a public project registry. A positive signal is that solar/wind auctions (e.g., Masdar's 220 MW plant) followed transparent tenders. (b) In progress. Most progress stems from international developmental assistance, for example from the World Bank and ADB, who have provided technical assistance for PPP evaluation (e.g., US$50 million Regional Roads Development Project included feasibility training). On a national level, the Development Agency conducts workshops for officials, but focus remains on legal vs. economic analysis.
Recommendation 3.8: *The Cabinet of Ministers should:* *(a) Ensure that subsidiary legislation on public procurement is developed to enable the use of a multi-criteria approach that considers, inter alia, environmental impacts;* *(b) Allocate sufficient human resources and raise the capacity of staff working on green public procurement.*	(a) and (b) In progress. In 2024, revisions to the Law on Public Procurement were made that provided for a stronger integration of environmental sustainability. In June 2025, the Cabinet of Ministers has adopted resolution on measures to improve the system of supporting green public procurement, which envisions increasing the share of environmentally friendly procurement to 30 per cent of total public procurement by 2030, and specifies that by 1st January 2026, environmental criteria are mandatory for procurement tenders. The resolution has been developed with the support from the World Bank. It also includes provisions to establish a training programme on staff for green public procurement.

Chapter 4: Environmental monitoring, information and science

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 4.1: *The Cabinet of Ministers should ensure that:* *(a) The Programme of Environmental Monitoring includes measures to promote further automation and digitalization of the state environmental monitoring;* *(b) The State Committee on Ecology and Environmental Protection, in coordination with Uzhydromet and other relevant government bodies, automates data collection, quality control and transfer in general towards the establishment of a continuous monitoring and real-time pollution data collection system, particularly with regard to the atmospheric air pollution monitoring network;* *(c) Noise monitoring activities are initiated and integrated in the Programme of Environmental Monitoring.* *See Recommendation 8.2.*	(a) Implemented. The Environmental Monitoring programme includes various measures to promote automation. Significant progress has been achieved regarding automated air pollution monitoring. improvements are necessary, especially for water and soil (see chapter 1). (b) Partially implemented. The Ministry of Ecology, Environmental Protection and Climate Change is improving the collection of automated data from their ambient air quality monitoring stations across the country. Collection of data from at-source monitoring is also being improved and posted on the website of the Centre of Specialized Analytical Control. Plans are underway to develop a single data centre for decision makers, combining all air quality data, but it is yet to become operational. (c) Not implemented.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 4.2: *The Cabinet of Ministers should:* *(a) Ensure accreditation of all analytical laboratories under concerned ministries and agencies with responsibilities in the implementation of the Programme of Environmental Monitoring;* *(b) Provide resources for Uzhydromet to install surface water quality and soil pollution laboratories in relevant regional offices;* *(c) Provide resources to equip the Centre for Specialized Analytical Control on Environmental Protection under the State Committee on Ecology and Environmental Protection with portable (mobile) laboratories.*	(a) In progress. The testing laboratory of the specialized Centre for Analytical Control has been recognized as meeting the requirements of the international standard ISO/IEC 17025. The laboratory of the Agency of Hydrometeorological Service has no accreditation at the standard of ISO 17025. A recent analysis by FAO suggests that many laboratory facilities in Uzbekistan face difficulties in maintain international accreditation standards. (b) In progress. As of August 2025, the technical equipment at the Agency of Hydrometeorological Service is insufficient. A project launched in 2025 with the Zamin Foundation is dedicated to the strengthening of regional laboratories of the Agency of Hydrometeorological Service. (c) Implemented. According to the 2023 National State of the Environment Report, in 2020, with support from the World Bank and the Regional Environmental Centre of Central Asia, modern mobile environmental laboratories of Mercedes-Benz Sprinter 519 CDI models were provided to the Centre for Specialized Analytical Control in the Field of Environmental Protection and other public agencies.
Recommendation 4.3: *The Cabinet of Ministers should:* *(a) Allocate sufficient resources to the State Committee on Ecology and Environmental Protection for the establishment of an integrated environmental information system interlinked with the environmental databases of the other public authorities operating under the Programme of Environmental Monitoring and supported by geographic information system (GIS) technologies in accordance with common formats, metadata and interoperability requirements;* *(b) Take necessary legislative, policy and practical measures to improve management and facilitate continuous modernization and digitalization of environmental information, including state environmental monitoring information and environmental databases/cadastres, ensuring their interoperability with geospatial, statistical, health and other information systems by leveraging the use of modern technologies to promote effective information collection, exchange and dissemination to the public;* *(c) Allocate sufficient resources to the State Committee on Ecology and Environmental Protection for the finalization of the portal of the Centre for Specialized Analytical Control on Environmental Protection aimed at collecting emissions data from enterprises in support of reporting, data visualizations and the display of monitoring data to the public, and support its further development towards a future pollutant release and transfer register in Uzbekistan in line with modern international standards;* *(d) Promote the regular participation of Uzbekistan in activities under the Protocol on Pollutant Release and Transfer Registers with a view to sharing experience and learning from international good practices;* *(e) Consider accession to the Protocol on Pollutant Release and Transfer Registers.*	(a) Not implemented. (b) In progress. There is notable progress in displaying information on air pollution monitoring online (https://monitoring.meteo.uz/). A Centre for Monitoring Geographic Information Systems and Ecology was created in 2022. The document management system for EIAs was digitalized. Data and information on other environmental media are under development. (c) In progress. Data on key industrial air polluters are available from the website of the Centre of Specialized Analytical Control. However, the website does not include quantitative data on emissions from enterprises. (d) Implemented. Representatives of Uzbekistan continued to be involved in the activities under the Protocol on Pollutant Release and Transfer Registers in 2022, 2023 and 2024. Uzbekistan participated in various events related to the Protocol on Pollutant Release and Transfer Registers. (e) Not implemented.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 4.4: *The State Committee on Statistics should:* *(a) Make publicly available on its website the environmental statistics it collects;* *(b) Initiate the production of accounts according to the System of Environmental-Economic Accounting (SEEA);* *(c) Promote the development of environmental Sustainable Development Goals indicator methodologies and exchange of international experience in reporting on the environmental dimension of the Sustainable Development Goals;* *(d) Align some of the national indicators with the global Sustainable Development Goals indicator framework;* *(e) Increase the number of environment-related Sustainable Development Goals indicators made publicly available online;* *(f) Initiate the collection of gender and environment statistics.*	(a) Partially implemented. Environmental data are available on the website, but it encompasses a relatively narrow selection of indicators. (b) Not implemented. (c) In progress. Environment-related SDG indicators have been increased, though some are still missing. (d) In progress. According to the National Statistics Committee, relevant authorities annually carry out activities to bring national indicators into line with the global system of SDG indicators, while being guided by national priorities. (e) In progress. In 2020, the national SDG statistical website included around 100 indicators, whereas as of August 2025, 143 are reported online. (f) Not implemented.
Recommendation 4.5: *The State Committee on Ecology and Environmental Protection should:* *(a) Continue with the regular production of its set of 91 environmental indicators and produce all remaining indicators in the ECE list of environmental indicators that are relevant to the country;* *(b) Make these publicly available on its website in line with Shared Environmental Information System (SEIS) principles of open access to environmental data.*	(a) Not implemented. (b) Not implemented.
Recommendation 4.6: *The State Committee on Ecology and Environmental Protection should:* *(a) Reinitiate the regular production of the national report on the state of the environment and use of natural resources, ensuring its alignment with the international standards provided through the 2007 ECE Guidelines for the Preparation of Indicator-based Environment Assessment Reports in Eastern Europe, Caucasus and Central Asia and the Aarhus Convention, and taking into account the potential of the national report to contribute to monitoring the implementation of the environmental dimension of the Sustainable Development Goals;* *(b) Provide online public access to the national report on the state of the environment and use of natural resources and to other reports and bulletins produced by different government agencies under the scope of the implementation of the Programme of Environmental Monitoring and as part of reporting on implementation of multilateral environmental agreements, so as to provide timely, relevant and reliable information on the state of the environment to decision makers and the public.*	(a) Implemented. According to 2023 Decree of the President No. 81, such a report shall now be published bi-annually, using international methodology. As of August 2025, the latest National State of the Environment Report was published in 2023. (b) Implemented. The National State of the Environment Report is published online, and some other data are published online, i.e. on air and water pollution. However, online access to environmental data and reports is scattered across various websites.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 4.7: *The Cabinet of Ministers should:* *(a) Ensure that a sectoral assessment of priority areas for research and innovation in line with the roadmap of the Strategy for Innovative Development for the period 2019–2021 is carried out and identify resources needed for promoting applied research and technology development in the field of pollution prevention and control technologies;* *(b) Provide the Scientific and Research Institute on Environment and Nature Protection Technologies with sufficient resources for it to further develop applied research on pollution prevention and control technologies appropriate for the territory of Uzbekistan.*	(a) and (b) Not implemented.

Chapter 5: Access to information, public participation and education on the environment

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 5.1: *The State Committee on Ecology and Environmental Protection and other governmental authorities should:* *(a) Make available online all information on environmental matters in their possession, including the electronic versions of the available printed publications;* *(b) Enhance the legal framework, procedures and practical measures to enable effective public access to information on environmental matters in line with international standards;* *(c) Establish a system to monitor the effectiveness of procedures related to requests for information on environmental matters;* *(d) Organize activities to raise the awareness of the public on information on environmental matters and the rights and procedures to access it;* *(e) Organize activities to develop the capacity of civil servants at the national and subnational levels regarding the scope of information on environmental matters and procedures to make information on environmental matters effectively accessible to the public;* *(f) Provide adequate human and financial resources to support effective access to information on environmental matters.* *See Recommendations 3.6, 4.4, 4.5 and 4.6.*	(a) In progress. Notable examples include the 2023 National State of the Environment Report and the data from air pollution monitoring, which is displayed on a dedicated website. (b) In progress. The right on access to environmental information is enshrined in the 2023 constitution. 2025 Decree of the President No. 16 on the State Programme for the implementation of Strategy Uzbekistan – 2030 in the Year of Environmental Protection and Green Economy stipulates creation of an enhanced environmental information centre by 1st December 2025, related to the implementation of the Aarhus convention. (c) In progress. Some elements are in place to monitor the effectiveness of procedures related to requests for information on environmental issues. (d) In progress. 2025 Resolution of the President No. 184 defines the concept on improving the ecological culture to strengthen environmental education, linked to the right to a healthy environment and reliable information about its condition. (e) In progress. 2025 Resolution of the President No. 184 also includes measures to strengthen environmental awareness among state employees. In collaboration with UNESCO, an online training programme for state employees on access to information laws and their implementation has been created. (f) Not implemented.
Recommendation 5.2: *The Cabinet of Ministers should simplify the procedures for the operation of environmental NGOs in line with international standards.*	Not implemented. According to the Ministry of Justice, the respective law and related resolutions from 2014 remains in place.
Recommendation 5.3: *The Cabinet of Ministers should:* *(a) Ensure that detailed procedures are developed and practical measures are taken to enable effective public participation in decision-making on environmental matters (on projects, activities, strategic planning and legislation) in line with international standards, and monitor their implementation;* *(b) Ensure meaningful organization of public hearings;* *(c) Increase the time frame for commenting on laws and by-laws, at least to 30 days and, for large and complex documents, to 60 days or more, to enable the public to organize for the submission of comments;* *(d) Develop the capacity of civil servants at the national and subnational levels and provide adequate human and financial resources to support public participation.* *See Recommendations 2.1, 16.4.*	(a) and (b) In progress. The 2025 Law No. 1036 introduces clear requirements for public participation in environmental assessments. How the law will be implemented cannot yet be assessed and will also depend on further specification of by-laws. (c) Not implemented. According to the Ministry of Justice, the relevant law stipulates that the period for public discussion shall not be less than 15 days. (d) Implemented. Capacity of civil servants is strengthened through training courses and seminars involving international and national experts, as well as courses and training programmes at the Academy of Public Administration under the President of Uzbekistan and other institutes.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 5.4: *The Cabinet of Ministers, through the Ministry of Justice, the General Prosecutor's Office and the State Committee on Ecology and Environmental Protection, should:* *(a) Promote access to justice in environmental matters and raise the awareness of members of the public and environmental NGOs about their rights and opportunities as provided by the legislation in this respect;* *(b) Develop the capacity of the judicial system (civil servants, judges, staff of the Human Rights Ombudsperson and relevant training institutions) to provide access to justice in environmental matters to members of the public and environmental NGOs.* *See Recommendation 2.4(b).*	(a) Not implemented. (b) Implemented. The representatives of the Supreme Court participated in the 2023 Conference in the High-level International Conference of Judges on Access to Environmental Justice that was organized by the Supreme Court of Kyrgyzstan in cooperation with UNDP, ECE, United States Agency for International Development and other partners. Additionally, in February 2025, an international conference was held in Tashkent by the Ombudsman on the topic "Clean and comfortable environment - a guarantee of ensuring human rights", strengthening the capacity of human rights authorities, civil society and state actors.
Recommendation 5.5: *The Cabinet of Ministers should:* *(a) Ensure the regular participation of Uzbekistan in activities under the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention) with a view to sharing experience and good practice;* *(b) Encourage the Supreme Court of Uzbekistan and other relevant bodies (Human Rights Ombudsperson, General Prosecutor's Office) to participate in activities related to access to justice under the Aarhus Convention;* *(c) Initiate an in-depth assessment of the state of affairs in the area of access to information, public participation in decision-making and access to justice in environmental matters, with detailed recommendations on action needed in each area, with a view to bringing the national system in these areas in line with the Aarhus Convention;* *(d) Consider accession to the Aarhus Convention.*	(a) Implemented. The representatives of Uzbekistan regularly participated in the meetings under auspices of the Aarhus Convention, including in 2022, 2023 and 2024. The representatives of the civil society also attended several of these meetings. (b) Implemented. The representatives of the Supreme Court of Uzbekistan participated in the 2023 Conference in the High-level International Conference of Judges on Access to Environmental Justice that was organized by the Supreme Court of Kyrgyzstan in cooperation with UNDP, ECE, United States Agency for International Development and other partners. (c) Implemented. Several assessments of policy-, legal- and institutional frameworks have been carried out by international organizations to support Uzbekistan to advance Convention's implementation in the area of access to information, public participation in decision-making and access to justice in environmental matters. (d) Implemented. Uzbekistan acceded to the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters on 25 March 2025.
Recommendation 5.6: *The Cabinet of Ministers should:* *(a) Give a mandate on education for sustainable development (ESD) to the State Committee on Ecology and Environmental Protection, including promoting ESD in non-formal and informal education and in-service training;* *(b) Give a mandate on ESD to each of the three ministries in the education sector, including for mandatory integration of ESD into the formal curricula at all levels and into teachers' education and in-service training;* *(c) Revitalize the work of the Coordination Council on Education for Sustainable Development by revisiting its composition to include all relevant stakeholders and by ensuring its regular activities;* *(d) Ensure the integration of ESD into the national legislation and policies and monitoring and reporting on their implementation;* *(e) Support the work on ESD by academia and NGOs;* *(f) Ensure regular participation by the country in activities in the framework of the ECE Strategy for ESD.*	(a) and (b) Implemented. 2023 Decree of the President No. 81 tasks the Ministry of Ecology, Environmental Protection and Climate Change, and the two Ministries of Education with implementing a variety of environment-related education measures, across high schools, informal education and higher education. No provision on in-service training could be found. (c) Not implemented. (d) Implemented according to the Ministry of Preschool and School Education. Education for sustainable development is integrated into key national policy documents, legislation, curricula and monitoring. (e) Implemented. Civil society participation in environmental education is anchored in respective policy documents. Academia is similarly integrated, most notably with the foundation of the Central Asian University of Environmental Studies and Climate Change in 2023. According to Ministry of Higher Education, Science and Innovation, 57 of the 203 operating higher education institutions have begun training personnel in the areas of ecology and environmental protection and related specialties. (f) Implemented. According to the Ministry of Preschool and School Education, Uzbekistan participates actively in the ECE Steering Committee on ESD. Uzbekistan also submitted its reports on the implementation of the United Nations Economic Commission for Europe Strategy for Education for Sustainable Development in 2025.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 5.7: *The State Committee on Ecology and Environmental Protection should:* *(a) Mandate its Centre for Retraining and Advanced Training of Environmental Professionals to integrate ESD into its training activities;* *(b) Promote the integration of environmental education and ESD into the training activities of in-service training centres under other governmental authorities.*	(a) and (b) Not implemented.

Chapter 6: Implementation of international agreements and commitments

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 6.1: *The Cabinet of Ministers should ensure that:* *(a) Regular and efficient mechanisms for coordination on environment-related issues that are subject of international, regional or bilateral cooperation are in place;* *(b) The Ministry of Foreign Affairs has an updated and publicly available database of all focal points of international agreements, in particular, environment-related ones, and relevant authorities display information on focal points of their websites;* *(c) Focal points comply with their duties of sharing information and preparing and disseminating meeting reports and that they are properly prepared for performing the functions of focal points;* *(d) Information available at the convention secretariats in relation to focal points is always up to date;* *(e) Technical capacities to implement and report on multilateral environmental agreements are strengthened.*	(a) Implemented. The Ministry of Ecology, Environment Protection and Climate Change has a dedicated department of international cooperation that is in charge of coordination international environmental cooperation. Additionally, the environmental diplomacy units in other ministries are in charge for coordinating relevant activities for their sector. (b) Not implemented. (c) Implemented. Focal points receive the relevant information from the respective departments and comply with their respective duties. (d) Implemented. Reviewed in July 2025, information on focal points at websites of conventions secretariats was up to date. (e) In progress. Uzbekistan has achieved international support for implementation and reporting on many MEAs, including United Nations Framework Convention on Climate Change, Convention on Biological Diversity, United Nations Convention to Combat Desertification, Vienna Convention, Ramsar, Stockholm and Basel Conventions, Aarhus, Geneva Convention on Long-Range Transboundary Air Pollutants and the Water convention.
Recommendation 6.2: *The Cabinet of Ministers should consider accession to the:* *(a) 1991 Convention on Environmental Impact Assessment in a Transboundary Context;* *(b) 2003 Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context;* *(c) 1979 Convention on Long Range Transboundary Air Pollution, the 1984 EMEP Protocol under the Convention and, subsequently, the three amended protocols to the Convention: the 1999 Protocol to Abate Acidification, Eutrophication and Ground-level Ozone amended in 2012, the 1998 Protocol on Heavy Metals amended in 2012 and the 1998 Protocol on Persistent Organic Pollutants amended in 2009;* *(d) 1998 Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade;* *(e) 2013 Minamata Convention on Mercury;* *(f) 1999 Protocol on Water and Health to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes.* *See Recommendations 4.3, 5.5, 12.6, 13.4, 14.5, 15.5.*	(a) and (b) Not implemented. (c) Implemented. In 2024, Uzbekistan undertook an analytical study on the feasibility of accession to the Convention on Long Range Transboundary Air Pollution, which was then consulted with all Ministries. At the end of 2024, Uzbekistan reported at the 44th session of the Executive Body to the Convention that the decision was with the Office of the President. (d) Implemented. Uzbekistan held consultative meetings with the secretariat of the Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and expressed its commitment to becoming a party, also participating in the 12th COP. (e) Not implemented. (f) Implemented. Uzbekistan accessed the Protocol in 2023.
Recommendation 6.3: *The Cabinet of Ministers should ensure regular fulfilment by Uzbekistan of its reporting obligations under all multilateral environmental agreements the country participates in.*	Implemented. Uzbekistan has submitted reports, targets, strategies, data or other relevant documents under the following conventions: UNFCCC, CBD, UNCCD, Ramsar, CMS, CITES, Vienna Convention/Montreal Protocol, Water Convention, AEWA.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 6.4: *The Cabinet of Ministers should ensure the active role of Uzbekistan in facilitating the strengthening of the legal and institutional frameworks of the International Fund for Saving the Aral Sea.*	Implemented. At the meeting of the IFAS Heads of the Founder States of IFAS in 2023, President of Uzbekistan made concrete proposals for reforming and strengthening of the institutional set-up of IFAS.
Recommendation 6.5: *The State Committee on Ecology and Environmental Protection should facilitate timely approval of the Regional Environmental Programme for Sustainable Development in Central Asia, its implementation and monitoring.*	Implemented. Under Uzbek' presidency of Interstate Commission on Sustainable Development (ICSD) 2019–2021, Kazakhstan, Tajikistan, Turkmenistan and Uzbekistan endorsed the Regional Environmental Programme for Sustainable Development in Central Asia.
Recommendation 6.6: *The Cabinet of Ministers should continue to support the Multi-Partner Human Security Trust Fund for the Aral Sea Region, in particular by:* *(a) Ensuring timely and efficient implementation and monitoring of activities and public availability of related reports;* *(b) Increasing advocacy activities to reach out to potential donors;* *(c) Continuing its own contributions to replenish the Trust Fund.*	(a) Implemented. Financial and narrative reports as well as financial statement are published annually in May for the previous year. Latest report shows varied progress, as measured by output indicators. (b) Implemented. Outreach activities to potential donors continued throughout 2024. However, the Trust Fund did not receive any further contributions from donors in 2023 and 2024. (c) Partially implemented. As of May 2025, Uzbekistan was the biggest donor to the Trust Fund. However, the Trust Fund did not receive any further contributions from donors in 2023 and 2024. Until 2022, Uzbekistan contributed the US$6.5 million committed in 2018 but has made no further contribution since.

Chapter 7: Climate change

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 7.1: *The Cabinet of Ministers should:* *(a) Ensure development and adoption of a law on climate action and an overall long-term strategy on climate change adaptation and mitigation;* *(b) Ensure the development of local disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030;* *(c) Ensure that local climate change adaptation and mitigation measures are integrated into local development plans and programmes.*	(a)–(c) Not implemented.
Recommendation 7.2: *The Cabinet of Ministers should:* *(a) Strengthen human capacities of the authorities most relevant for climate change mitigation and adaptation by establishing climate change units with a clear mandate for mainstreaming climate change in the relevant sector;* *(b) Establish a mechanism that can ensure the coordination of climate-change-related measures at the national level.*	(a) Implemented. With 2023 Decree of the President No. 81, units responsible for environmental topics (incl. climate change) were required in the ministries of foreign affairs, water resources, agriculture and mining and geology. 2024 Decree of the President No. 106 introduced such units in 11 further ministries. (b) Implemented. The National Council for Climate Change was established in 2024 to serve as the highest consultative body on these issues and develops policies in these areas.
Recommendation 7.3: *The Cabinet of Ministers should:* *(a) Ensure a continuous process of preparation of the GHG inventory, including through its additional financing from the state budget;* *(b) Provide that the new inventory to be prepared in 2020–2021 also includes data on sulfur hexafluoride (SF_6) and perfluorocarbons (PCFs) and data on emissions related to waste incineration;* *(c) Consider establishing an emissions trading scheme.*	(a) Implemented. The country has prepared and submitted the NDC 2.0, the first Biennial transparency report (2024), the fourth National Communication and the NDC 3.0 is expected to be submitted in 2025, showing a continuity of GHG inventories. The NDC 3.0 is expected to include means of securing financial resources from the state budget for this process. (b) Implemented. It is being implemented as part of the preparation of the Second Biennial Transparency Report. (c) In progress. According to the Ministry of Ecology, Environmental Protection and Climate Change, the Government is currently considering implementation of an emissions trading system.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 7.4: *The Cabinet of Ministers should ensure:* *(a) Regular and systematic implementation of measures aimed at raising awareness on climate-change-related issues;* *(b) That climate-change-related topics are integrated into the curricula in primary, secondary and higher education and vocational training.*	(a) and (b) In progress. With the 2025 Year of Environmental Protection and Green Economy, a variety of provisions to raising awareness on environmental topics was included. 2025 Decree of the President No. 16 approves the Concept on improving the ecological culture of the population for the period until 2030. Primary, secondary, higher education and vocational training are addressed.
Recommendation 7.5: *The Cabinet of Ministers should:* *(a) Address the issue of the decrease in floodplain and riparian forest habitats due to changes in hydrological phenomena;* *(b) Address the issue of the negative impacts of climate change on tugai forests;* *(c) Promote the diversification of the planted species in the Aral Sea region, to mitigate the effects of climate change and also to stimulate economic co-benefits for the local communities.*	(a) and (b) Implemented. Three projects have addressed and address protection and restoration of tugai ecosystems, supporting them in dealing with hydrological and climate change impacts: World Bank Project "Uzbekistan Resilient Landscape Restoration Project" (2023—2028) supports tugai restoration. With support by GIZ, an adapted management for the Low Amu Darya State Biosphere Reserve has been adopted that strengthens protection and sustainable management of Tugai forests (2018—2020). With support of Turkish Cooperation and Coordination Agency, 5,000 ha of land on the Amu Darya Delta were afforested and infrastructure of the forestry departments improved. (c) Implemented. 2022 Resolution of the Cabinet of Ministers No. 31 on additional measures to create "green covers" – protective forests on the dry bottom of the Aral Sea and in the Aral Sea region" explicitly addresses various species, including circassian, tamarisk and atripex. The Government is actively supporting research on planting new species on the bottom of the Ara Sea. Economic opportunities are provided through afforestation activities. Additionally, pilot activities by UNDP aim to grow plants with high medicinal value like Cistance. Another example is the "Investment Project for Green Rehabilitation of the Territories" with GGGI. This project has adopted measures to measures were taken to adapt and ensure the livelihoods of 113,000 people in the most affected areas, 1,587 farmers and entrepreneurs received agribusiness models, and 500 farming, micro, small and medium enterprises were created.
Recommendation 7.6: *The Cabinet of Ministers should:* *(a) Promote actions to decrease the energy demand for cooling purposes;* *(b) Promote the full exploitation of the solar energy potential, also in line with the targets set in the country's nationally determined contribution (NDC);* *(c) Address the negative influences of climate change on the productivity of the hydropower sector as a result of changes in water availability.*	(a) Implemented. Uzbekistan has introduced measures to strengthen insulation in public and residential buildings. According to the Ministry of Energy, these measures can achieve up to 35 per cent of energy savings. Uzbekistan has also set dedicated targets to increase green spaces in cities to counter heat island effects, decreasing the need for cooling. (b) Implemented. Solar energy production is increasing, and the Government has set targets to increase the share of renewable energy. (c) In progress. Various measures support addressing the negative influences of climate change on the productivity of the hydropower sector, including modernization of existing hydropower plants, implementation of water-saving technologies in agriculture as well as the diversification of energy sources, in particular through development of solar and wind energy.

Chapter 8: Air protection

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 8.1: *The State Committee on Ecology and Environmental Protection, together with the Ministry of Health, should draw up a roadmap to transfer the current air quality assessment to air quality standards based on mean pollutant concentrations according to the internationally accepted practices.*	Partially implemented. In 2024, Uzbekistan updated its national standards on $PM_{2.5}$ and PM_{10} in accordance with 2021 WHO Global Air Quality Guidelines based on daily and annual average concentrations of these pollutants. Daily air quality assessment is still done based on the Atmospheric Pollution Index, which still uses maximum allowable concentrations. However, such tool is not modernized and transition to the Air Quality Index based on international best practices is not being carried out.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 8.2: *The Cabinet of Ministers should:* *(a) Ensure that the number of parameters measured is increased with PM_{10} and $PM_{2.5}$ for all measuring posts in vulnerable areas, such as cities and near industrial complexes;* *(b) Ensure the introduction of legally-binding national standards and limit values for PM_{10} and $PM_{2.5}$;* *(c) When sufficient data about the concentrations of fine particulate matter have been collected, initiate the adoption by Uzbekistan of the Sustainable Development Goals global indicator 3.9.1 and ensure that information on the mortality rate attributed to household and ambient air pollution is available to decision-makers and the public.*	(a) Implemented. Measurements of $PM_{2.5}$ and PM_{10} are included in all new automatic ambient air quality monitoring stations installed in Uzbekistan since 2021. New 347 mini stations that are underway to be installed will also include $PM_{2.5}$ and PM_{10} measurements, thereby creating a large monitoring network for these two key pollutants across the country. (b) Implemented. In 2024, Uzbekistan updated its national standards for $PM_{2.5}$ and PM_{10} in accordance with WHO Global Air Quality Guidelines (update of 2021). (c) Implemented. Data for the national indicator SDG 3.9.1.1 report on mortality from both ambient and household air pollution are available.
Recommendation 8.3: *The State Committee on Ecology and Environmental Protection should promote the application of internationally accepted best available techniques to abate air pollution from industrial sources and seek expertise under the Convention on Long-Range Transboundary Air Pollution for this purpose.*	Implemented. Implementation of best available techniques (BATs) is being promoted through adopted decrees of the President and the Cabinet of Ministries related to regulation of industrial pollution emissions. Uzbekistan is undertaking capacity building under its planned accession to the Convention on Long-Range Transboundary Air Pollution, including on the issues of BATs.
Recommendation 8.4: *The Cabinet of Ministers should:* *(a) Stimulate the implementation of measures for energy efficiency in residential buildings, e.g. by enhancing the attractiveness of energy-efficiency measures by guaranteeing a reasonable pay-back period of costs and setting conditions for better technical maintenance of district heating systems;* *(b) Promote the use of low-carbon technology (heat pumps, renewables) and cleaner fuels such as natural gas instead of liquid and solid fuels for individual households;* *(c) Promote the use of individual heat-use monitoring devices in apartment buildings.*	(a) and (b) Implemented. Energy efficiency and renewable energy measures in households are promoted within the current policy frameworks for green economy, environmental protection and climate change. With 2025 Decree of the President No. 63, Uzbekistan created a National Energy Efficiency Agency under the Cabinet of Ministers and introduced subsidies for energy audits, solar panels and solar collectors and heat pumps. (c) Implemented. 2025 Resolution of the President No. 100, which came into force on 1 June 2025, requires full installation of heat meters.

Chapter 9: Water management

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 9.1: *The Cabinet of Ministers should improve policy coherence, cross-sectoral cooperation and coordination with the wider water community by:* *(a) Improving the cross-sectoral collection, sharing and use of data;* *(b) Developing a roadmap of key strategic objectives for the water sector as a whole, to allow focus of action;* *(c) Considering the establishment of a national policy dialogue on integrated water resources management.*	(a) In progress. The Concept of Water Management Development for 2020–2030 provides for improving forecasting and accounting of water resources, as well as creating a transparent database. 2024 Decree of the President No. 74 suggests establishing a digital system for analysis of operational information on water resources from all sources. However, no such database exists yet. The 2023 National State of the Environment Report provides a country-wide, cross-sectoral assessment of the state of water resources. Additionally, the Agency of Hydrometeorological Service annually publishes a report on surface water quality that is shared with other government agencies. (b) Implemented. The 2020 Decree of the President No. 6024 introduced the Concept of Water Management Development for 2020–2030 as well as a roadmap for 2020–2022. It is updated by the 2023 Decree of the President on measures for the effective organization of public administration in the field of water management No. 101 which similarly included a roadmap for reforms. Lastly, the 2024 Decree of the President No. 74 on the definition of priority areas for the implementation and development of a modern management system in water management provides direction on current priority areas. (c) Implemented. In June 2022, Uzbekistan initiated the National Water Policy Dialogue process aimed at discussing issues of integrated water resources management at the intersectoral and multilateral levels. However, the process has not been continued after 2022.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 9.2: *The Cabinet of Ministers should continue progress in infrastructure development by:* *(a) Identifying priority communities and settlements to target for expansion of sustainable water supply and sanitation infrastructure;* *(b) Initiating the review of national design and construction standards for water supply and sanitation facilities in rural areas, to reduce capital and operational costs and make infrastructure more affordable;* *(c) Identifying priority investments that could be made to refurbish existing irrigation infrastructure and improve collector-drainage systems, with a focus on investments that would make a step change in efficient water management, reduce land salinity and increase agricultural productivity;* *(d) Designing appropriate financing mechanisms to support these investment programmes and human and technical capacities to support the investments.* *See Recommendations 13.2 and 17.4.*	(a) In progress. According to the Ministry of Construction and Housing and Communal Services the planning of infrastructure expansion in these fields depends on the source of financing. Based on investments attracted from the state budget and state guarantees, works are formed based on the list of residential areas with a high need for drinking water and wastewater systems, based on efficiency. (b) Partially implemented. According to the Ministry of Construction and Housing and Communal Services, national standards for the construction of drinking water facilities are constantly being improved. A 2022 order of the Minister of Construction and Housing and Communal Services No. 126 revised the construction standards and rules regarding centralized drinking water supply systems. 2025 Resolution of the Cabinet of Ministers No. 361 revised the indicators for the composition of wastewater discharge from municipal wastewater treatment plants. (c) and (d) In progress. According to statements by government officials, in 2022 alone, around 970 billion soums were invested in constructing and rehabilitating irrigation and land-reclamation facilities. In 2025, Uzbekistan has taken up loans with World Bank and EBRD for improving irrigation and drainage infrastructure. Uzbekistan continues to invest strongly in water-efficient irrigation systems. According to 2024 Resolution of the President No. 5, 40 per cent of tax revenues for the use of water resources are directed to finance the activities of Water Supply Services, which are responsible for maintaining hydraulic structures and irrigation networks. According to Ministry of Construction and Housing and Communal Services, increasing human and technical capacity is carried out through separate programmes.
Recommendation 9.3: *The Cabinet of Ministers should continue its efforts to drive efficient use of water in all sectors of the economy and by all water users by:* *(a) Developing policies and strategies to support water efficiency, including metering schemes to monitor consumption and financial incentives for purchasing water-efficient technologies and investment in the human capacity and awareness campaigns to support effective roll-out;* *(b) Embedding water-efficient principles in land use planning to ensure that best practice in this area is adopted from the start of new municipal, industrial or agricultural developments;* *(c) Ensuring that agricultural policies and strategies are coordinated with water management objectives so that the necessary crop mix, irrigation technology and practice and required water volume are aligned.*	(a) In progress. Strengthening of efficient use of water is central to both the Strategy for the Development of Agriculture for 2020–2030 and the Concept of Water Management Development for 2020–2030. According to the Ministry of Agriculture, as of 1 April 2025, water-saving technologies have been implemented on an area of 279,100 ha. Yet, the overall share of area with modern water-saving technologies remains low at 23 per cent, and overall water consumption continues to be increasing and will foreseeably further increase. (b) Partially implemented. Water metering for private consumers is also being rolled out. Regarding industry, the 2024 Decree of the President No. 81 on measures to transform the sphere of ecology and environmental protection and organizing the activities of the authorized state body strengthened requirements on water treatment facilities of the most polluting industries. The 2024 Resolution of the Cabinet of Ministers No. 783 requires the most polluting companies to install or update wastewater treatment facilities, introducing financial incentives for adopting facilities to reduce industrial pollutants. For agriculture, the Agency of Hydrometeorological Service forecasts river flow and water levels in reservoirs. According to the Ministry of Water resources, water limits for regions and canals are set, and regions with water shortages change their crop structure. When allocating limits, priority is given to fields where water-saving technologies have been implemented. (c) In progress. The Strategy for the Development of Agriculture for 2020–2030 lists specific targets on rational use of water, including on overall reduction of water use per hectare, rollout of water-saving technologies, improving water resource management system and introduction of water meters; similarly, the Strategy "Uzbekistan-2030" and the Concept of Water Management Development for 2020–2030 support these goals. The goal of crop diversification from cotton towards orchards and vineyards is acknowledged in the Strategy for the Development of Agriculture for 2020–2030 and other policy documents; however, it is not yet reflected in the actual production numbers.

Chapter 10: Waste and chemicals management

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 10.1: *The State Committee on Ecology and Environmental Protection should develop a new law on waste in accordance with the best international practice and in line with the Strategy on Municipal Solid Waste Management for the period 2019–2028 and ensure that the law includes well-defined site-specific permits regulating waste management activities.*	In progress. A draft law on waste has been developed and submitted to Parliament for consultations in 2024, and as of August 2025, it is still undergoing further refinements. Furthermore, the regulatory framework for waste management has been strengthened in 2019 through the adoption of national standards for landfill design and operation (2019 Decree of the State Committee for Ecology and Environmental Protection No. 3197) and in 2024 through the introduction of measures aimed at advancing a circular economy (2024 Resolution of the President No. 5). Recent reforms seek to reduce the environmental impact of waste disposal by promoting recycling, preventing landfill accumulation, and implementing the "zero waste" principle. Actions include transitioning landfill management to public-private partnerships, introducing waste removal fees, and establishing licensing requirements for transporters, including monitoring systems to ensure compliance and improve oversight.
Recommendation 10.2: *The State Committee on Ecology and Environmental Protection should:* *(a) Establish a nationwide system of municipal waste collection and disposal in line with the Strategy on Municipal Solid Waste Management for the period 2019–2028;* *(b) Elaborate a priority list for the modernization of controlled landfills.*	(a) In progress. The newly established State Agency on Waste Management and Circular Economy Development is progressively implementing a new system to improve the accuracy and reliability of waste data. This process began with waste collection operators and the launch of a digital information system for municipal solid waste (MSW) management and electronic billing in November 2024. The system, known as Toza Makon, is integrated with the "One ID" unified information system within the "Digital Government" infrastructure, as well as with the databases of the State Personalization Agency under the Ministry of Justice, the Ministry of Internal Affairs and the Cadastral Agency. This integration enables the automatic generation of cadastral data for residences and retrieval of information on individuals registered at each address. Based on this data, waste generation estimates are calculated alongside water and electricity consumption, and service fees are determined accordingly. (b) Implemented. According to the latest information from the State Agency for Waste Management and Circular Economy Development, so far out of the total 228 dumpsites (which include 199 MSW dump sites, 15 hazardous chemicals waste dumpsites, and 14 construction waste dumpsites), 54 are currently operational while 74 have now been closed. The focus of a series of initiatives aimed at improving MSW collection and disposal systems, including through the rehabilitation of approximately 100 dumpsites to upgrade them to controlled dumpsites, while closing over half of the existing 228 registered dumpsites as well as all unregistered open dumpsites, and progressively developing new MSW sanitary landfills nationwide through the assistance of IFIs and other resources.
Recommendation 10.3: *The State Committee on Ecology and Environmental Protection, in cooperation with the State Committee on Statistics, should consider introducing a waste classification system based on chemical-physical characteristics and abandon the system of four hazard classes, so that to ensure compatibility of data to produce the global Sustainable Development Goals indicator 12.4.2 and support waste recycling and proper disposal.*	Not implemented.
Recommendation 10.4: *The State Committee on Ecology and Environmental Protection should start the transition from calculated waste data to waste data from weighbridges in the preparation of national statistics and reports.*	In progress: Improvements in operating waste disposal sites include the progressive installation of weight bridges, carried out already in 60 sites across the country. Some improvement in waste data took place, with the ongoing transition from waste data estimates to data generated through the installation of these weight bridges. Waste data generated from these weighbridges are expected to soon start informing the preparation of national statistics and reports although in July 2025, it was not possible to find evidence this was already taking place.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 10.5: *The State Committee on Ecology and Environmental Protection should continue to prepare the standards for siting, construction, operation, closure and monitoring of waste disposal sites in line with international practice.*	Implemented. Standards for siting, construction, operation, closure and monitoring of waste disposal sites in line with international practice have been developed and are integral part of the 2019 Decree of the State Committee for Ecology and Environmental Protection No. 3197 on approval of the Instruction on the design and operation of landfills for solid waste, which determines the national standards currently in use for siting, construction, operation, closure and reclamation of municipal solid waste disposal sites
Recommendation 10.6: *The Cabinet of Ministers should reconsider its position on obsolete pesticides and task the State Committee on Ecology and Environmental Protection to engage in international cooperation in POPs management.*	In progress. Progress has been made, and partial implementation is under way, as the Cabinet of Ministers has initiated steps to reassess the country's position on obsolete pesticides. The Ministry of Ecology, Environmental Protection and Climate Change has also begun engaging in international cooperation on the management of persistent organic pollutants. However, Uzbekistan has yet to ratify key chemicals-related multilateral environmental agreements such as the Rotterdam Convention. Strengthening interministerial coordination and establishing robust mechanisms for transversal information exchange remain critical to ensuring coherent, life-cycle-based chemicals management aligned with international obligations.
Recommendation 10.7: The State Committee on Ecology and Environmental Protection should investigate the use of PCBs and PCB-containing equipment in the industrial sectors and prepare a plan for the elimination of PCBs and their safe disposal.	Not implemented. No investigations on the use of PCBs and PCB-containing equipment in industrial sectors having been carried out. There is currently no plan for the elimination of PCBs and their safe disposal.
Recommendation 10.8: *The State Committee on Ecology and Environmental Protection, in cooperation with the Ministry of Health, should:* *(a) Prepare a national strategy for management of medical waste that would focus on the regional approach to treatment and disposal of medical waste;* *(b) Consider establishing a state-owned enterprise specialized in medical waste management.*	(a) In progress. The draft law on waste management includes medical waste management has been submitted to Parliament for consultations in 2024, and as of August 2025 is still undergoing further refinements. Furthermore, the 2024 Resolution of the President No. 263 on measures to implement the investment project "Production of alternative thermal energy from medical waste" aims to reduce the negative impact of medical waste on the environment and public health, by promoting the implementation of modern medical waste treatment solutions and technologies. This Resolution approved an investment project that will, in a first stage (2024–2025) enable the thermal treatment of 6,000 tons/year of medical waste generated in medical institutions of all types (including pharmaceutical, biological, and veterinary waste) in the city of Tashkent, and in Samarkand and Bukhara regions, generating 20 GWh/year. On a second stage (2026–2030) the project will enable the thermal treatment of 90,000 tons/year of medical waste generated in other regions of the country, generating 300 GWh/year. (b) In progress. Efforts are underway towards the centralization of medical waste storage, transport, and disposal, and upscaling these at national level.
Recommendation 10.9: *The State Committee on Industrial Safety should:* *(a) Consider preparing a Chemical Profile of Uzbekistan, using the latest data;* *(b) Include chemical management as a separate category of risk management in industry;* *(c) Provide training focused on safe management of chemicals.*	(a) In progress. Some progress was made regarding the availability of updated data relevant to chemicals management. While chemicals management is still not formally integrated into environmental policy, the State Committee on Industrial Safety has taken steps to improve the national knowledge base, and recent data collection efforts provide a sound basis for the preparation of an updated national Chemical Profile. Emergencies involving chemicals continue to be addressed under the broader framework for technogenic incidents, underscoring the need for a more targeted and standalone approach. (b) Partially implemented. Industrial risk management systems were strengthened; however, chemical management is still not consistently treated as a separate risk category within industrial safety frameworks. (c) Not implemented.

Chapter 11: Biodiversity and protected areas

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 11.1: *The Cabinet of Ministers should:* *(a) Based on a proposal from the State Committee on Ecology and Environmental Protection, adopt the revised and updated Red List of rare and endangered flora, fungi and fauna species, paying due account to the globally applied IUCN methodology and criteria, and ensure the publication of the next edition of the Red Book;* *(b) Based on a proposal from the State Committee on Ecology and Environmental Protection, adopt the list of priority biodiversity monitoring and research programme topics, with a special focus on both rare and threatened, and locally endemic flora, fungi and fauna species, plant communities and ecosystems, game species and invasive alien species;* *(c) Adopt and ensure the implementation of a long-term state biodiversity monitoring and research programme, as part of the integrated system of state environmental monitoring, in cooperation with the Academy of Sciences, other relevant public academic and scientific research institutions and environmental NGOs;* *(d) Mobilize adequate resources to ensure the continuation of state support for biodiversity monitoring and research in the long run;* *(e) Support the State Committee on Forestry and mobilize adequate resources for carrying out the national forest inventory and long-term systematic research on forest ecosystems and habitats;* *(f) Ensure the establishment and operation of an efficient biodiversity information system, utilizing contemporary techniques for digitalized data acquisition, storage, retrieval, processing and dataset harmonization, with the objective to gather, store and share results of biodiversity monitoring, research programmes and projects carried out with the support of public funding, and provide access to this system (with differentiated access and data administration levels) for all stakeholders involved in biodiversity conservation initiatives.*	(a) Partially implemented. The Red Books for Plants and Animals have been published in 2019. However, the extinction threat level categories used do not align with the IUCN Red List Categories. (b) Partially implemented. The Environmental Monitoring Programme (2021 Resolution of the Cabinet of Ministers No. 343) includes a chapter on monitoring of flora and fauna objects that defines monitoring priorities for flora and fauna, including on alien species, indicator species and hunted animals, species in Ramsar sites and protected areas. However, there is no dedicated list of priority research programmes and monitoring of fungi. (c) Partially implemented. There are various monitoring programmes implementing the Environmental Monitoring Programme – with Institute of Zoology on rare and endangered vertebrate species, including on the Snow Leopard; on economically significant species of animals; with Institute of Botany on rare and endangered wild plants. Cooperation with environmental NGOs exists partly, for instance on bird monitoring and monitoring of game species. However, there is no long-term state biodiversity research programme. (d) Partially implemented. While biodiversity monitoring programmes have expanded and are being funded, the 2024 UNDP Uzbekistan Biodiversity Financial Needs Assessment has detected a large financial gap for operating the environmental monitoring system. (e) In progress. The World Bank Uzbekistan Resilient Landscapes Restoration Project (2023–2028) includes development of a National Forestry Inventory; however, activities have not started yet. There is no dedicated public budget on long-term systematic research on forest ecosystems; however, resource mobilization has been achieved through a variety of internationally funded international projects. (f) Implemented. In 2021, a digital system for storing, processing and exchanging biodiversity data was created, the Biodiversity Information Management System. Its functioning and use could not be verified. Regarding public access, there is a related website, which, however, has not been updated since 2021 and is still missing information for many sections: http://bcims.uznature.uz/wordpress/.
Recommendation 11.2: *The Cabinet of Ministers should:* *(a) Ensure implementation of the 2019 National Biodiversity Strategy and Action Plan;* *(b) Adopt and ensure implementation of the national wetland policy and corresponding programme for wetlands conservation;* *(c) Adopt and ensure implementation of ecosystem and species action plans and programmes;* *(d) Mobilize adequate resources for the implementation of all biodiversity-related policy documents in the long run.*	(a) In progress. According to Ministry of Ecology, Environmental Protection and Climate Change, implementation of the NBSAP is ongoing. According to 2024 UNDP Biodiversity Financial Needs Assessment, in 2024, 7 of 23 tasks of the country's biodiversity conservation objectives for the second stage of the NBSAP (2024–2028) have already been fulfilled. (b) Not implemented. (c) Implemented. Action Plan for conservation of Snow Leopard 2020–2030 was developed. 2021 Cabinet of Ministers Decision No. 317 is dedicated to improving habitats of Bukhara deer, Turkmen deer and gazelle. 2020 Resolution of the President 4850 validated the Concept for the Development of the Forestry until 2030. (d) Not implemented. 2024 UNDP Biodiversity Financial Needs Assessment analyses a funding gap of almost US$60 million for finalizing those activities of the NBSAP for which funding needs were assessed. Additionally, in 2022 Uzbek communication to CMS also documented lack of funding. Target 19b of New National Biodiversity Targets suggests increasing public budget allocations by at least 15 per cent over current levels, also indicating need for more finance.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 11.3: *The Cabinet of Ministers should:* *(a) Adopt amendments to the 2004 Law on Protected Natural Territories, incorporating the concepts of the ecological network and ecological corridors;* *(b) Designate external buffer zones surrounding or adjacent to the territories of relevant categories of protected areas;* *(c) Extend the territories of existing protected areas and designate new protected areas, paying due account to the need to provide adequate coverage of all main ecosystem types representative of Uzbekistan and the sufficient inclusion of mainstays and habitats of rare and threatened species, and to ensure the ecological connectivity and continuity of the protected area network by linking core areas with ecological corridors, covering migration routes of rare and threatened terrestrial and aquatic wildlife species;* *(d) Mobilize adequate resources in order to ensure the proper functioning of the national ecological network in the long run.*	(a) Not implemented. (b) Implemented. 2021 Resolution of the Cabinet of Ministers No. 282 "On additional measures to establish protective zones of protected natural territories" created buffer zones for five protected areas. (c) Partially implemented. New protected areas have been designated, now covering 14.08 per cent of the country. In 2022 alone, eight new protected areas were designated. These now cover the habitats of 83 per cent of vertebrate animal species and 89 per cent of plant species currently list in the country's Red Book, and an increasing share of the Key Biodiversity Areas identified. Protected areas cover mountain forests, deserts and semi-deserts, riparian forests and wetlands. They also cover transboundary migration routes of threatened species, including for the Saiga Antilope, the Snow Leopard and the Goitered Gazelle. However, designation of ecological corridors within Uzbekistan has not taken place, due to the lack of the revision of the respective law. (d) Partially implemented. National funding for protected areas has increased from 22 billion soums in 2021 to 44 billion soums (approx. US$3.5 million) in 2024. However, financial resources are still insufficient for proper management of the protected area network – the UNDP Biodiversity Financial Needs Assessment suggests that US$26.6 million would be needed for 2024–2028 to develop the system of protected natural areas.

Chapter 12: Energy and the environment

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 12.1: *The State Committee on Statistics, in cooperation with the Ministry of Energy, should continue its efforts to:* *(a) Develop an integrated system of multipurpose energy statistics based on the United Nations Fundamental Principles of Official Statistics and the International Recommendations for Energy Statistics;* *(b) Publish energy statistics, including national energy balances;* *(c) Ensure data collection for monitoring progress with the achievement of Sustainable Development Goal 7 in line with the internationally accepted methodologies.*	(a) and (c) In progress. Uzbekistan is currently implementing the National Strategy for the Development of Statistics 2020–2025, which also includes the development of a framework for energy statistics based on UN standards. The latest global assessment of the national statistical system in Uzbekistan carried out in 2025 concluded that all business statistics, including energy statistics, are performed according to international standards. (b) Implemented. Information on the energy balance, Sustainable Development Goals and energy statistics are published on the website of the National Statistics Committee.
Recommendation 12.2: *The Cabinet of Ministers should introduce regulations that will allow the financial resources saved through energy-efficiency measures in public buildings to be accumulated in the budgets of organizations undertaking such measures.*	Not implemented.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 12.3: *The Ministry of Energy should:* *(a) Gradually reduce the share of fossil fuels in the energy production and consumption, while continuing to explore ways to use them, especially coal, in a more efficient and environmentally friendly manner;* *(b) Facilitate the use of less polluting energy sources as a valid alternative to fossil fuels;* *(c) Take measures to increase the efficiency of coal utilization with gradual modernization and technology upgrades at existing coal-fired power plants;* *(d) While developing its national policy documents to meet Sustainable Development Goal 7, undertake a comprehensive study on the development of advanced fossil fuel technologies that will include their status, trends, economic analysis, environmental and health impacts, and institutional and legislative barriers;* *(e) Develop economically and environmentally sound policies that also address health impacts in support of Sustainable Development Goal 7, ensuring that such policies are supported by appropriate legal frameworks and economic incentives;* *(f) Collect information about land and soil polluted by oil products and analyse the environmental impacts of gas leakages in Uzbekistan;* *(g) Properly address the environmental hazards of open pit mining.*	(a) and (b) Implemented. The 2025 Resolution on the Year of Environment and Green Economy aligns fossil subsidy cuts with a 25 per cent renewable energy target by 2030. Recently, Uzbekistan declared the goal to reach 54 per cent of electricity from renewable sources by 2030 and is working towards this goal. Uzbekistan is commissioning modern gas turbine plants, decommissioning inefficient thermal power plants and, in 2024, announced development of waste-to-energy projects. According to 2025 data from International Renewable Energy Agency, renewable energy share of electricity capacity in Uzbekistan has increased from 12 per cent in 2019 to 24.4 per cent in 2024. (c) Not implemented. (d) Not implemented. (e) In progress. Examples include efforts in renewable energy deployment, reforming of energy tariffs and increased efforts on cleaner air. (f) Partially implemented. The Programme of Environmental Monitoring 2021–2025 includes regular monitoring of polluted soils near pollution sources and various types of landfills. No analysis of the environmental impacts of gas leakages was carried out. (g) Partially implemented. The 2024 Law on Subsoil includes a variety of provisions to address environmental hazards of open pit mining, including environmental safety as basic principle, mandatory EIAs, the need of a financial guarantee to ensure restoration of environment and biodiversity during and after closure, and a 30-year-liability for all consequences of subsoil use, including environmental consequences. However, implementation of the law could not be assessed and no data on implementation were provided.
Recommendation 12.4: *The Ministry of Energy should promote the regular maintenance and upgrade of the electricity transmission assets to provide reliable power supply to domestic consumers, especially in southern regions.*	Implemented. Uzbekistan has launched projects to upgrade transmission infrastructure, with support from ADB and World Bank.
Recommendation 12.5: *The Cabinet of Ministers should:* *(a) While developing its national policy documents to meet Sustainable Development Goal 7, undertake a comprehensive study on the development of renewable energy technologies that will include their status, trends, economic analysis, and institutional and legislative barriers in renewable energy technology issues in the country;* *(b) Take appropriate steps to meet the targets of raising the share of renewable energy sources in total power production;* *(c) Further develop support schemes for renewable energy.*	(a) In progress. There is no single comprehensive study on renewable energy technologies. However, with 2021 Resolution of the President No. 5063 on Measures for the development of renewable and hydrogen energy, Uzbekistan created a National Research Institute for Renewable Energy under the Ministry of Energy that is doing comprehensive research on renewable energies in Uzbekistan. (b) and (c) In progress. According to 2025 data from International Renewable Energy Agency, renewable energy share of electricity capacity in Uzbekistan has increased from 12 per cent in 2019 to 24.4 per cent in 2024. Uzbekistan has introduced a variety of fiscal incentives as well as feed-in tariffs to encourage renewable energy development.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 12.6: *The Cabinet of Ministers should:* *(a) Consider accession to the 1986 Convention on Early Notification of a Nuclear Accident, 1994 Convention on Nuclear Safety and the 1986 Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency;* *(b) Carry out an EIA for the proposed NPP in line with international standards and ensure transboundary consultations as part of the EIA procedure;* *(c) Ensure application of recommendations of the International Atomic Energy Agency[423] to provide necessary safeguards to reduce environmental and health risks associated with construction and operation of an NPP;* *(d) Ensure compliance with the country's international obligations under the Ramsar Convention by refraining from the construction of an NPP in the territory of a Ramsar site.*	(a) Implemented. Uzbekistan has acceded the 1996 Convention on Early Notification of a Nuclear Accident and the 1994 Convention on Nuclear Safety in April 2025. The draft Resolution of the President on accession to the 1986 Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency has been submitted to the Cabinet of Ministers for further coordination and approval by the Administration of the President. (b) In progress. The EIA Report is one of the mandatory documents for obtaining a license for the placement of small-capacity nuclear power plant. As of 2025, in accordance with international requirements, the Terms of Reference for the development of the EIA have been prepared and agreed upon. As the EIA Report is ready, a Non-Technical Summary will be developed on its basis for holding public hearings in the country and in the nearby territories of neighbouring states. (c) In progress. Comprehensive engineering surveys were carried out, including all areas of studying the condition of the site. Based on the results of the survey work, international missions of the IAEA were conducted for Integrated Nuclear Infrastructure Review and Site and External Events Design Review. (d) In progress. Comprehensive regime observations of the components of the natural environment are carried out at the priority NPP construction site (5 km from Lake Tuzkan). To reduce the impact of NPP on the environment, the Protocol of the Republican Working Group on the Development of Nuclear Energy selected the option of using a "dry" cooling system, which reduces water consumption and reduces thermal impacts on waterbodies and atmospheric air.

Chapter 13: Agriculture and the environment

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 13.1: *The Cabinet of Ministers should ensure the development and adoption of a legal framework, allowing for the establishment of a national certification and labelling system that is recognized internationally, for organic agricultural production.*	Partially implemented. 2022 Law No. 766 on Organic Products establishes a national certification and labelling system. However, this system is not recognized for equivalence by other countries.
Recommendation 13.2: *The Ministry of Agriculture and the Ministry of Water Management should enhance their efforts to further promote water-saving irrigation techniques.* *See Recommendations 3.5, 9.2.*	In progress. A third of agricultural subsidies is dedicated to purchase of water-saving technologies. An irrigation fee with deductions for water saving measures has been introduced. According to the Ministry of Agriculture, as of April 2025, water-saving technologies have been implemented on an area of 279,100 ha. Yet, the overall share of area with modern water-saving technologies remains low at 23 per cent (2023).
Recommendation 13.3: *The Cabinet of Ministers should finalize and adopt a strategy on agriculture that considers environmental matters, particularly for the rational use of water and for the expansion of environmentally friendly crop cultivation techniques.*	Implemented. Uzbekistan approved the Strategy for Agricultural Development for 2020–2030 that included a dedicated chapter on environmental matters, including rational water use and expansion of environmentally friendly agriculture.
Recommendation 13.4: *The Cabinet of Ministers should consider accession to the International Plant Protection Convention.*	Implemented. Uzbekistan acceded to the International Plant Protection Convention in January 2020.

[423] Safety Standards for protecting people and the environment, available at IAEA website (www.iaea.org/resources/safety-standards).

Chapter 14: Transport and the environment

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 14.1: *The Cabinet of Ministers should:* *(a) Consider the best ways to modulate or reduce fossil fuel subsidies to ensure that higher quality fuels are used in vehicles that have a lower impact on the environment;* *(b) Encourage the move away from the use of lower quality fuels and the take-up of alternative, low-carbon-fuelled vehicles;* *(c) Encourage the simultaneous deployment of electromobility along with renewable electricity production to help meet the objective of reducing the total amount of vehicle emissions.* *See Recommendation 3.2.*	(a) In progress. The Resolution of President No. 338 moved forward the nationwide gradual ban on the use and sale of motor fuels below the Euro-4 standard (e.g., AI-80) from 2028 onwards. This ban is complemented by 2025 Decree of the President No. 16, which restricts the use and sale of low-grade fuels. (b) and (c) In progress. In November 2024, the Cabinet of Ministers approved measures to install more than 32,000 charging stations for electric vehicles by the end of 2025. From February 2025, charging stations will be mandatory in public parking lots, including shopping malls, gas stations, and hotels, providing 5 per cent of parking spaces for charging electric vehicles. Additionally, Uzbekistan is developing a national system of environmental certification for vehicles. In 2025, the Ministry of Ecology, Environmental Protection and Climate Change and the Ministry of Transport were tasked with creating economic mechanisms to reduce vehicle emissions. These include mandatory ecological certification for state and corporate fleets, voluntary certification for private users, and a system of reduced compensation payments for certified low-emission vehicles. The Concept of Environmental Protection until 2030 sets a national target of converting 80 per cent of public transport to gas fuel and electric traction by 2030, aiming to significantly lower emissions of harmful pollutants.
Recommendation 14.2: *The Cabinet of Ministers and other relevant authorities should:* *(a) Improve access to, and use of, public transport in the urban environment to reverse the increase in congestion and emissions;* *(b) Develop and implement coherent policies and actions aimed at incentivizing the use of public transport and of alternative modes such as cycling.*	(a) and (b) In progress. In 2022, a roadmap was passed for improving public transport in Tashkent, setting the goal to increase the volume of passenger traffic through public transport from 21 to 43 per cent. The metro system in Tashkent has been extended. Dedicated lanes for buses were created, both in Tashkent and in Samarkand. In Tashkent, bicycle paths are being constructed with the goal to build 250 km. Uzbekistan continues acquiring new buses and establishing new bus routes, both within cities and between cities and regions. A new financing system for the expansion of public transport is currently being rolled out. However, in 2024, automobile transport accounted for 95.8 per cent of the total volume of transportation, indicating large potential to further extend public transport as well as cycling and pedestrian infrastructure.
Recommendation 14.3: *The Cabinet of Ministers, in cooperation with Uzbekistan Railways, should facilitate further development of the railway network and the switch away from road transport for both passengers and freight while ensuring that there are good intermodal connections for both passengers and freight for their last mile journeys.*	Implemented. The electrification of the Bukhara-Urgench-Khiva railway has been completed in 2025, with plans to buy new high-speed trains in 2026. Passenger train traffic between Dushanbe and Tashkent was re-opened in 2022, after a 30-year break. A train-connection between Samarkand and Urgut is being built. According to a recent report by the Government, 1,200 new freight waggons were bought over the past years. A new 2024 law on rail transport (No. RQ-1006) was passed to modernize railway transport. Similarly, Uzbekistan is investing into modern logistics hubs that improve intermodal freight connectivity.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 14.4: *The Cabinet of Ministers should develop a safe-system approach to road safety covering all aspects of road safety activities, including:* *(a) Coordinated governmental action and policies on road safety, including the involvement of all relevant stakeholders;* *(b) Investment in making the road infrastructure safe;* *(c) Appropriate enforcement of driving and road safety laws and regulations;* *(d) Ensuring that the vehicles registered domestically meet the highest international technical specification standards.*	(a) Implemented. In line with the 2022 Resolution of President No. 190 on Measures to ensure human safety and significantly reduce roads fatalities, the Republican Special Commission for Road Safety was established in April 2022. It includes representatives of the Ministry of Internal Affairs, the Ministry of Transport, the Ministry of Education, the Ministry of Health and other departments. It develops and monitors the implementation of comprehensive programmes to reduce road accidents. (b) and (c) In progress. 2022 Decision of the President No. 316 on Approval of the National Programme "Safe and Smooth Road" aims to improve the road infrastructure and create safe driving conditions, to dramatically reduce accidents and deaths on the roads, to ensure broad participation of the public in the work in this field. The plan addresses, among others, complex improvement of road infrastructure and digitization of the traffic management system on roads. According to the Ministry of transport, dozens of new cameras recording speeding, driving through a red light and other violations have been installed in Tashkent and other large cities. Additionally, road reconstructions consider safety concerns. For example, pilot projects were implemented in Nukus and Samarkand to equip safe pedestrian crossings, install reflective elements, speed bumps, fences and improve lighting. Additionally, higher fines have been introduced for speeding, drunk driving, not wearing seatbelts and not having child car seats. (d) In progress. According to the 2021 Resolution of the Cabinet of Ministers No. 125, general procedure for conducting technical inspections was defined. Type approval system is based on the 1998 Agreement on technical vehicle regulations. However, the 2024 Uzbekistan Road Safety Performance Review clearly shows gaps in ensuring highest vehicle safety standards.
Recommendation 14.5: *The Cabinet of Ministers should consider accession to transport-related agreements, including:* *(a) 1958 Agreement concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations;* *(b) 1997 Agreement concerning the Adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of Such Inspections;* *(c) 1957 European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR);* *(d) 1993 Protocol amending article 1 (a), article 14 (1) and article 14 (3) (b) of the European Agreement of 30 September 1957 concerning the International Carriage of Dangerous Goods by Road (ADR);* *(e) 1989 Convention on Civil Liability for Damage caused during Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels (CRTD);* *(f) 1950 Declaration on the Construction of Main International Traffic Arteries;* *(g) 1975 European Agreement on Main International Traffic Arteries (AGR);* *(h) 1985 European Agreement on Main International Railway Lines (AGC);* *(i) 1991 European Agreement on Important International Combined Transport Lines and Related Installations (AGTC).*	(a) , (b) and (e)–(i) In progress. According to the Ministry of Transport, the Ministry is currently determining the feasibility of joining the agreements mentioned. (c) and (d) Implemented. In 2020, Uzbekistan acceded to the 1957 European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR); and the 1993 Protocol amending article 1 (a), article 14 (1) and article 14 (3) (b) of the European Agreement of 30 September 1957 concerning the International Carriage of Dangerous Goods by Road (ADR).

Chapter 15: Industry and the environment

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 15.1: *In order to support the introduction of green technologies in industry, the Cabinet of Ministers should:* *(a) Create economic and financial incentives for industrial enterprises to move towards green technology;* *(b) Foster the creation of small and medium-sized enterprises and start-ups focused on green technology.*	(a) Implemented. Namely, a newly introduced 0 per cent corporate income tax for renewable energy projects (≤100 kW capacity) for 3–10 years, and property/land tax exemptions for green tech installations (e.g., solar panels with storage systems). Secondly, credit support schemes were made available, most notably the US$100 million credit line for pollution-control equipment (e.g., dust-gas filters). And finally, there are significant penalties for non-compliance with environmental regulations, such as fines up to 18.75 million soums for air/water pollution violations. EBRD, in cooperation with local banks such as Hamkorbank, is implementing the Global Energy Financing Facility. This initiative provides financing to enterprises for investments in energy-efficient and environmentally friendly technologies, helping to reduce energy consumption and GHG emissions. In December 2024, Hamkorbank also signed an agreement with ADB to attract financing in the amount of 625 billion soums. These funds are aimed at supporting micro, small and medium-sized businesses, developing a green economy and expanding opportunities for women entrepreneurs. (b) In progress. Certain funding programmes are tailored to SMEs and startups such as the 2023 AgriTech4Uzbekistan Innovation Challenge which funds climate-smart agriculture startups, and the US$1.3 billion waste-to-energy initiative which includes SME participation. Finally, in 2025 a simplified registration procedure for eco-innovations under the 2025 Year of Environment and Green Economy initiative was introduced. In March 2025, the President signed a decree allocating US$100 million to support start-up projects in promising areas, including green technologies, energy saving and renewable resources. It is planned to launch at least 200 start-ups by the end of 2026. Uzbekistan has adopted the Strategy for the Transition to a Green Economy for the Period 2019–2030, which provides for the development of financial and non-financial mechanisms to support green technologies, including the creation of green funds and the introduction of a green lending system.
Recommendation 15.2: *The Cabinet of Ministers should:* *(a) Develop and adopt legislation and policies on the management of industrial waste, setting out specific targets and indicators for industrial waste reduction and reuse;* *(b) Elaborate appropriate standards for wastewater treatment facilities in industrial enterprises and facilitate installation of such facilities by creating incentives for investments in wastewater treatment and ensuring the financial viability of modern wastewater treatment plants.*	(a) Not implemented. (b) In progress. The 2024 Resolution of the Cabinet of Ministers No. 783 on measures to reduce the harmful impact of industrial enterprises on the environment, requires the most polluting companies to install or update wastewater treatment facilities, introducing financial incentives for adopting facilities to reduce industrial pollutants.
Recommendation 15.3: *The State Committee on Statistics, in cooperation with the Ministry of Economy and Industry and the State Committee on Ecology and Environmental Protection, should ensure regular collection of environment-related data from industrial enterprises and the publication of such data.*	Not implemented.
Recommendation 15.4: *The Cabinet of Ministers should assess the impact of industrial activities on the environment and ensure that new programmes on industrial development contain information on environmental safeguards to reduce negative environmental impacts of the proposed industrial projects.*	Implemented. The 2025 Law No. 1036 on Ecological Expertise, Environmental Impact Assessment and Strategic Environmental Assessment includes requirements for environmental impact assessments and for strategic environmental assessments for new programmes and strategies; based on the assessment, requirements for implementation are defined by the responsible state authority.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 15.5: *The Cabinet of Ministers should:* *(a) Approve and proceed with the implementation of the National Action Plan for the implementation of priority actions identified based on results of Uzbekistan's self-assessment of progress towards accession to the Convention on the Transboundary Effects of Industrial Accidents;* *(b) Consider accession to the Convention to fully enjoy its benefits and enhanced level of prevention of and preparedness for industrial accidents with potential transboundary effects;* *(c) Identify hazardous activities that may cause accidents with potential transboundary effects and subsequently notify its neighbours of such activities.*	(a) and (b) Implemented. Uzbekistan updated its National Action Plan for the implementation of priority actions identified based on results of Uzbekistan's self-assessment of progress towards accession to the Convention on the Transboundary Effects of Industrial Accidents in 2021. At the Samarkand Climate Forum on 4 April 2025, the President announced that Uzbekistan would accede to the Convention on the Transboundary Effects of Industrial Accidents. Uzbekistan also approved a Road Map for accession to the Convention at the 2nd meeting of the Inter-institutional Working Group on the Prevention of Water Pollution and Tailings Safety in Uzbekistan (Tashkent, 9 April 2025) and is now moving towards the implementation of the Action Plan in the Road Map. Uzbekistan's efforts towards accession are also supported through the ECE Project on Strengthening action in Uzbekistan on water and sanitation and protection of water resources from accidental pollution in the face of climate change (December 2023–December 2026), jointly implemented by the ECE-WHO/Europe Protocol on Water and Health and the Convention on the Transboundary Effects of Industrial Accidents with funding from the Swiss Agency for Development and Cooperation. (b) Partially implemented. Through capacity-building projects under the Convention on the Transboundary Effects of Industrial Accidents and using the Tailings Management Facility (TMF) Safety Methodology, Uzbekistan identified 41 TMFs at the national level, of which 10 with possible transboundary effects. According to its national implementation report to the Convention (2019–2022), some limited exchange of information on hazardous activities has happened with countries with which Uzbekistan has established a bilateral agreement, including with Kazakhstan, Kyrgyzstan and Tajikistan.
Recommendation 15.6: *The Cabinet of Ministers should develop and enact legislation to ensure implementation of the Extractive Industries Transparency Initiative (EITI) standard.*	Partially implemented. Uzbekistan recently adopted the new 2024 Law No. 987 on Subsoil, which includes some provisions that are equivalent to EITI requirements, for instance on transparency in the issuance of permits and licenses, the disclosure of beneficial ownership, and the reporting of payments and revenues related to subsoil use. Moreover, the law mandates the publication of geological data and the results of subsoil use. However, central provisions of EITI are not addressed by the law, for instance forming a multi-stakeholder oversight mechanism or requirements on contract disclosure. Another key requirement of the EITI standards is the requirement to access the EITI to access its international accountability mechanisms. Uzbekistan has not joined the EITI and has not announced plans to do so.
Recommendation 15.7: *The Cabinet of Ministers should develop and adopt legislation on corporate social responsibility.*	In progress. As of August 2025, no standalone law on corporate social responsibility (CSR) has been adopted. However, sectoral measures do exist, such as voluntary CSR practices i.e. some large state-owned enterprises (e.g., Navoi Mining, Uzbekneftegaz) that publish annual sustainability reports aligned with international standards. Additionally, the Central Bank's 2022 ESG Guidelines encourage (but do not require) CSR disclosures for financial institutions. Although there is no formal regulation requiring CSR, there are certain related incentives that encourage corporate responsibility, for example CSR-related donations (e.g., education/environment) which are tax-deductible under the Tax Code.

Chapter 16: Human settlements and the environment

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 16.1: *The Cabinet of Ministers should consider:* *(a) Introducing climate adaptation planning in urban areas and rural settlements;* *(b) Introducing specific zoning requirements to mitigate GHG emissions and energy efficiency in urban areas and rural settlements;* *(c) Fully exploiting the potential for GHG emissions reduction from the housing sector;* *(d) Implementing the use of local materials for the housing sector, to reduce its energy intensity and their carbon footprint;* *(e) Introducing incentives for investments in low carbon buildings;* *(f) Introducing incentives to reduce the carbon footprint of the housing sector and to introduce modern technologies in the cement industry by using the carbon footprint calculations;* *(g) Prescribing the integration of traditional materials, morphologies and aesthetic shapes with contemporary techniques and technologies for the design and construction of new rural housing;* *(h) Elaborating, maintaining and updating the maps of flood-prone areas;* *(i) Addressing climate resilience of rural settlements by designs tailored to local climatic conditions (in terms of sun orientation, prevailing wind direction, pervious surfaces, establishment of green infrastructure) and not based on standard multiplication of rows of buildings;* *(j) Introducing climate change adaptation and mitigation in the policy documents related to urban development.* *See Recommendation 7.1.*	(a) In progress. Housing is identified as a key sector for preparation of a sectoral adaptation plan under an ongoing adaptation project with support from UNDP. Uzbekistan is supporting the development of green spaces in cities, also as a climate adaptation measure. (b) Not implemented. (c), (e) and (f) In progress. Energy efficiency and renewable energy measures in households are promoted within the current policy frameworks for green economy, environmental protection and climate change. With 2025 Decree of the President No. 63, Uzbekistan created a National Energy Efficiency Agency under the Cabinet of Ministers and introduced subsidies for energy audits in residential buildings, solar panels and solar collectors and heat pumps. No measures have been identified that target the cement industry by using the carbon footprint calculations. (c) Partially implemented. 2021 Decree of the President No. 6244 on additional Measures to increase the industrial potential of the regions has mandated the Ministry of Investments and Foreign Trade to strengthen the production of locally produced building materials. (g) Not implemented. (h) In progress. With support from a UNDP-GCF project, Uzbekistan is constructing a multi-hazard early warning system, which also addresses flood and mudflow risks. In addition, Uzbekistan also receives support on flood early warning systems from the World Bank. (i) (Not implemented. (j) In progress. In addition to efforts relating to development of green spaces and greening of buildings, activities are ongoing for expanding and greening public transport and roll-out of EV-charging infrastructure.
Recommendation 16.2: *The Cabinet of Ministers should ensure:* *(a) Removal of existing industrial facilities from urban areas;* *(b) Strengthening environmental requirements for the localization of new factories, or the upgrading of existing ones in urban areas.*	(a) Not implemented. However, 2025 Decree of the President No. 16 asks for the development of plans to relocate facilities of various environmentally harmful industries away from urban areas. (b) Implemented. 2025 Decree of the President No. 16 prohibits the construction of new facilities of various environmentally harmful industries in urban areas from 1 May 2025, onwards.
Recommendation 16.3: *The Cabinet of Ministers should consider:* *(a) Introducing an extended concept of landscape, which takes into account the promotion of Uzbek cultural identity;* *(b) Taking stock of existing studies carried out by Uzbek universities to introduce distinctive elements of Uzbek identity in housing and urban and rural settlement design, to improve the quality of life in cities and rural areas;* *(c) Promoting awareness-raising activities on distinctive Uzbek cultural identity and architectural and urban forms.*	(a) and (b) Not implemented. (c) Implemented. Uzbekistan has actively promoted its cultural identity and architectural forms, for instance with a National Pavilion at the International Architecture Biennale in 2021 and diverse educational and museal projects. Uzbekistan has further taken measures to protect important architectural heritage sites.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 16.4: *The Cabinet of Ministers should ensure:* *(a) Effective public participation in the elaboration of plans and programmes affecting the territory at the earliest stage possible;* *(b) Effective public participation in decision-making on projects to be implemented in inhabited areas, and specifically those that would entail their total or partial transformation;* *(c) That due account is taken of the outcomes of such public participation procedures.* *See Recommendation 5.3.*	(a) – (c) In progress. 2025 Law No. 1036 introduces clear requirements for public participation in environmental assessments. How the law will be implemented cannot yet be assessed and will also depend on further specification of by-laws. The law specifically includes a provision to apply strategic environmental assessments for urban planning.
Recommendation 16.5: *The Cabinet of Ministers should facilitate the updating of remote sensing and geographical information systems to:* *(a) Geolocalize, manage and monitor protected sites and objects of culture;* *(b) Share information about cultural heritage and raise awareness among the population about the importance of cultural heritage;* *(c) Monitor the construction activities inside and outside urban areas.*	(a) and (b) Not implemented (c) In progress. In 2025, the Prosecutor General's Office and the Space Research and Technology Agency signed a memorandum to strengthen the use of satellite imagery for surveillance of environmental violations, including illicit construction activities.
Recommendation 16.6: *The Cabinet of Ministers should:* *(a) Develop and introduce energy efficiency standards and requirements for existing buildings;* *(b) Enforce the 2018 construction standards;* *(c) Promote in the housing sector the use of:* *(i) Market-based solutions for energy efficiency;* *(ii) Geothermal systems;* *(iii) Solar thermal collectors for heating water and air and generating electricity.*	(a) Not implemented. (b) Partially implemented. According to 2020 Decree of the President No. 6119, state control for project development of residential buildings of a certain size is mandatory since 2021, facilitating improvement control of construction standards. (c) (i) In progress. The implementation of the newly adopted on 24 October 2025 Resolution of the Cabinet of Ministers No. 673 on Measures to form the energy service market and stimulate the increase of energy efficiency in residential buildings, will support the promotion of market-based solutions for energy efficiency in the housing sector. (ii) In progress. Geothermal energies are currently being explored in cooperation with different partners. (iii) In progress. 2025 Decree of the President No. 63 introduces subsidies for solar collectors.
Recommendation 16.7: *The Cabinet of Ministers should consider developing and implementing urban ecological networks.*	In progress. Uzbekistan has not yet started developing urban ecological networks. However, as part of the Yashil Makon Initiative, Uzbekistan has set the goal of creating 30 per cent green spaces in cities.
Recommendation 16.8: *The Cabinet of Ministers should:* *(a) Ban asbestos as a construction material and its use in the remediation of existing buildings;* *(b) Organize dedicated campaigns to inform the population of the extreme danger of asbestos for human health.*	(a) (b) Not implemented.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 16.9: *The Cabinet of Ministers should:* *(a) Implement social protection measures aimed at safeguarding the rights of inhabitants of residential buildings that receive demolition orders;* *(b) Ensure the provision of social housing for people in vulnerable categories and the low-income population.*	(a) Partially implemented. The 2023 Constitution includes the right to housing, that restricts demolitions and guarantees a right to prior and equivalent compensation before expropriation. 2022 Law No. 781 on Procedures for the Withdrawal of Land Plots for Public Needs with Compensation regulates the details for compensation procedures. However, a 2024 visit by the United Nations Special Rapporteur on the right to adequate housing concluded that these rights are still not sufficiently protected in practice. (b) Partially implemented. The 2023 Constitution obliges the state to create conditions for the realization of the right to housing and suggests that housing for socially vulnerable shall be created. Uzbekistan does have mortgage loan subsidies for low-income families, and is currently working on their improvement, supported by ADB. However, a recent ADB analysis showed that the programmes do not yet effectively reach low-income families.
Recommendation 16.10: *The Cabinet of Ministers should consider:* *(a) Introducing development impact taxes;* *(b) Requiring that large construction developments fully compensate the communities affected by demolition and reconstruction;* *(c) Introducing strategic environmental assessment as a support tool to develop sustainable urban planning documentation.* *See Recommendation 1.3.*	(a) Not implemented. (b) Partially implemented. 2022 Law No. 781 on Procedures for the Withdrawal of Land Plots for Public Needs with Compensation regulates the details for compensation procedures. However, a 2024 visit by the United Nations Special Rapporteur on the right to adequate housing concluded that these rights are still not sufficiently protected in practice. (c) In progress. 2025 Law No. 1036 introduces SEAs and specifically includes urban planning documents as relevant strategic documents.

Chapter 17: Health and the environment

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 17.1: *The Ministry of Health, in cooperation with relevant governmental authorities, should:* *(a) Introduce legally specified data flows to streamline data reporting by public health authorities, avoiding duplication while ensuring the involvement of all relevant institutions, e.g. primary health-care centres, hospitals and health-care institutions;* *(b) Ensure training of all involved in data reporting in uniform diagnosis and case registration;* *(c) Establish a publicly available information system that includes data and indicators and some simple indicator-based analysis and reporting tools at the national, oblast and district levels.*	(a) – (c) Not implemented.
Recommendation 17.2: *The Ministry of Health, in cooperation with relevant governmental authorities, should:* *(a) Enhance infectious disease surveillance through the introduction of integrated service delivery;* *(b) Strengthen laboratory networks through cost-effective upgrading of selected laboratories with enhanced capabilities to diagnose a range of infectious diseases and to detect bacterial, viral and parasite pathogens in water and food samples;* *(c) Improve capacity and skills to apply analytical epidemiological and public health methods to both infectious and non-communicable diseases, and other relevant data at the national and subnational levels, in order to prepare periodic reports aiming at informing health managers and as a basis for disease control and prevention.*	(a) and (b) Partially implemented. 2020 Decree of the President No. 4790 established the Committee for Sanitary and Epidemiological Welfare and Public Health under the Ministry of Health, integrating two priorly separated agencies. This Decree also reformed the national reference laboratory, which subsequently received financial support via German KfW. The 2022 Resolution of the President No. 243 on improving measures to counter the spread of some current viral infections further supported upgrading of virus diagnostic equipment. (c) In progress. The 2022 Resolution of President No. 243 includes ongoing measures to upgrade the skills of the personnel of the Committee for Sanitary and Epidemiological Welfare and Public Health. Additional measures were taken during the Covid pandemic, for instance a field epidemiology training supported by the US Center for Disease Control and Prevention.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 17.3: *The Ministry of Health, in cooperation with relevant governmental authorities, should:* *(a) Improve access to quality preventive and therapeutic and diagnostic services for pregnant women and newborns throughout the country, in particular in remote rural areas, and introduce changes in health-care financing to ensure equitable access to health services;* *(b) Improve collection of data and information on maternal and child health and its determinants to meet the needs of health-care providers and those engaged in health protection.*	(a) Partially implemented. 2022 Decree of the President No. 216 on strengthening the protection of motherhood and childhood in 2022–2026 passed a respective action plan. Among other things, it includes the creation of 4,900 new posts for paediatric nurses and midwives, a new children's medical centre in Nukus and creation of children's department at polyclinics. However, implementation of this action plan could not be verified. According to 2023 Resolution of President No. 296 on measures to protect the health of mother and children and strengthen the reproductive health of the population the Republican Centre for Maternal and Child Health and fourteen regional branches of this centre were established. No evidence was presented regarding changes on equitable access to healthcare services. (b) In progress. Uzbekistan is currently working to introduce a unified digital health care platform to improve data collection and access within the medical system. With support from the Uzbekistan Vision 2030 Fund, Uzbekistan is working on improving maternal and children's healthcare, including on data collection.
Recommendation 17.4: *The Cabinet of Ministers should:* *(a) Ensure that the modernization of water treatment systems and distribution networks and connection to sewerage systems is governed by achieving maximum reduction of population health risks from water contamination;* *(b) Ensure progressive implementation of the WHO water safety plans for small-scale water supplies across the country;* *(c) Ensure that gender analysis is taken into account in the development of measures on access to water and sanitation;* *(d) Support development and implementation of programmes to improve hygiene and sanitary conditions in the countryside and reinforce hygiene education.* *See Recommendation 9.2.*	(a) Implemented. The 2022 Law No. 784 on Drinking Water Supply and Wastewater Disposal enshrines the provision of drinking water of a guaranteed quality, and water utilities provider bear liability for any harm caused by substandard water. The proportion of population using safely managed drinking water services has increased since the last EPR, from 98.6 per cent in 2019 to 99.8 per cent in 2023 (SDG indicator 6.1.1). (b) Not implemented. However, as part of a project on the implementation of the ECE/WHO protocol on Water and Health, Uzbekistan has begun to develop targets, one of which addresses the implementation of water safety plans for small water supply systems. (c) In Progress. In 2021, a comprehensive Gender Assessment of the Water Sector was conducted with support from Switzerland. The assessment was adopted by the Senate. Uzbekistan is currently developing a Gender Strategy for Water Management by 2030. (d) Implemented. Various donor-supported projects supported programmes for hygiene and sanitary conditions in rural areas. 2020 Decree of the President No. 4891 on additional Measures to ensure public health by further improving the effectiveness of medical prevention created centres for supporting a healthy lifestyle at the district level, whose goal is to promote a healthy lifestyle, including hygiene educations.

Recommendations from the Third EPR of Uzbekistan	Assessment of progress in implementing the recommendations
Recommendation 17.5: *The Cabinet of Ministers should:* *(a) Ensure integration of concrete actions on protecting the population's health from climate change, along with mechanisms for monitoring their effects and effectiveness in future national strategic documents on climate change adaptation and mitigation and on disaster risk reduction;* *(b) Ensure development and sustainable operation of early warning systems, in particular for flash floods, mudflows and heatwaves;* *(c) Support the broader dissemination and use of climatic and meteorological information and data among various stakeholders at the central and local levels, to advance preparedness for and resilience to extreme weather events;* *(d) Reinforce the building of climate-resilient water supply and sanitation services following the 2010 Guidance on Water Supply and Sanitation in Extreme Weather Events developed under the Protocol on Water and Health;* *(e) Ensure capacity-building on climate change, the environment and health among the relevant authorities.* *See Recommendation 7.1.*	(a) In progress. Health care is one of the five sectors for which Uzbekistan is currently developing a sectoral adaptation plan. With support from UNDP, Uzbekistan has also conducted a gender-sensitive climate vulnerability assessment for the health care sector. (b) and (c) In progress. With support from a UNDP-GCF project, Uzbekistan is constructing a multi-hazard early warning system. Uzbekistan also receives support on early warning systems from the World Bank. Under the UNDP-GCF project, Uzbekistan is currently developing a national framework for climate services that shall improve dissemination of climatic information. (d) In progress. With support from a Swiss-funded ECE project, Uzbekistan is working on the implementation of the Protocol on Water and Health and the strengthening of climate resilience. Water is one of the five sectors for which Uzbekistan is currently developing a sectoral adaptation plan. (e) In progress. 2020 Resolution of the President No. 4896 on measures to further improve the activities of the Centre for Hydrometeorological Service reorganized the Tashkent Hydrometeorological Technical School and mandated the school to provide advanced training to state employees. Additionally, a variety of international projects have supported Uzbekistan with capacity-building on climate change, environment and health, including the ongoing ECE project on the Protocol on Water and Health, and the UNDP-GCF project on multi-hazard early warning systems.
Recommendation 17.6: *The Cabinet of Ministers should endorse mechanisms for intersectoral collaboration on the environment and health and the necessary organizational arrangements, and allocate financial resources for these purposes.* *See Recommendation 1.4.*	Partially implemented. Under the project in support of the ECE/WHO Protocol on Water and Health, Uzbekistan has established an interministerial working group on water and health. In support of a project financed by the European Union and implemented by FAO, Uzbekistan is developing mechanisms for intersectoral collaboration on pesticide management. However, there is no mechanism that ensures broader intersectoral collaboration on environment and health beyond these two specific project-related mechanisms. No financial resources have been allocated to these mechanisms, as the members of interdepartmental working groups carry out their activities within the framework of the state budget.

ANNEX II
SDG TARGETS ADDRESSED IN THE FOURTH EPR OF UZBEKISTAN

The Fourth EPR of Uzbekistan includes an assessment of 41 targets covering 12 SDGs. In some cases, a comprehensive analysis of SDGs and targets is hindered by the lack of data and information.

SDG	Target	Indicator	Description	Chapter(s)
	**1.5**		By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters	3
		1.5.1	*Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population* Nationalized as: *Number of deaths, missing persons and injured directly as a result of disasters per 100,000 population*	3
		1.5.3	*Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030* Nationalized as: *National disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030*	3
		1.5.4	*Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies* Nationalized as: *Proportion of local governments that have adopted and are implementing local disaster risk reduction strategies in line with national disaster risk reduction strategies*	3
	**2.3**		By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment Nationalized as: By 2030, increase the average efficiency of agricultural food production, as well as the income of agricultural food producers.	2
		2.3.2	*Average income of small-scale food producers, by sex and indigenous status* Nationalized as: *Average income of small-scale food producers*	2
	2.4		By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality Nationalized as: By 2030, implement agricultural management practices that create sustainable food production systems and increase the efficiency of agricultural production	2, 4
		2.4.1	*Proportion of agricultural area under productive and sustainable agriculture*	2, 4
	**3.9**		By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination Nationalized as: Reduce the number of deaths and illnesses from water and air pollution, hazardous chemicals, including chemical production and disposal sites	1
		3.9.1	*Mortality rate attributed to household and ambient air pollution* *Nationalized as: Mortality from diseases caused by household and ambient air pollution per 100,000 population.*	1
		3.9.2	*Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)* Nationalized as: *Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services) per 100,000 population*	1
		3.9.3	*Mortality rate attributed to unintentional poisoning*	1

SDG	Target	Indicator	Description	Chapter(s)
5 GENDER EQUALITY	**5.a**		Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws Nationalized as: Expand programs aimed at supporting women in the realization of their rights and interests in the socioeconomic sphere	2
		5.a.2	*Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control* Nationalized as: *Presence of a legal framework (including customary law) guaranteeing women equal rights to land ownership and/or control*	2
6 CLEAN WATER AND SANITATION	**6.1**		By 2030, achieve universal and equitable access to safe and affordable drinking water for all Nationalized as: By 2030, ensure universal and equitable access to clean drinking water for all	1
		6.1.1	*Proportion of population using safely managed drinking water services.*	1
	6.2		By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations Nationalized as: By 2030, ensure universal and equitable access to adequate sanitation and hygiene for all, paying special attention to the needs of those in vulnerable situations	1
		6.2.1	*Proportion of population using (a) safely managed sanitation services and (b) a hand-washing facility with soap and water* Nationalized as: *Proportion of population using a) sanitation services organized in compliance with safety requirements, b) hand washing facilities with soap and water*	1
	6.3		By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally Nationalized as: By 2030, significantly reduce any pollution of the aquatic environment, including as a result of land activities and increase the scale of safe reuse of wastewater	1
		6.3.1	*Proportion of domestic and industrial wastewater flows safely treated* Nationalized as: *Proportion of wastewater safely treated*	1
		6.3.2	*Proportion of bodies of water with good ambient water quality* Nationalized as: *Water Pollution Index (WPI)*	1
	6.4		By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity Nationalized as: By 2030, substantially increase water-use efficiency across all sectors of economy	1
		6.4.1	*Change in water-use efficiency over time*	1
		6.4.2	*Level of water stress: freshwater withdrawal as a proportion of available freshwater resources*	1
	6.5		By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate Nationalized as: By 2030, ensure integrated water resources management at all levels, including transboundary cooperation where appropriate	1
		6.5.1	*Degree of integrated water resources management* Nationalized as: *Degree of integrated water resources management (from 0 to 100)*	1
	6.6		By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes	1
		6.6.1	*Change in the extent of water-related ecosystems over time*	1
	6.b		Support and strengthen the participation of local communities in improving water and sanitation management Nationalized as: Support and strengthen the participation of citizens self-government bodies in improving water and sanitation management	1
		6.b.1	*Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management*	1

SDG	Target	Indicator	Description	Chapter(s)
	**8.3**		Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services Nationalized as: Creation of favourable conditions aimed at providing decent work and expanding productive employment of the population, especially young people, persons with disabilities, through the implementation of active and passive measures in the labour market, protection of private property, support and removal of barriers for the accelerated development of small and large businesses, private entrepreneurship and family business	2
		8.3.1	*Proportion of informal employment in total employment, by sector and sex*	2
	8.4		Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-Year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead Nationalized as: Gradually improve global resource efficiency in consumption and production systems throughout the period until the end of 2030 and strive to ensure that economic growth is not accompanied by environmental degradation, as set out in the ten-year strategy for action to shift to sustainable consumption and production patterns	2
	**9.4**		By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities Nationalized as: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, through increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with engagement of all interested countries in accordance with their respective capabilities	3
		9.4.1	*CO_2 emission per unit of value added*	3
	**11.3**		By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries Nationalized as: By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management	1
		11.3.1	*Ratio of land consumption rate to population growth rate*	1
		11.3.2	*Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically*	1
	11.4		Strengthen efforts to protect and safeguard the world's cultural and natural heritage	2
	11.5		By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations Nationalized as: By 2030, significantly reduce the number of deaths and the number of people affected by disasters, especially women and children, and substantially decrease the direct economic losses caused by disasters with a focus on protecting people in vulnerable situations	3
		11.5.1	*Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population*	3
		11.5.2	*Direct economic loss attributed to disasters in relation to global gross domestic product (GDP)* Nationalized as: *11.5.2.1 Direct economic losses due to disasters as a percentage of GDP*	3
		11.5.3	*(a) Damage to critical infrastructure and (b) number of disruptions to basic services, attributed to disasters*	3
	11.6		By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management Nationalized as: By 2030, reduce the adverse environmental impact of cities on population, including by paying special attention to air quality and municipal and other waste management	1
		11.6.1	*Proportion of municipal solid waste collected and managed in controlled facilities out of total municipal waste generated, by cities*	1
		11.6.2	*Annual mean levels of fine particulate matter (e.g. $PM_{2.5}$ and PM_{10}) in cities (population weighted)*	1

SDG	Target	Indicator	Description	Chapter(s)
	11.b		By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels	
		11.b.1	*Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030*	3
		11.b.2	*Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies*	3
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	**12.2**		By 2030, achieve the sustainable management and efficient use of natural resources	2
		11.2.1	*Material footprint, material footprint per capita, and material footprint per GDP*	2
		12.2.2	*Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP*	2
	12.4		By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment Nationalized as: By 2030, achieve the environmentally sound use of chemicals and all waste throughout their life cycle in accordance with agreed international principles, and reduce their release into the air, water and soil by half to minimize their negative impact on human health and the environment	1
		12.4.1	*Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement* Nationalized as: *Availability of international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement*	1
		12.4.2	*(a) Hazardous waste generated per capita; and (b) proportion of hazardous waste treated, by type of treatment* Nationalized as: *12.4.2.1 Formation of toxic waste products of 1-3 hazard classes per capita; and 12.4.2.2 The share of neutralized production waste of 1-3 hazard classes in total volume of generated production waste of 1-3 hazard classes*	1
	12.5		By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	1
		12.5.1	*National recycling rate, tons of material recycled*	1
	12.7		Promote public procurement practices that are sustainable, in accordance with national policies and priorities Nationalized as: Expand the use of environmental standards in public procurement practices	2
		12.7.1	*Number of countries implementing sustainable public procurement policies and action plans* Nationalized as: *12.7.1.1 Availability of strategies and action plans for sustainable public procurement*	2
	12.c		Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities	2
		12.c.1	*Amount of fossil-fuel subsidies (production and consumption) per unit of GDP*	2
13 CLIMATE ACTION	**13.1**		Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	
		13.1.1	*Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population*	3
		13.1.2	*Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030*	3
		13.1.3	*Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies*	3

SDG	Target	Indicator	Description	Chapter(s)
	13.2		Integrate climate change measures into national policies, strategies and planning	
		13.2.1	*Number of countries with nationally determined contributions, long-term strategies, national adaptation plans and adaptation communications, as reported to the secretariat of the United Nations Framework Convention on Climate Change* Nationalized as: *13.2.1.1 Comprehensive development programs and strategies that include measures and actions to reduce greenhouse gas emissions and improve climate resilience*	3
		13.2.2	*Total greenhouse gas emissions per year*	3
	13.3		Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	3
		13.3.1	*Extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment*	3
15 LIFE ON LAND	**15.1**		By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements Nationalized as: Ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	1, 4
		15.1.2	*Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type*	1
	15.2		By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	4
		15.2.1	*Progress towards sustainable forest management*	4
	15.3		By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world	1, 3, 4
		15.3.1	*Proportion of land that is degraded over total land area* Nationalized as: *Proportion of land that is degraded (irrigated and non-irrigated) over total land area*	1, 3
	15.5		Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species Nationalized as: Take significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and prevent the extinction of threatened species	1
		15.5.1	*Red List Index* Nationalized as: *15.5.1.1 Red Book Index and 15.5.1.2 Number of biological species listed in the national Red Book*	1
	15.9		By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts Nationalized as: Ensure that the value of ecosystems and biodiversity is taken into account in the development of national strategies and programs for the development of industries and sectors of the economy	1
		15.9.1	*(a) Number of countries that have established national targets in accordance with or similar to Kunming-Montreal Global Biodiversity Framework Target 14 in their national biodiversity strategy and action plans and the progress reported towards these targets; and (b) integration of biodiversity into national accounting and reporting systems, defined as implementation of the System of Environmental-Economic Accounting* Nationalized as: *15.9.1.1 Number of national, sectoral and regional strategies and programs that take into account the value and conservation of biodiversity and ecosystems*	1
	15.a		Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems	
		15.a.1	*(a) Official development assistance on conservation and sustainable use of biodiversity; and (b) revenue generated and finance mobilized from biodiversity-relevant economic instruments* Nationalized as: *15.a.1.1 The share of public expenditures allocated for the conservation and rational use of biodiversity and ecosystems in the total expenditures of the state budget*	2

SDG	Target	Indicator	Description	Chapter(s)
	15.b		Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation	
		15.b.1	*(a) Official development assistance on conservation and sustainable use of biodiversity; and (b) revenue generated and finance mobilized from biodiversity-relevant economic instruments*	2
17 PARTNERSHIPS FOR THE GOALS	**17.2**		Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of ODA/GNI to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries	2
	17.3		Mobilize additional financial resources for developing countries from multiple sources Nationalized as: Mobilize additional financial resources from external sources for the implementation of socioeconomic development programs	2
		17.3.1	*Additional financial resources mobilized for developing countries from multiple sources* Nationalized as: *Foreign direct investment, official development assistance and South-South cooperation as a proportion of gross national income*	2
	17.13		Enhance global macroeconomic stability, including through policy coordination and policy coherence	2
		17.13.1	*Macroeconomic Dashboard* Nationalized as: *A single set of macroeconomic benchmarks: a) GDP, in billions of soums;* *b) GDP growth rate, as a percentage of the previous year;* *c) GDP per capita, thousand sums;* *d) GDP at purchasing power parity of the Uzbek soum to the US dollar: total, billion US dollars, per capita, US dollars: total, billion US dollars; per capita, US dollars*	2
	17.14		Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development	
		17.14.1	*Number of countries with mechanisms in place to enhance policy coherence of sustainable development*	
	17.17		Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships Nationalized as: Encourage and promote effective public-private sectors and civil society partnerships when implementing social and economic development programs	2
		17.17.1	*Amount in United States dollars committed to public-private partnerships for infrastructure* Nationalized as: *Amount in United States dollars committed to public-private partnerships for infrastructure, million US dollars*	2
	17.19		By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries	2
		17.19.1	*Dollar value of all resources made available to strengthen statistical capacity in developing countries*	2

ANNEX III
PARTICIPATION OF UZBEKISTAN IN MULTILATERAL ENVIRONMENTAL AGREEMENTS

		Uzbekistan	
Year	*Agreement*	*Year*	*Status*
1957	(Geneva) European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)		
1958	(Geneva) Agreement - Adoption of Uniform Conditions of Approval and Reciprocal Recognition of Approval for Motor Vehicle Equipment and Parts		
1960	(Geneva) Convention concerning the Protection of Workers against Ionising Radiations (ILO 115)		
1961	(Paris) International Convention for the Protection of New Varieties of Plants	2004	Ac
1963	(Vienna) Convention on Civil Liability for Nuclear Damage	2025	Ac
	1997 (Vienna) Protocol to Amend the 1963 Vienna Convention on Civil Liability for Nuclear Damage		
1968	(London, Moscow, Washington) Treaty on the Non-Proliferation of Nuclear Weapons (NPT)	1992	Ac
1968	(Paris) European Convention - Protection of Animals during International Transport (revised in 2003)		
1969	(London) European Convention on the Protection of the Archaeological Heritage (revised in 1992)		
1971	(Ramsar) Convention on Wetlands of International Importance Especially as Waterfowl Habitat	2001	Ac
1971	(Geneva) Convention on Protection against Hazards from Benzene (ILO 136)		
1971	(Brussels) Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage		
	1992 Fund Protocol		
1972	(Paris) Convention concerning the Protection of the World Cultural and Natural Heritage	1993	Su
1972	(London, Moscow, Washington) Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons, and on their Destruction	1996	Ac
1972	(Geneva) International Convention for Safe Containers		
1973	(Washington) Convention on International Trade in Endangered Species of Wild Fauna and Flora	1997	Ac
	1979 (Bonn) Amendment	1997	At
	1983 (Gaborone) Amendment	1998	At
1974	(Geneva) Convention concerning Prevention and Control of Occupational Hazards caused by Carcinogenic Substances and Agents (ILO 139)		
1976	(Strasbourg) European Convention for the Protection of Animals Kept for Farming Purposes		
1977	(Geneva) Convention on Protection of Workers against Occupational Hazards from Air Pollution, Noise and Vibration (ILO 148)	2023	Ra
1979	(Bonn) Convention on the Conservation of Migratory Species of Wild Animals	1998	Ra
	1995 (The Hague) Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA)	1998	Ra
1979	(Bern) Convention on the Conservation of European Wildlife and Natural Habitats		
1979	(Geneva) Convention on Long-range Transboundary Air Pollution		
	1984 (Geneva) Protocol - Financing of Co-operative Programme (EMEP)		
	1985 (Helsinki) Protocol - Reduction of Sulphur Emissions by 30%		
	1988 (Sofia) Protocol - Control of Emissions of Nitrogen Oxides		

		Uzbekistan	
Year	*Agreement*	*Year*	*Status*
	1991 (Geneva) Protocol - Volatile Organic Compounds		
	1994 (Oslo) Protocol - Further Reduction of Sulphur Emissions		
	1998 (Aarhus) Protocol on Heavy Metals		
	1998 (Aarhus) Protocol on Persistent Organic Pollutants		
	1999 (Gothenburg) Protocol to Abate Acidification, Eutrophication and Ground-level Ozone		
	2009 (Geneva) Amendments to the Text and to Annexes I, II, III, IV, VI and VIII to the 1998 Protocol on Persistent Organic Pollutants		
	2009 (Geneva) Amendments to Annexes I and II to the 1998 Protocol on Persistent Organic Pollutants		
	2012 (Geneva) Amendment of the text and annexes II to IX to the Protocol to the 1979 Convention on Long-range Transboundary Air Pollution to Abate Acidification, Eutrophication and Ground-level Ozone and the addition of new annexes X and XI		
	2012 (Geneva) Amendments to the Text of and Annexes Other than III and VII to the 1998 Protocol on Heavy Metals		
1980	(New York, Vienna) Convention on the Physical Protection of Nuclear Material	1998	Ac
1981	(Geneva) Convention Concerning Occupational Safety and Health and the Working Environment (ILO 155)	2024	Ra
1985	(Geneva) Convention Concerning Occupational Health Services (ILO 161)		
1985	(Vienna) Convention for the Protection of the Ozone Layer	1993	Ac
	1987 (Montreal) Protocol on Substances that Deplete the Ozone Layer	1993	Ac
	1990 (London) Amendment to Protocol	1998	Ac
	1992 (Copenhagen) Amendment to Protocol	1998	Ac
	1997 (Montreal) Amendment to Protocol	2006	Ra
	1999 (Beijing) Amendment to Protocol	2006	Ra
	2016 (Kigali) Amendment to Protocol		
1986	(Geneva) Convention Concerning Safety in the Use of Asbestos (ILO 162)		
1986	(Vienna) Convention on Early Notification of a Nuclear Accident	2025	Ac
1986	(Vienna) Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency		
1989	(Basel) Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	1996	Ac
	1995 Ban Amendment		
	1999 (Basel) Protocol on Liability and Compensation		
1990	(Geneva) Convention concerning Safety in the use of Chemicals at Work (ILO 170)		
1990	(London) Convention on Oil Pollution Preparedness, Response and Cooperation		
1991	(Espoo) Convention on Environmental Impact Assessment in a Transboundary Context		
	2001 (Sofia) First Amendment		
	2003 (Kiev) Protocol on Strategic Environmental Assessment		
	2004 (Cavtat) Second Amendment		
1992	(Helsinki) Convention on the Protection and Use of Transboundary Watercourses and International Lakes	2007	Ac
	1999 (London) Protocol on Water and Health	2023	Ac
	2003 (Madrid) Amendments to Articles 25 and 26	2011	At

		Uzbekistan	
Year	***Agreement***	***Year***	***Status***
1992	(Helsinki) Convention on the Transboundary Effects of Industrial Accidents		
	2003 (Kiev) Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters		
1992	(Rio De Janeiro) Convention on Biological Diversity	1995	Ac
	2000 (Montreal) Cartagena Protocol on Biosafety	2019	Ac
	2010 (Nagoya) Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization		
	2010 (Nagoya - Kuala Lumpur) Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety		
1992	(New York) United Nations Framework Convention on Climate Change	1993	Ac
	1997 (Kyoto) Kyoto Protocol	1999	Ra
	2012 (Doha) Doha Amendment to the Kyoto Protocol		
	2015 (Paris) Paris Agreement	2018	Ra
1993	(Oslo and Lugano) Convention - Civil Liability for Damage from Activities Dangerous for the Environment		
1993	(Paris) Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction	1996	Ra
1994	(Vienna) Convention on Nuclear Safety	2025	Ac
1994	(Paris) United Nations Convention to Combat Desertification	1995	Ra
1994	(Lisbon) Energy Charter Treaty	1995	Ra
	1994 (Lisbon) Protocol on Energy Efficiency and Related Environmental Aspects	1995	Ra
	1998 Amendment to the Trade-Related Provisions of the Energy Charter Treaty		provisional application
1997	(Vienna) Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management	2009	Ac
1997	(New York) Convention on the Law of Non-navigational Uses of International Watercourses	2007	Ac
1997	(Vienna) Convention on Supplementary Compensation for Nuclear Damage		
1998	(Rotterdam) Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade		
1998	(Aarhus) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters	2025	Ac
	2003 (Kiev) Protocol on Pollutant Release and Transfer Registers		
	2005 (Almaty) Amendment on GMOs		
1998	(Strasbourg) Convention on the Protection of Environment through Criminal Law		
2000	(Florence) European Landscape Convention		
2001	(Stockholm) Convention on Persistent Organic Pollutants	2019	Ac
2001	(London) Convention on Civil Liability for Bunker Oil Pollution Damage		
2003	(Geneva) WHO Framework Convention on Tobacco Control	2012	Ac
2013	(Kumamoto) Minamata Convention on Mercury		

Ac = Accession; Ad = Adherence; Ap = Approval; At = Acceptance; De = Denounced; Si = Signature; Su = Succession; Ra = Ratification

General priorities for international cooperation related to the environment and sustainable development

During the five years since the Third EPR (2020), Uzbekistan has acceded or ratified six international conventions and one protocol:

- 1963 (Vienna) Convention on Civil Liability for Nuclear Damage
- 1977 (Geneva) Convention on Protection of Workers against Occupational Hazards from Air Pollution, Noise and Vibration (ILO 148)
- 1980 (Geneva) Convention Concerning Occupational Safety and Health and the Working Environment (ILO 155)
- 1986 (Vienna) Convention on Early Notification of a Nuclear Accident
- 1999 (London) Protocol on Water and Health
- 1994 (Vienna) Convention on Nuclear Safety
- 1998 (Aarhus) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters.

This achievement underscores Uzbekistan's commitment to and active participation in the implementation of international agreements. Since 2020, Uzbekistan has hosted many international events, including the Committee for the Review of the Implementation of the Convention to the UNCCD, CMS COP14, and is scheduled to host CITES COP20 in 2025. The presence of the President of Uzbekistan at the UNFCCC COP29 highlights the country's growing international presence and its high-level engagement for environmental issues, particularly those of transboundary importance.

These efforts culminated in the declaration of 2025 as the Year of Environmental Protection and Green Economy.[424] In June of 2025, Uzbekistan hosted the inaugural Eco Expo Central Asia,[425] a new regional platform for showcasing technologies, projects, and partnerships on ecology, sustainable development, and green innovation.

Despite this progress, there are still areas requiring further attention. Several commitments under existing MEAs remain only partially implemented, and Uzbekistan has yet to ratify several agreements. Addressing these gaps, both in terms of national implementation and international legal obligations, will support the country fully realizing the objectives of its green transition and strengthen its role as a reliable partner in global environmental governance.

Global and regional multilateral environmental agreements

Conservation and sustainable use of biodiversity and nature

Convention on Biological Diversity

Uzbekistan acceded to the 1992 Convention on Biological Diversity in 1995. The National Focal Point and the Convention authority is the Ministry of Ecology, Environmental Protection and Climate Change. The Convention requires contracting parties to report, every four years, on the measures taken to implement their NBSAPs. The Seventh National Report, following the Sixth in 2018, is expected to be submitted in 2026.[426] The Seventh National Report is expected to provide an assessment of the 2019 Strategy for the Conservation of Biological Diversity for the Period 2019–2028 (second NBSAP).

The second NBSAP provides a phased framework for biodiversity action in line with the Aichi Targets. Structured around four strategic objectives, it covers integrating biodiversity into governance and society, reducing direct pressures on biodiversity, expanding and effectively managing protected areas, and strengthening conservation through collaborative planning and capacity building. The plan contains 23 specific activities, each with designated implementing agencies, timelines and funding sources, with the first phase (2019–2023) seeing the completion of key actions such as establishing a unified biodiversity monitoring system, designating new Ramsar sites, afforestation of over 1.85 million ha of the dried Aral Sea bed, and adoption of a national snow leopard conservation programme. The second phase (2024–2028) continues to address habitat restoration, sustainable use of biological resources and enhanced monitoring, supported by partnerships with UNDP, GEF and other stakeholders.

424 UNDP (2025a).
425 CAREC (2025a).
426 UNDP (2018).

However, Uzbekistan is in the process of updating its second NBSAP to align with the 2022 Kunming-Montreal Global Biodiversity Framework. This process is assisted by the Umbrella Programme to support NBSAP update and Seventh National Reports and country-specific projects within this.[427] For instance, in 2023, the then Ministry of Natural Resources, in partnership with UNDP and GEF, launched the Global Framework – Support for Early Action project.[428] The two-year project supports not only revision of the 2019–2028 NBSAP, but includes related policy, monitoring and financing of nature conservation in such a way that they are consistent with the global goals for biodiversity set by the Global Biodiversity Framework. Complementing this process, a 2025 UNDP-GEF Target Similarity Assessment Report—developed using generative AI—found that only 26 per cent of Uzbekistan's national biodiversity targets currently align with the global goals and targets of the Global Biodiversity Framework.[429] Uzbekistan has since updated its biodiversity targets to 23 national targets that reflect the global targets of the 2022 Global Biodiversity Framework, and was the first Central Asian country to officially publish them under CBD.[430] The revised and updated NBSAP should have been due by COP16. Uzbekistan is yet to submit and is expected soon.

Uzbekistan has made significant progress in its designation of protected areas. Since 2019, Uzbekistan has increased protected areas to 14.08 per cent of the country (a threefold increase since 2016, including areas in IUCN categories I–IV as well as biosphere reserves), supporting achievement of target 3 of the Global Biodiversity Framework.[431]

Uzbekistan joined the BIOFIN Initiative in 2021. With support from UNDP, Uzbekistan has undertaken a comprehensive biodiversity finance review.[432] In 2025, Uzbekistan launched its Biodiversity Finance Plan, providing a framework for securing investments to fill the US$60 million biodiversity financing gap identified in the financial needs assessment.[433] The plan aims to propose and implement a variety of financial options to improve and increase the country's biodiversity finance.

Uzbekistan joined IUCN in 2021 and submitted a national red list to IUCN. In 2025, the first IUCN office for Central Asia was established in Tashkent on the campus of the Central Asian University of Environmental Studies and Climate Change with the aim of strengthening cooperation between the scientific communities and IUCN.

Cartagena Protocol on Biosafety

Uzbekistan acceded to the Cartagena Protocol on Biosafety in 2020. In 2020, Uzbekistan operationalized the implementation of the Protocol through the Resolution of the Cabinet of Ministers No. 275 on Measures to implement the provisions of the Cartagena Protocol on Biosafety to the Convention on Biological Diversity. This accession fulfilled the requirement to ratify the necessary 27 international conventions to qualify for application to the European Union Generalised Scheme of Preferences Plus, which Uzbekistan joined in 2021. Uzbekistan is not a party to the Nagoya Kuala Lumpur Supplementary Protocol on Liability and Redress.

As of May 2025, Uzbekistan is yet to issue a first national report on the implementation of the protocol concerning the use of living modified organisms. This is expected in 2026. Uzbekistan has not yet submitted information to the Biosafety Cleaning House.

Convention concerning the Protection of the World Cultural and Natural Heritage

In 2023, Cold Winter Deserts of Turan (a transboundary temperate desert region) was added to the UNESCO World Natural Heritage List. Prior to this inscription, temperate deserts were the only biome in the world without a single site on the List. The site is transboundary and encompasses 15 components in seven protected areas across Kazakhstan, Turkmenistan and Uzbekistan, covering an area of 3,366,441 ha.[434] The inclusion of Cold Winter Deserts of Turan as a UNESCO site is an important marker for biological conservation in Uzbekistan with the region home to many diversity spots of endemic species, including globally threatened mammals such as Goitered Gazelle, Saiga and Urial, which are expected to receive international levels of protection.[435] The deserts act as an important resting place for migratory species of bird, as well as herpetofauna and insects.

427 UNDP (2024e).
428 UNDP (2023h).
429 Ministry of Ecology, Environmental Protection and Climate Change and UNDP (2024).
430 UNDP (2024e); UNDP (2025).
431 Ministry of Ecology, Environmental Protection and Climate Change (2024b).
432 Perepada (2024).
433 Wiese (2025); Perepada (2024).
434 UNESCO (2023); UNESCO (2023a).
435 UNESCO (2023a).

A Regional Coordinating Committee with representatives from all three State parties will facilitate joint management of the property through national management plans, awareness campaigns and permanent environmental education. According to the regional State of Conservation Report on the Cold Winter Deserts of Turan in 2024, there are plans for the development of a Regulation on the Regional Coordination Committee, as well as a regional framework plan.[436]

(Ramsar) Convention on Wetlands of International Importance, especially as Waterfowl Habitat

Uzbekistan has been a party to the Ramsar Convention since 2001. The Ministry of Ecology, Environmental Protection and Climate Change is the administrative authority and focal point responsible for Uzbekistan's progress under the Convention. Uzbekistan submitted its latest national report in 2021 for the 14th Meeting of the Conference of Parties (COP14). The report identifies the following priority areas: nomination of new Ramsar sites; development of management plans for existing Ramsar sites; biodiversity monitoring at these sites; adoption of a legislative act to regulate activities within Ramsar Sites; and strengthened regional cooperation within the framework of the Regional Ramsar Initiative for Central Asia.[437]

Uzbekistan has made significant progress in updating its list of sites designated as Wetlands of International Importance (Ramsar sites). As of May 2025, the list includes Lake Dengizkul (2001), the Aidar-Arnasai lake system (2008), Tudakul and Kuimazar reservoirs (2020), the Sudochye lake system (2022) and Lake Julturbas[438] (2022).[439] In parallel, Uzbekistan is at the concept stage of developing a National Ramsar Strategy, with technical input from the Succow Foundation.[440] In 2025, the Ministry of Ecology, Environmental Protection and Climate Change, together with the Foundation, held an online seminar to discuss the development of such a strategy.[441]

These national efforts are reinforced by international initiatives. In 2022, UNDP, GEF and the then State Committee for Ecology and Environmental Protection launched the project Conservation and Sustainable Management of Lakes, Wetlands, and Riparian Corridors as Pillars of a Resilient and Land Degradation Neutral Aral Basin Landscape Supporting Sustainable Livelihood.[442] The project focuses on the lower Amu Darya and Aral Sea basin, a region of high ecological vulnerability but also global biodiversity importance. Activities target the restoration and sustainable management of degraded wetlands, lakes and riparian zones, alongside the capacity development of five newly established protected areas covering over 3 million ha, including the Sudochye system of lakes.

Convention on the Conservation of Migratory Species of Wild Animals

Uzbekistan ratified the Convention on the Conservation of Migratory Species of Wild Animals (CMS) in 1998. Since the third EPR of Uzbekistan, CMS has advanced under the 2015–2023 (and 2024–2032) Strategic Plan for the Conservation of Migratory species of Wild Animals.[443] Uzbekistan's implementation of the 2015–2023 Strategic Plan was assessed in the 2022 CMS report.[444] There is a large drive to promote conservation education from capacity building to public awareness campaigns, to the Ministry of Ecology, Environmental Protection and Climate Change supporting the Society for the Protection of Birds in their hosting of the International Day for the Protection of Birds across the country. The CMS report, alongside drawing attention to under-funding for all measures, acknowledged that the current reach of protected area is insufficient to cover the aggregate of critical habits for migratory species.

The 14th meeting of the Conference of the Parties to the CMS (COP14), was held in Samarkand (October 2024) under the slogan "Nature knows no borders".[445] The Samarkand Strategic Plan for Migratory Species 2024–2032, adopted by the Conference of the Parties, outlines a new science-based vision for thriving migratory species living in restored and connected habitats by 2032.[446] Further, an agreement was signed, after over a decade of negotiations and covering 30 countries, on the Initiative for the Central Asian Flyway.[447] The initiative aims to strengthen capacity building, knowledge, research and coordination amongst the included (range) countries and act to conserve over 600 species of migratory birds that frequent the flyway.

436 UNESCO (2024a).
437 State Committee for Ecology and Environmental Protection (2021).
438 Also known as Lake Zhyltyrbas.
439 Ramsar (n.d.).
440 Succow Foundation (2025).
441 GWP (2025).
442 UNDP (2022); Ministry of Ecology, Environmental Protection and Climate Change (Aral Sea Wetlands Project Implementation Unit).
443 CMS (Strategic Plan for Migratory Species 2024–2032).
444 CMS (Uzbekistan - National Report COP14).
445 Ministry of Ecology, Environmental Protection and Climate Change (2024b).
446 CMS (Strategic Plan for Migratory Species 2024–2032).
447 CMS (Central Asian Flyway).

In 2024, Uzbekistan signed the CMS Memorandum of Understanding on the Conservation of Migratory Birds of Prey in Africa and Eurasia, which promotes internationally coordinated actions to achieve and maintain the favourable conservation status of migratory birds of prey throughout their range in the African-Eurasian region, and to reverse their decline when and where appropriate.[448]

Uzbekistan has been a signatory of the Saiga Antelope Memorandum of Understanding, alongside all five range countries, since 2006.[449] As of 2025, Uzbekistan and Kazakhstan are preparing to sign a further bilateral memorandum of understanding on the conservation of the Saiga Antelope and undertake a large population restoration effort in Uzbekistan.[450]

Agreement on the Conservation of African-Eurasian Migratory Waterbirds

In 2004, Uzbekistan acceded to the 1995 Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA), which was developed under the framework of the CMS. The Technical Focal Point remains the Institute of Zoology of the Academy of Sciences.

The 2022 CMS report identified legal hunting as the most common threat to waterbirds in Uzbekistan. In response, the Government has expanded territorial protection through the establishment of new protected areas, including the Sudochye-Akpetki Reserve, Barsakelmes Reserve, South Ustyurt National Natural Park, Central Kyzylkum National Natural Park and the Aktau-Tamdy Nature Reserve.

In 2022, Uzbekistan published its latest national report for the 8th Session of the Meeting of the Parties, covering the programming period 2018–2020. The report notes that many AEWA priorities have been addressed under the country's 2019–2028 NBSAP. Legislative progress during this period included the adoption of the 2020 Law No. 627 on Hunting and Hunting Management, which prohibits certain hunting methods listed in the AEWA Action Plan and Strategic Plan, such as snares and lines. However, the report also highlights limited progress in translating International Single Species Action and Management Plans, as well as International Multi-Species Action Plans, into corresponding national action or management plans.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

Uzbekistan acceded to CITES in 1997. The management authority is the Ministry of Ecology, Environmental Protection and Climate Change, while the scientific authority is the Institute of Zoology under the Academy of Sciences of Uzbekistan.

Uzbekistan was identified by the Standing Committee at its 69th meeting in 2017 as a party whose legislation did not meet the minimum requirements under CITES and requires priority attention.[451] The Secretariat has placed Uzbekistan's national legislation in Category 2, indicating it was believed to meet part but not all the four requirements for effective implementation of CITES. Since 2018, work was developed, with the assistance of the CITES Secretariat, to amend the 2014 Cabinet of Ministers Resolution No. 290 with a view to ensuring the fully fledged integration of CITES requirements into Uzbek legislation, and the achievement of Category 1 status. In October 2021, Uzbekistan submitted its further revised legislation, in line with the CITES requirements.

In December 2024, Uzbekistan is up to date on its annual reports having submitted its 2023 annual report on CITES and is expected to submit its 2024 annual report soon. Uzbekistan has not submitted an annual illegal trade report since 2021. Uzbekistan's latest biennial implementation report on 2018–2019 was submitted in 2020 and mentions significant seizures of CITES-listed species.[452]

In 2023, Resolution of the Cabinet of Ministers No. 649 amended the Resolution of the Cabinet of Ministers No. 290 on the regulation of biological resource use under CITES. In the same year, a Decree of the President No. 81 on measures to transform the sphere of ecology and environmental protection and organize the activities of the authorized state body introduced a series of institutional reforms, including a significant increase in fines for harm caused to protected species. These legislative updates bring Uzbekistan's national legislation into closer alignment with the requirements for Category 1 status.

Uzbekistan continues to engage in transboundary projects in line with CITES priorities. Central Asian countries have developed international project capacity building and assistance in combating crimes against wildlife in Central Asia in

448 CMS (Central Asian Flyway); CMS (Birds of Prey (Raptors).
449 CMS (Saiga Antelope).
450 Ministry of Ecology, Environmental Protection and Climate Change (2025p).
451 International Institute for Sustainable Development (2017).
452 European Commission (2023).

2024. The project is organized in collaboration with countries' ministries and international organizations, such as Fauna and Flora International and TRAFFIC. The aim is to develop and implement measures to tackle intra- and inter-border illegal wildlife trade. The project follows the publication of a TRAFFIC report into the Central Asian wildlife trade that recommends building cooperation between countries to implement targeted enforcement actions.[453]

The 20th meeting of the Conference of the Parties to the CITES is scheduled to be held in Samarkand, Uzbekistan from 24 November to 5 December 2025.

Desertification

United Nations Convention to Combat Desertification

Uzbekistan is an active party to the UNCCD after ratification in 1995. The Ministry of Ecology, Environmental Protection and Climate Change is the designated national focal point.

Uzbekistan has reported the highest proportion of land degradation in Central Asia with the main "hotspots" in the Aral Sea region. Indeed, Uzbekistan has also seen the largest restoration of degraded land area in Central Asia. In the period 2018–2022, Uzbekistan has afforested, primarily via saxaul planting, an area of 1.6 million ha with positive short-term outcomes on the intensity of sand and dust storms.[454] In 2021, the President of Uzbekistan put forward the Yashil Makon Initiative with the aim of planting 1 billion trees and shrubs in the next five years.[455] By 2024, over half of the 3 million ha degraded by the drying of the Aral Sea have been restored.[456] These efforts have been achieved through a combination of top-down policy, private-public partnerships, and collaborative efforts. The Agency for Afforestation, Green Area Expansion and Combating Desertification under the Ministry of Ecology, Environmental Protection and Climate Change was established to oversee the implementation of the Yashil Makon Initiative, develop national programmes and modernize actions.[457]

The National Action Plan to Combat Dust and Sand Storms and Reduce Their Negative Impact for 2021–2024 (2022 Resolution of the Cabinet of Ministers PKM-03/11233)[458] was followed by the 2024 National Programme for Combating Sand and Dust Storms (SDS) for the period 2024–2030 (2024 Resolution of the President No. 338). The programme promotes the use of advanced technologies and improved monitoring and includes the target of achieving a 50 per cent reduction in the rate of occurrence of SDS by 2028.

The Government hosted a high-level event on SDS at the 21st session of the UNCCD Committee for the Review of the Implementation of the Convention (CRIC) to raise the political profile of SDS within the UNCCD and explore elaboration of the Samarkand Declaration on Sand and Dust Storms, to be adopted at COP16 in Riyadh, 2024.[459] As of December 2024, more than 20 countries have supported the adoption of the declaration.[460] As of May 2025, the declaration has not been adopted by UNCCD parties but continues to be discussed.[461] The 21st session of CRIC, held in Uzbekistan in November 2023, marked the first occasion that a Central Asian country had hosted a CRIC meeting. Parties reviewed the implementation of the UNCCD in line with the Strategic Objectives of the 2018–2030 UNCCD Strategic Framework to provide targeted recommendations.

Air protection, ozone layer protection and climate change

Convention on Long-range Transboundary Air Pollution

Uzbekistan is not a party to the Convention on Long-range Transboundary Air Pollution. The preparatory work for accession to the Convention and its Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe is advanced, with Uzbekistan closely engaged in activities under the Convention. In 2024, an analytical study on the feasibility of accession was undertaken and subsequently consulted with all relevant ministries. Representatives from Uzbekistan attended the 44th session of the Executive Body in Geneva in 2024 to explore the necessary steps for accession. Uzbekistan reported that the decision rests with the Presidential Office.

453 TRAFFIC (2024).
454 UNCDD (2023).
455 UNDP (2022b).
456 UNCCD (2024).
457 Ministry of Ecology, Environmental Protection and Climate Change (2025r).
458 State Committee on Forestry (2021).
459 UNCCD (2023a).
460 Ministry of Ecology, Environmental Protection and Climate Change (2024g).
461 Ministry of Ecology, Environmental Protection and Climate Change (2024f).

As of August 2025, Uzbekistan does not have a dedicated national policy document for the protection of ambient air. A forthcoming national strategy on air protection through 2035 is under development. The 2019 Concept of environmental protection until 2030 serves as the central guiding document, setting priorities for reducing emissions, modernizing infrastructure, promoting the use of BATs and strengthening environmental monitoring. It calls for sector-specific pollutant inventories and the introduction of automated emission monitoring systems at high-impact industrial facilities. In 2024, a BAT workshop hosted by ECE, and the Convention's Task Force on Techno-Economic Issues considered ongoing legal reforms aimed at embedding BAT principles more firmly into national legislation.[462] Strategy Uzbekistan – 2030 reinforces these commitments by setting a target to reduce air pollutant emissions by 10.5 per cent and requiring full modernization of polluting technologies at high-impact enterprises.

Vienna Convention for the Protection of the Ozone Layer

Uzbekistan became a party to the 1985 Vienna Convention for the Protection of the Ozone Layer and the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer in 1993. In 1998 Uzbekistan accepted the London and Copenhagen amendments and, in 2006, the Montreal and Beijing amendments to the Protocol. Implementation of the Convention and the Protocol fall under the responsibility of the Ministry of Ecology, Environmental Protection and Climate Change. Uzbekistan is subject to the Protocol's reporting obligations, including updates on the consumption and phase-out of ODS.

In November 2020, Uzbekistan was to become the first Central Asian country to host the Conference of the Parties to the Vienna Convention (COP 12), and Meeting of the Parties (MOP 32). COVID-19 pushed both online, delaying Uzbekistan's hosting bid.[463]

Uzbekistan is a non-Article 5 Party to the Kigali Amendment to the Montreal Protocol for the phase out of HFCs. Uzbekistan has made tangible progress in phasing out ozone-depleting hydrochlorofluorocarbons (HCFCs) in line with Montreal Protocol targets. A landmark initiative was the 2019–2024 project Complete HCFC Phase-Out in Uzbekistan through Promotion of Zero-ODS, Low-GWP Energy-Efficient Technologies.[464] The project strengthened the country's institutional, legal and technical capacities. Key milestones included the adoption of the National Programme for ODS Phase-Out, which established a framework for interagency collaboration, customs training and laboratory certification, and the establishment of a national HCFC recycling and reclaiming network comprising 12 centres. This network processed over 13,800 kg of HCFCs for recycling and reclaimed more than 1,300 kg. The project also advanced Uzbekistan's technical transition by replacing HCFC-based equipment at six demonstration sites with ozone-friendly, low-GWP alternatives, while vocational training centres were set up at Monomarkaz facilities to train technicians in sustainable cooling technologies. Customs capacity was strengthened through ISO 17025 accreditation of the State Customs Committee laboratory, which has since been designated a Regional Customs Laboratory by the World Customs Organization. More than 300 customs officers were trained, aligning Uzbekistan's ODS control practices with international standards.

United Nations Framework Convention on Climate Change

Uzbekistan acceded to UNFCCC in 1993, ratified the Kyoto Protocol in 1999 and the Paris Agreement in 2018. The national focal points are the Ministry of Ecology, Environmental Protection and Climate Change and the Agency of Hydrometeorological Service. Uzbekistan continues to fulfil its reporting obligations under UNFCCC.

The Fourth National Communication, submitted in 2024, provides updated GHG inventory data for the period 1990–2021, together with observed climate trends, vulnerability assessments and policy developments.[465] The vulnerability assessment highlights the significant risks climate change poses to water resources and agriculture, and emphasizes the need for adaptation measures. The First Biennial Update Report,[466] published in 2021, supplements the Fourth National Communication and identifies the following limitations and gaps: the need to develop a set of indicators to assess progress on mitigation measures; the need to integrate climate change into the secondary and higher education curricula, in accordance with the requirements of the Paris Agreement; and the need to strengthen the technical capacity of national institutions and experts for preparation of national GHG inventories. The 2024 Biennial Transparency Report updated GHG inventories to cover the period 1990–2022 and reported progress on NDC implementation.

462 ECE (2024c).
463 International Institute for Sustainable Development (2020).
464 UNDP (2024f).
465 Uzbekistan (2024).
466 Uzbekistan (2021a).

With UNDP and GCF support, a NAP is currently under development.[467] Uzbekistan has drafted five sectoral adaptation plans for the following sectors: health, water management, agriculture, DRR and infrastructure. Some key sectors, such as energy, industry and transport, remain without adaptation measures A financial strategy for implementation of sectoral NAPs is also being developed with the support of UNDP, which estimated implementation at around US$8 billion.

The Second (Updated) NDC, submitted in 2021, strengthens the country's 2030 mitigation commitments.[468] The revised commitment is to reduce GHG emissions per unit of GDP by 35 per cent by 2030 from the 2010 level – a significant revision to the previous commitment of 10 per cent in its First NDC. The energy sector remains central to these mitigation efforts, with a commitment to generate at least 40 per cent of electricity from renewable sources by 2030, revised in 2024. At the same time, the Second NDC places strong emphasis on adaptation, particularly in the agricultural and water management sector. The Third NDC is expected to be finalized by the end of 2025.

The legal and institutional landscape related to climate change continues to evolve. The 2019 Laws on the Use of Renewable Energy Sources and on Public-Private Partnership established a regulatory framework for accelerating RES projects. The country is leveraging public-private partnership projects to build solar, wind and hybrid power plants. As of 2024, 93 per cent of Uzbekistan's US$31 billion public-private partnership project portfolio is in the energy sector.[469]

Uzbekistan has set ambitious renewable energy targets. In 2024, the President announced an increase in the target of energy generation to be renewable by 2030 from 40 per cent to 54 per cent (see chapters 2 and 3).[470] Uzbekistan has also taken its first steps toward green hydrogen production, with operations underway in the Tashkent region.[471]

At COP26, in 2021, Uzbekistan committed to net-zero by 2060. In 2022, Uzbekistan joined the Global Methane Pledge (see chapter 3).[472] In 2022, the Resolution of the President No. 436 established a programme for the transition, including an action plan until 2030, and targets for fuel and energy saving in economic sectors from 2022–2026. A key priority, also set out in the 2019 Strategy for the Transition to a Green Economy for the period 2019–2030 (see chapter 2), was the establishment of an MRV system (see chapter 3). A 2023 World Bank report estimates that achieving net-zero by 2060 would require an additional US$79 billion in investment (2023 value) compared with a baseline scenario that does not address carbon neutrality.[473] The 2024 Resolution of President No. 213 set out measures to introduce a national transparency system for the monitoring, reporting and verification of GHG emissions, in alignment with Article 13 of the Paris Agreement, and sets national commitments to reduce climate change impacts every five years starting from 2025 (see chapter 3).

Waste and chemicals management

Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

Uzbekistan is a long-standing party to the Basel Convention after accession in 1996. Uzbekistan continues to actively engage in inter-agency, international projects aimed at strengthening institutional capacity in the management of hazardous waste movements and disposal.

The project on Technical Assistance for the Sound Management of Hazardous Chemicals is being implemented from 2024-2027 by the Ministry of Ecology, Environmental Protection and Climate Change, in collaboration with FAO and with financial support from the European Union.[474] The aim is to strengthen institutional capacity, establish a comprehensive database and pave the way toward a national waste management strategy. The project mainly focuses on agricultural chemicals.

The objective of the UNEP project on Strengthening the Institutional Capacity in the Implementation of the Basel and Stockholm Conventions and the Globally Harmonized System of Classification and Labelling of Chemicals, as well as Facilitate the Accession to the Rotterdam and Minamata Conventions, is to facilitate inter-agency collaboration and a national regulatory framework on chemical and waste management.[475]

467 UNDP (n.d. b); Uzbekistan (2024).
468 Uzbekistan (2021).
469 International Monetary Fund (2025).
470 Eurasianet (2025).
471 Permanent Mission of the Republic of Uzbekistan to the United Nations (2024).
472 World Bank (2023c).
473 World Bank (2023d).
474 FAO (2024b).
475 UNEP (2024b).

Convention on Persistent Organic Pollutants and Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade

Uzbekistan acceded to the Stockholm Convention on Persistent Organic Pollutants in 2019. The official contact point is the Ministry of Ecology, Environmental Protection and Climate Change. However, it is not a party to the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

Uzbekistan has released its National Action Plan to meet the requirements of the Stockholm Convention for 2022–2024. In the Action Plan, Uzbekistan proposes the possible drafting of laws on chemical safety and on waste (see chapter 1). Further, the Action Plan proposes the implementation of a roadmap to allow for accession to the Rotterdam Convention. The plan also calls for improved sanitary rules and hygiene standards or regulation, increased public awareness of persistent organic pollutants on human health, and the creation of a national register of chemicals (that would include POPs).

Minamata Convention on Mercury

Uzbekistan is not yet a party to the Minamata Convention on Mercury. In June 2025, five Central Asian countries, including Uzbekistan, participated in the first regional workshop addressing the region's escalating pollution challenges.[476] The workshop, co-hosted by UNEP and ECE, aimed to promote accession to and implementation of MEAs. Among the MEAs discussed was the Minamata Convention.

Convention on the Transboundary Effects of Industrial Accidents

As of August 2025, Uzbekistan is not a party to the Convention on the Transboundary Effects of Industrial Accidents. In 2025, Uzbekistan adopted a road map for the accession to the Convention and drafted an accession bill. In April 2025, the President of Uzbekistan formally announced the country's intention to accede to the Convention.

Uzbekistan is a beneficiary under the Convention's Assistance and Cooperation Programme and has benefitted from several assistance activities and projects. In the recent years, this comprised a project "Development of Joint Measures to Prevent and Respond to Pollution of the Syr Darya River in Emergency Situations"[477] (implemented in 2021–2023 thanks to the financial support from the European Union). The project identified several areas of the Syr Darya River basin that are exposed to especially high risks. Further, ECE implemented a regional project to improve tailings safety management and prevent accidental water pollution in Uzbekistan and neighbouring Central Asian countries.[478] In 2024, Uzbekistan launched the project "Strengthening Action in Uzbekistan on Water and Sanitation and Protection of Water Resources from Accidental Pollution in the Face of Climate Change",[479] funded by the Swiss Agency for Development and Cooperation and implemented by ECE. In July 2024, Uzbekistan officially established the Inter-Institutional Working Group, a national governance mechanism for the prevention of water pollution and tailings safety. Due to its wide and comprehensive membership, including at high level, the group has also been entrusted with the overall guidance and steering of the project implementation. As of May 2025, it held two meeting to date (24 September 2024 and 9 April 2025), fostering a robust multi-stakeholder policy dialogue and providing an important platform towards accession to and implementation of the Convention.

Public Participation

Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters and Protocol on Pollutant Release and Transfer Registers

Uzbekistan acceded to the Aarhus Convention in March 2025. This decision was made in the lead-up to of the eighth session of the Meeting of the Parties to the Aarhus Convention. This decision comes after continuous engagement of Uzbek representatives since 2022 in meetings of the Working Group of the Parties to the Convention. During the same period, several assessments of the policy, legal and institutional frameworks were conducted by international organizations. In 2020, the Third EPR of Uzbekistan provided recommendations on the necessary steps to accession. A 2025 UNEP technical report identified gaps, needs and further actions required to advance the implementation of the Convention.[480]

476 UNEP (2025).
477 ECE (n.d. b).
478 ECE (2022).
479 ECE (n.d.).
480 UNEP (2025a).

Accession allows Uzbekistan to benefit fully from the activities undertaken under the Convention and the experience of other countries that are Parties to this treaty. Representatives of the governmental and judicial institutions participate in decision-making and thematic expert meetings organized in the framework of the Aarhus Convention.

Uzbekistan has not joined the Protocol on Pollutant Release and Transfer Registers (Protocol on PRTRs). Even without accession, Uzbekistan continues to show its interest and involves representatives in the activities under the Protocol on PRTRs. Uzbekistan's route to the accession and implementation of the Protocol on PRTRs was considered at an international round table entitled "Aarhus Convention: Effective public participation for good governance, healthy environment and sustainable development", held in Tashkent on 1–2 June 2023.[481] The capacity-building workshop "Advancing effective Multilateral Environmental Agreements implementation in Central Asia: Promoting synergies and rights-based approaches to combat pollution" (Almaty, Kazakhstan, 17–19 June 2025), organized by UNEP in cooperation with ECE, provided further inputs on how accession to the Protocol can also strengthen implementation of several relevant international commitments.[482]

Environmental assessment

Convention on Environmental Impact Assessment in a Transboundary Context and Protocol on Strategic Environmental Assessment

Uzbekistan is not a party to the Espoo Convention on Environmental Impact Assessment in a Transboundary Context and its Protocol on Strategic Environmental Assessment or the Protocol on Strategic Environmental Assessment (Protocol on SEA). However, the country has been making sustained efforts to strengthen its legislation and institutional capacity regarding EIA and SEA though the adoption in 2025 of the Law on Ecological Expertise, Environmental Impact Assessment and Strategic Environmental Assessment, which entered into force on 25 August 2025 (see chapter 1). The law came after a public consultation phase and includes provisions on transboundary EIAs and SEAs.

During the period 2018–2020, a collaboration of ECE, OSCE and the Ministry of Ecology, Environmental Protection and Climate Change entitled "Support to Uzbekistan in introducing environmental assessment systems in accordance with the ECE Espoo Convention and its Protocol on SEA" established projects to review and strengthen the capacity of Uzbekistan to accede to the Protocol on SEA. As part of this collaboration, a needs assessment report reviewed the requirements necessary for SEA implementation, leading to the preparation of the Action Plan to Develop a National Strategic Environmental Assessment System.[483] Since then, pilot projects have been used to demonstrate SEA in practice. One such pilot, coordinated by GGGI and supported by the French Development Agency, was conducted in 2023–2024, aiming to familiarize national institutions with SEA procedures and their practical application (see chapter 1).[484] Another pilot SEA was conducted for the 2022–2023 roadmap to the Concept for the Development of the Forestry until 2030 under a project in cooperation with GIZ (see chapter 2).[485]

In 2025, a training workshop on SEA was conducted under the OSCE project "Strengthening National and Regional Capacities and Co-operation on Strategic Environmental Assessment (SEA) in Central Asia – Phase II", implemented jointly with GIZ.[486] The workshop aimed to enhance specialist capacity in SEA, with an emphasis on the requirements of the Protocol on SEA and alignment with national SEA legislation. Further capacity-building activities are planned to continue under this ongoing OSCE project.

Water

Convention on the Protection and Use of Transboundary Watercourses and International Lakes and Protocol on Water and Health

Uzbekistan acceded to the Water Convention in 2007. It has since advanced its water cooperation with neighbouring countries through several bilateral agreements. In 2022, Uzbekistan and Kyrgyzstan concluded two new water management agreements, strengthening joint oversight and sustainable use of shared watercourses.[487] In 2023, an investment agreement was signed between Uzbekistan and Kyrgyzstan for the construction of the Kambarata-1 hydroelectric station on the Naryn

481 ECE (2023b).
482 UNEP (2025b).
483 OSCE and ECE (2021); OSCE and ECE (2021a).
484 GGGI (2025).
485 Kholdorov (2024).
486 OSCE (2025).
487 ECE (2024d).

River in Kyrgyzstan.[488] In 2018, Uzbekistan and Tajikistan signed a bilateral agreement concerning the Farkhad Dam allowing Uzbek specialists to conduct necessary maintenance work.[489] In 2022, Uzbekistan forged a new bilateral agreement with Turkmenistan aimed at enhancing cooperation on the Amu Darya River, emphasizing climateresilient water governance and requiring any actions affecting the river's natural flow to undergo independent international assessments.[490]

Uzbekistan has regularly reported on SDG indicator 6.5.2 (Proportion of transboundary basin area [within a country] covered by an operational arrangement for water cooperation). The outcomes of reporting show that, while the country enjoys a very high level of cooperation on transboundary rivers, none of its transboundary aquifers (groundwater resources) is covered by operational arrangements. A positive step in this direction is the development of the Roadmap on the Protection and Sustainable Use of the Pretashkent Transboundary Aquifer by Kazakhstan and Uzbekistan in 2022. In 2025, Uzbekistan hosted a regional workshop for Central Asian countries on SDG indicator 6.5.2 (Tashkent, 12–13 February 2025), where the need to develop transboundary cooperation on the region's 45 transboundary aquifers was discussed.[491]

In 2023, Uzbekistan acceded to the Protocol on Water and Health. As a new party to the Protocol, the country committed to set integrated targets, within two years, on water, sanitation, hygiene and health, with a focus on climate impacts, and to regularly report on progress in achieving those targets.

In 2024, Uzbekistan launched the project "Strengthening Action in Uzbekistan on Water and Sanitation and Protection of Water Resources from Accidental Pollution in the Face of Climate Change", funded by the Swiss Agency for Development and Cooperation and implemented by ECE.[492] The project aims to modernize water resource management and governance, including in the face of climate risks. It supports Uzbekistan's implementation of international commitments, including the Protocol on Water and Health. In 2025, Uzbekistan prepared a baseline analysis on water, sanitation and health and initiated the setting of targets under the Protocol.

Convention on the Law of the Non-navigational Uses of International Watercourses

Uzbekistan became a party to the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses in 2007.

488 Umirzakov (2024).
489 Ibid.
490 ECE (2025d).
491 Ibid.
492 ECE (n.d.).

ANNEX IV
LIST OF ENVIRONMENTAL LAWS, INCLUDING THOSE USED IN THE FOURTH EPR OF UZBEKISTAN

1992

- Law No. 754-XII on Nature Conservation https://lex.uz/ru/docs/7065

1993

- Law No. 837-XII on Water and Water Use https://lex.uz/docs/12328

1994

- Law No. 2015-XII on approval of the Code of Administrative Responsibility https://lex.uz/en/docs/6809243

1996

- Law No. 353-I on the Protection of Atmospheric Air https://lex.uz/docs/58400

1997

- Law No. 398-I on Natural Monopolies https://lex.uz/docs/40123
- Law No. 483-I on the Quality and Safety of Food Products https://lex.uz/ru/docs/18673

1998

- Law No. 666-I on the State Land Cadastre https://lex.uz/ru/docs/9704
- Law No. 598-I on approval of the Land Code https://lex.uz/docs/6816142

1999

- Law No. 770-I on Forests https://lex.uz/docs/86126

2000

- Law No. 80-II on Civil Defence https://lex.uz/docs/11309
- Law No. 120-II on Radiation Safety https://lex.uz/docs/13868

2001

- Law No. 267-II on Trademarks, Service Marks and Appellations of Origin of Goods https://lex.uz/docs/6936
- Law No. 269-II on the Protection and Use of Cultural Heritage Sites https://lex.uz/docs/10375
- Law No. 312-II on Production Sharing Agreements https://www.lex.uz/docs/1352

2002

- Law No. 362-II on Waste https://lex.uz/docs/44872
- Law No. 439 on the Principles and Guarantees of Freedom of Information https://lex.uz/docs/52709

2004

- Law No. 710-II on Protected Natural Areas https://lex.uz/docs/415228

2006

- Law No. 57 on Industrial Safety of Hazardous Production Facilities https://www.lex.uz/docs/1061184

2013

- Law No. 363 on Environmental Control https://lex.uz/docs/2304949
- Resolution of the Cabinet of Ministers No. 82 on the approval of the Regulation on the procedure for water use and water consumption https://lex.uz/docs/2145599

2014

- Resolution of the Cabinet of Ministers No. 290 on the Regulation of the use of biological resources and the procedure for obtaining permits in the field of natural resource use https://lex.uz/en/docs/7167986
- Resolution of the Cabinet of Ministers No. 295 on the approval of the Regulation on the procedure for state accounting and control in the field of waste management https://lex.uz/en/docs/2489798

2015

- Law No. 393 on the Sanitary and Epidemiological Wellbeing of the Population https://lex.uz/docs/6819714

2016

- Customs Code https://lex.uz/en/docs/2876352
- Law No. 409 on amendments and additions to the Law on the Protection and Use of Flora https://lex.uz/docs/3030360
- Resolution of the Cabinet of Ministers No. 198 on Measures to further improve financing of forestry development https://lex.uz/docs/2983355

2017

- Resolution of the President No. 2910 on the Programme for the Integrated Development and Modernization of Drinking Water Supply and Sewerage Systems for 2017–2021 https://lex.uz/ru/docs/7467701
- Decree of the President No. 5066 on Measures to radically increase the efficiency of the system of prevention and elimination of emergency situations https://lex.uz/en/docs/7187143
- Resolution of the Cabinet of Ministers No. 375 on the approval of the Regulation on the procedure for the formation and use of the funds of the Ecology, Environmental Protection and Waste Management Fund https://lex.uz/en/docs/7233298
- Resolution of the Cabinet of Ministers No. 530 on Measures to further improve the forestry management system https://lex.uz/docs/7270490

2018

- Law No. 475 on amendments and additions to the Law on Forest https://lex.uz/ru/docs/3683532
- Law No. 491 on Ratification of the Paris Agreement (Paris, December 12, 2015) https://www.lex.uz/en/docs/3924451
- Resolution of the President No. 3956 on additional Measures for improving the public administration system in the field of ecology and environmental protection https://lex.uz/en/docs/7558614
- Resolution of the President No. 3975 on the Establishment of the International Innovation Center of the Aral Sea region under the President https://lex.uz/en/docs/3994101
- Resolution of the President No. 3980 on priority Measures for the creation of the legal and institutional framework for the development of public-private partnership https://lex.uz/ru/docs/7559622
- Resolution of the President No. 3983 on Measures for the accelerated development of the chemical industry https://lex.uz/docs/7559657
- Decree of the President No. 5580 on Measures to radically improve the system of payment for the collection and removal of solid household waste https://lex.uz/docs/4072863
- Resolution of the Cabinet of Ministers No. 647 on Measures to regulate the activities of special facilities for the burial and storage of pesticides and other toxic substances https://lex.uz/en/docs/7466015

2019

- Law No. 529 on Amendments and Additions to the Law on the Protection of Atmospheric Air https://lex.uz/docs/4238834
- Law No. 537 on Public-Private Partnership https://lex.uz/ru/docs/4329272
- Law No. 538 on Pastures https://lex.uz/uz/docs/4344718
- Law No. 539 on the Use of Renewable Energy Sources https://lex.uz/uz/docs/4346835
- Law No. 549 on Tourism https://lex.uz/uz/docs/4428101`
- Law No. 565 on the Use of Atomic Energy for Peaceful Purposes https://lex.uz/docs/4506948
- Tax Code (new edition) No. 599 https://lex.uz/docs/4674893
- Resolution of the President No. 4124 on Measures for the further improvement of the activities of mining and metallurgical enterprises https://lex.uz/en/docs/7564742
- Resolution of the President No. 4204 on Measures to improve the efficiency of work to combat desertification and drought https://lex.uz/docs/4211815
- Resolution of the President No. 4291 on the approval of the Strategy for solid municipal waste management for 2019–2028 https://lex.uz/docs/4291733
- Resolution of the President No. 4424 on additional Measures to improve the efficiency of forest management https://lex.uz/docs/4487071
- Resolution of the President No. 4477 on the approval of the Strategy for the Transition to a Green Economy for the period 2019–2030 https://lex.uz/ru/docs/4539506
- Decree of the President No. 5646 on Measures to fundamentally improve the management system of the fuel and energy industry of the Republic of Uzbekistan https://lex.uz/en/docs/6968437
- Decree of the President No. 5853 on the approval of the Strategy for the Development of Agriculture for 2020–2030 https://lex.uz/en/docs/6971398
- Decree of the President No. 5863 on the approval of the Concept of Environmental Protection until 2030 https://lex.uz/docs/6971721
- Resolution of the Cabinet of Ministers No. 299 on Measures to implement "The Sendai Framework for Disaster Risk Reduction 2015–2030" in the Republic of Uzbekistan https://lex.uz/docs/4283785
- Resolution of the Cabinet of Ministers No. 484 on the approval of the Strategy for the Conservation of Biological Diversity for the period 2019–2028 https://lex.uz/ru/docs/4372841
- Resolution of the Cabinet of Ministers No. 737 on Improving the environmental monitoring system in the Republic of Uzbekistan https://lex.uz/en/docs/7269658
- Decree of the State Committee for Ecology and Environmental Protection No. 3197 on approval of the Instructions for the design and operation of landfills for solid municipal waste https://lex.uz/ru/docs/4603651

2020

- Law No. 627 on Hunting and Hunting Management https://lex.uz/docs/4890108
- Law No. 639 on amendments and additions to certain legislative acts to increase the efficiency of using agricultural land and the forest fund https://lex.uz/ru/docs/5023153
- Resolution of the President No. 4670 on Measures for the protection, cultural cultivation, processing of wild medicinal plants and the rational use of available resources https://lex.uz/docs/4785263
- Resolution of the President No. 4790 on Measures for organizing the activities of the Committee for Sanitary and Epidemiological Welfare and Public Health under the Ministry of Health of the Republic of Uzbekistan https://lex.uz/en/docs/7604868
- Resolution of the President No. 4850 on the approval of the Concept for the Development of the Forestry until 2030 https://lex.uz/ru/docs/5037204

- Resolution of the President No. 4891 on Additional measures for ensuring public health through further enhancement of medical prevention efforts https://lex.uz/en/docs/7564519
- Resolution of the President No. 4896 on Measures for the further improvement of the activities of the Hydrometeorological Service Center of the Republic of Uzbekistan https://www.lex.uz/en/docs/7564554
- Decree of the President No. 6024 on the approval of the Concept of Development of the Water Sector for 2020–2030 https://lex.uz/en/docs/6973364
- Decree of the President No. 6119 on approval of the Strategy for modernization, accelerated and innovative development of the construction industry of the Republic of Uzbekistan for 2021–2025 https://lex.uz/en/docs/6956449
- Resolution of the Cabinet of Ministers No. 275 on Measures to implement the provisions of the Cartagena Protocol on Biosafety to the Convention on Biological Diversity (Montreal, January 29, 2000) https://lex.uz/en/docs/7265345

2021

- Law No. 678 on Environmental Audit https://lex.uz/en/docs/5331135
- Law No. 680 on the Dekhan Farming https://lex.uz/docs/5351640
- Law No. 681 on Subsidiary Farming https://lex.uz/docs/5351507
- Law No. 684 on Public Procurement https://www.lex.uz/docs/6121273
- Law No. 701 on Licensing, Permitting and Notification Procedures https://www.lex.uz/acts/5511900
- Law No. 702 on Spatial Data https://lex.uz/docs/5522844
- Law No. 706 on Transport https://lex.uz/docs/5563048
- Law No. 707 on Official Statistics https://www.lex.uz/uz/docs/5569612
- Law No. 713 on Ensuring Seismic Safety of the Population and Territory https://lex.uz/docs/5630183
- Constitutional Law No. 737 on the State of Emergency https://lex.uz/docs/5774847
- Resolution of the President No. 44 on Measures for the further development of hydropower https://lex.uz/en/docs/5769775
- Resolution of the President No. 4960 on Measures to develop science and stimulate research work in the field of forestry https://lex.uz/docs/5233373
- Resolution of the President No. 4992 on Measures for the further reform and financial recovery of chemical industry enterprises, and the development of chemical production with high added value https://lex.uz/en/docs/7573776
- Resolution of the President No. 5063 on Measures for the development of renewable and hydrogen energy in the Republic of Uzbekistan https://lex.uz/en/docs/7577569
- Decree of the President No. 46 on Measures to accelerate landscaping work and further effective organization of tree protection https://lex.uz/uz/docs/5801449
- Decree of the President No. 6244 on additional Measures to increase the industrial potential of the regions https://lex.uz/en/docs/6964099
- Resolution of the Cabinet of Ministers No. 125 on additional Measures to improve the procedure for mandatory technical inspection of vehicles https://lex.uz/en/docs/7363734
- Resolution of the Cabinet of Ministers No. 199 on Measures to expand public-private partnerships for the rational use of water resources and water management facilities https://lex.uz/docs/7368562
- Resolution of the Cabinet of Ministers No. 202 on further Improving the economic mechanisms for environmental protection https://lex.uz/en/docs/7369394
- Resolution of the Cabinet of Ministers No. 282 on additional Measures to designate protection zones for specially protected natural territories https://lex.uz/en/docs/7381927 Resolution of the Cabinet of Ministers No. 343 on further improving the System for assessing the level of environmental pollution https://lex.uz/docs/7387235
- Resolution of the Cabinet of Ministers No. 647 on Measures to regulate the activities of special facilities for the burial and storage of pesticides and other toxic substances https://lex.uz/en/docs/7466015

2022

- Law No. 745 on Hydrometeorological Activities https://lex.uz/docs/5819321
- Law No. 766 on Organic Products https://lex.uz/docs/5980349
- Law No. 781 on Procedures for the Withdrawal of Land Plots for Public Needs with Compensation https://lex.uz/docs/6355530
- Law No. 784 on Drinking Water Supply and Wastewater Disposal https://lex.uz/ru/docs/6126866
- Law No. 790 on the Protection of Population and Territories from Natural and Man-made Emergencies https://lex.uz/docs/6161251
- Resolution of the President No. 190 on Measures to ensure human safety and significantly reduce road fatalities https://lex.uz/en/docs/7595536
- Resolution of the President No. 216 on Strengthening the protection of motherhood and childhood in 2022–2026 https://www.lex.uz/docs/7592965
- Resolution of the President No. 243 on the Improvement of measures to combat the spread of certain current viral infections https://lex.uz/ru/docs/7588766
- Resolution of the President No. 277 on Measures for the creation of an effective system for combating land degradation https://lex.uz/en/docs/7571574
- Resolution of the President No. 436 on Measures to improve the effectiveness of reforms aimed at transitioning to a green economy by 2030 https://lex.uz/ru/docs/7465853
- Decree of the President No. 60 on the Development Strategy of New Uzbekistan for 2022–2026 https://lex.uz/en/docs/6968143
- Decree of the President No. 139 on Measures to create a value chain through the efficient use of raw materials and support for the processing of medicinal plants https://lex.uz/uz/docs/6027104
- Decree of the President No. 220 on additional Measures for the introduction of energy-saving technologies and the development of low-power renewable energy sources https://lex.uz/en/docs/7000477
- Resolution of the Cabinet of Ministers No. 31 on additional Measures for the creation of "Green Cover" – protective forests on the dried-up bottom of the Aral Sea and in the Aral Sea Region https://www.lex.uz/docs/5831065
- Resolution of the Cabinet of Ministers No. 243 on Urgent measures to ensure reliable water supply of agricultural crops in the face of the expected water shortage in 2022 https://lex.uz/docs/5998874
- Resolution of the Cabinet of Ministers No. 460 on Measures to promote the use of biological protection methods in the cultivation of export-oriented agricultural products https://lex.uz/en/docs/7468741

2023

- Law No. 868 on the State Border https://lex.uz/docs/6605259
- Law No. 877 on Plant Protection https://lex.uz/en/docs/6906618
- Resolution of the President No. 104 on Measures for further reform of the hydropower sector https://lex.uz/en/docs/6420318
- Resolution of the President No. 107 on urgent Measures to improve the efficiency of water resource use https://lex.uz/docs/6420836
- Resolution of the President No. 171 on Measures for the effective organization of the activities of the Ministry of Ecology, Environmental Protection and Climate Change https://lex.uz/ru/docs/6479136
- Resolution of the President No. 174 on Measures to organize the activities of the Central Asian University for Environment and Climate Change Studies (Central Asian Green University) https://lex.uz/ru/docs/6487279
- Resolution of the President No. 193 on additional Measures to meet the population's demand for passenger motor vehicles https://lex.uz/ru/docs/7556589
- Resolution of the President No. 296 on Measures for the protection of maternal and child health and the strengthening of reproductive health of the population https://lex.uz/en/docs/7559581

- Resolution of the President No. 357 on Improving the effectiveness of measures to prevent emergencies involving highly flammable and explosive chemicals https://lex.uz/en/docs/7560696
- Resolution of the President No. 362 on Accession to an international agreement https://lex.uz/en/docs/7560748
- Decree of the President No. 81 on Measures to transform the sphere of ecology and environmental protection and organize of the activities of the authorized state body https://lex.uz/docs/6479185
- Decree of the President No. 101 on Measures for the effective organization of public administration in the field of water management within the framework of administrative reforms https://lex.uz/en/docs/6991761
- Decree of the President No. 158 on the Strategy "Uzbekistan – 2030" https://lex.uz/en/docs/6991208
- Decree of the President No. 199 on Measures to ensure environmental sustainability by further increasing the level of landscaping in the country and the consistent implementation of the nationwide project "Yashil Makon" (Green Space) https://lex.uz/docs/6673808
- Resolution of the Cabinet of Ministers No. 362 on Developing and effectively implementing the National Action Plan on Climate Change and Disaster Risk Reduction https://lex.uz/docs/7371115
- Resolution of the Cabinet of Ministers No. 561 on the Approval of the National Green Economy Taxonomy https://lex.uz/en/docs/6644013
- Resolution of the Cabinet of Ministers No. 649 on amendments to the Resolution of the Cabinet of Ministers No. 290 of 20 October 2014 "on Regulating the use of biological resources and on the permitting procedures on nature management", done in connection with strengthening legal measures for non-compliance with legal acts on the protection of flora and fauna https://lex.uz/docs/6688894

2024

- Law No. 987 on Subsoil https://lex.uz/ru/docs/7182163
- Law No. 903 on Soil Protection and Increasing its Fertility https://lex.uz/en/docs/7109541
- Law No. 1011 on the State Budget for 2025 https://www.lex.uz/uz/docs/-7277618
- Resolution of the President No. 5 on Measures to improve water resource management and increase the efficiency of their use at the local level https://lex.uz/ru/docs/7563973
- Resolution of the President No. 213 on Measures for the introduction of a national transparency system during the transition to a green economy https://lex.uz/ru/docs/7572123
- Resolution of the President No. 233 on Measures for creation of agroecosystem, steady against climate change, and increase in resistance of producers of agricultural products to the risks connected with climate change https://lex.uz/en/docs/7572314
- Resolution of the President No. 252 on the acceleration of Measures to reform the hydropower sector https://lex.uz/en/docs/7096729 and https://lex.uz/en/docs/7024222
- Resolution of the President No. 263 on Measures to implement the investment project "Production of alternative thermal energy from medical waste" https://lex.uz/docs/7027632
- Resolution of the President No. 308 on Measures for the development of public-private partnership for 2024–2030 https://lex.uz/ru/docs/7091718
- Resolution of the President No. 338 on priority Measures to combat dust storms and improve air quality https://lex.uz/ru/docs/7112457
- Decree of the President No. 5 on measures to improve the waste management system and reduce its negative impact on the environmental situation https://lex.uz/docs/6983150
- Decree of the President No. 37 on the State Programme for the Implementation of the Strategy "Uzbekistan — 2030" in the "Year of Support for Youth and Business" https://lex.uz/en/docs/7187251
- Decree of the President No. 74 on the State Programme for the Implementation of the Strategy "Uzbekistan – 2030" in the "Year of Support for Youth and Business" https://lex.uz/docs/7187251
- Decree of the President No. 74 on the Establishment of priority areas for the introduction and development of a modern management system in water management https://lex.uz/en/docs/7187267

- Decree of the President No. 79 on Measures to improve the system of state administration and control in the field of underground use, industrial, radiation and nuclear safety and the use of nuclear energy https://lex.uz/en/docs/7187269
- Decree of the President No. 81 on Measures to transform the sphere of ecology and environmental protection and the organization of the activities of the authorized state body https://lex.uz/uz/docs/6479185
- Decree of the President No. 85 on further Measures to accelerate market reforms and bring the national legislation in line with the agreements of the World Trade Organization https://lex.uz/ru/docs/7187279
- Decree of the President No. 106 on the Establishment of the Climate Council under the President of the Republic of Uzbekistan https://lex.uz/en/docs/7051114
- Decree of the President No. 149 on Measures to ensure transparency and further improve the management system in the areas of ecology and environmental protection https://lex.uz/ru/docs/7128168
- Resolution of the Cabinet of Ministers No. 97 on additional measures to enhance the fertility of agricultural land https://lex.uz/en/docs/7409293
- Resolution of the Cabinet of Ministers No. 101 on the approval of the Regulation on the Public Environmental Inspector https://lex.uz/en/docs/7409222
- Resolution of the Cabinet of Ministers No. 144 on Measures to support activities implemented within the framework of the nationwide programme "Yashil Makon" https://www.lex.uz/docs/7244728
- Resolution of the Cabinet of Ministers No. 204 on additional Measures for the introduction of market mechanisms in the fuel and energy sector https://lex.uz/en/docs/7380865
- Resolution of the Cabinet of Ministers No. 337 on additional Measures to further improve tariff policies in the fuel and energy sector https://lex.uz/en/docs/7370224
- Resolution of the Cabinet of Ministers No. 481 on the approval of certain Regulatory legal acts related to the issuance of licensing and licensing documents in the field of plant protection https://lex.uz/en/docs/7056824
- Resolution of the Cabinet of Ministers No. 783 on Measures to reduce the harmful impact of industrial enterprises on the environment https://www.lex.uz/en/docs/7236221
- Resolution of the Cabinet of Ministers No. 914 on approval of the Regulations on the procedure for the rational use of agricultural land https://lex.uz/en/docs/7303957

2025

- Law No. 1036 on Ecological Expertise, Environmental Impact Assessment and Strategic Environmental Assessment https://lex.uz/uz/docs/7397289
- Law No. 1042 on Amendments and Additions to the Code of Administrative Responsibility in Connection with the Establishment of Mandatory Requirements for Preventing the Dispersion of Dust and Sand Particles at Construction Sites www.lex.uz/en/docs/7414860
- Law No. 1062 on Amendments and Additions to Certain Legislative Acts https://lex.uz/en/docs/7515355
- Law No. 1073 on Limiting Greenhouse Gas Emissions, entering into force on 9 January 2026 https://lex.uz/en/docs/7618164
- Law No. 1076 on the approval of the Water Code, entering into force on 31 October 2025 https://lex.uz/en/docs/7655857 and https://lex.uz/en/docs/7655343
- Resolution of the President No. 100 on Measures for the fundamental reform of the housing and building heat supply sector and for improving the energy efficiency of buildings https://lex.uz/en/docs/7436699
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Uzbekistan
Environmental performance reviews
Fourth review

The United Nations Economic Commission for Europe Environmental Performance Review Programme assesses progress made by individual countries in reconciling their economic and social development with environmental protection, as well as in meeting international commitments on environment and sustainable development.

The Programme assists countries to improve their environmental policies by making concrete recommendations for better policy design and implementation. Environmental Performance Reviews help to integrate environmental policies into sector-specific policies such as those in agriculture, energy, industry, transport and health. Through the peer review process, the reviews promote dialogue among Governments about the effectiveness of environmental policies as well as the exchange of practical experience in implementing sustainable development and green economy initiatives. They also promote greater Government accountability to the public.

The present publication contains the Fourth Environmental Performance Review of Uzbekistan. The Review takes stock of progress made in the governance and management of the environment since 2018. It introduces an innovative approach, structured around four chapters with a higher degree of thematic integration. The Review evaluates progress in addressing environmental pollution by assessing the impact of key economic sectors on air, water, soil and biodiversity, and by reviewing pollution control measures, as well as developments in the sustainable management of waste and chemicals. It considers actions taken towards green development, including the greening of the tax and tariff system, subsidies, financial systems and investments in environmental protection. It also reviews measures related to climate change by analysing economic and environmental impacts, greenhouse gas emissions and adaptation and mitigation efforts. In addition, it pilots a new chapter on nature-based solutions, assessing their implementation to address biodiversity loss, desertification, water scarcity and climate resilience. The Review includes an assessment of relevant targets of the 2030 Agenda for Sustainable Development and provides recommendations related to the achievement of Sustainable Development Goals.

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