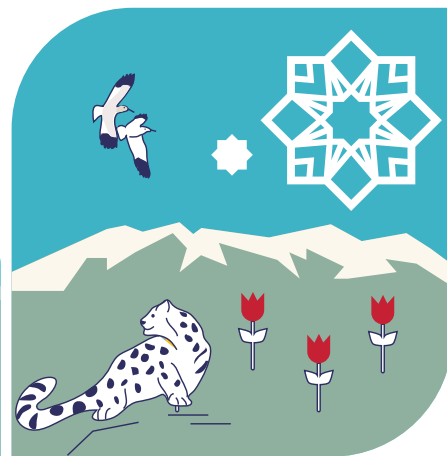


National Report on the State of the Environment

REPUBLIC OF
UZBEKISTAN

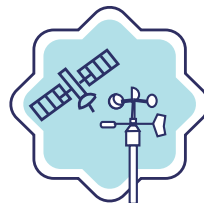
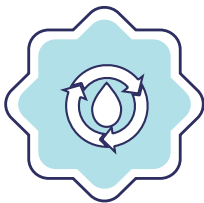
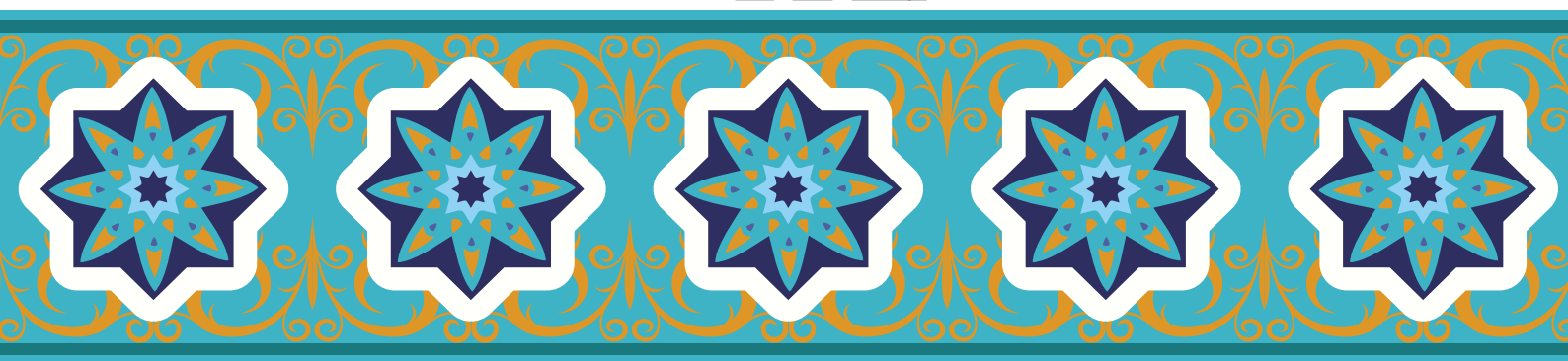


Illustrative Summary



Ministry of Ecology,
Environmental Protection
and Climate Change
of the Republic of Uzbekistan

REPUBLIC OF UZBEKISTAN



National Report **on the State of the Environment**

Illustrative Summary



Ministry of Ecology,
Environmental Protection
and Climate Change
of the Republic of Uzbekistan



Ministry of Ecology,
Environmental Protection
and Climate Change
of the Republic of Uzbekistan

The National State of the Environment Report of Uzbekistan was prepared by the team of the Ministry of Ecology, Environmental Protection and Climate Change of the Republic of Uzbekistan: Khaniya Asylbekova, Zulfiya Yarulina, Marina Plotsen, Khalilulla Sherimbetov, Tatyana Li, Zhakhongir Talipov, Umarjon Abdullaev, Bobur Makhmudov, Numonjon Shakirov, Javohir Abdulkhalikov, Azizbek Kalimbetov, Anvar Tursunaliyev, Shakhnoza Usmanova, Olga Mirshina.

The United Nations Environment Programme (UNEP), the United Nations Economic Commission for Europe (UNECE), the Food and Agriculture Organization of the United Nations (FAO) and the International Institute for Sustainable Development (IISD) provided methodological and financial support for the preparation of this report and for capacity-building.

Zoi Environment Network, in collaboration with the Ministry and with support from UNEP, developed this

Illustrative Summary of the National State of the Environment report. Maps, illustrations and layout are by Matthias Beilstein, Aleksandra Povarich and Dina Adylova. The concept and supervision by Viktor Novikov.

This Illustrative Summary is available in Uzbek, Russian and English for a wide range of uses and readers, including delegates to the 14th Meeting of the Parties to the Bonn Convention on the Conservation of Migratory Species, Samarkand, February 2024.

The text, maps and illustrations may be used without prior permission, provided the source is acknowledged. Data are mainly for 2020–2022, depending on the subject.

Photos are courtesy of Natalia Shulepina, Anastasia Pavlenko, Anna Barashkova, Khaniya Asylbekova, Viktor Novikov.

Contents

Introduction to Uzbekistan	4
Air quality	9
Water resources.	14
Soils and land resources	18
Wild nature and biodiversity	22
Climate change	27
Health and environment	32
The Aral Sea region	35
Waste and chemicals management.	40



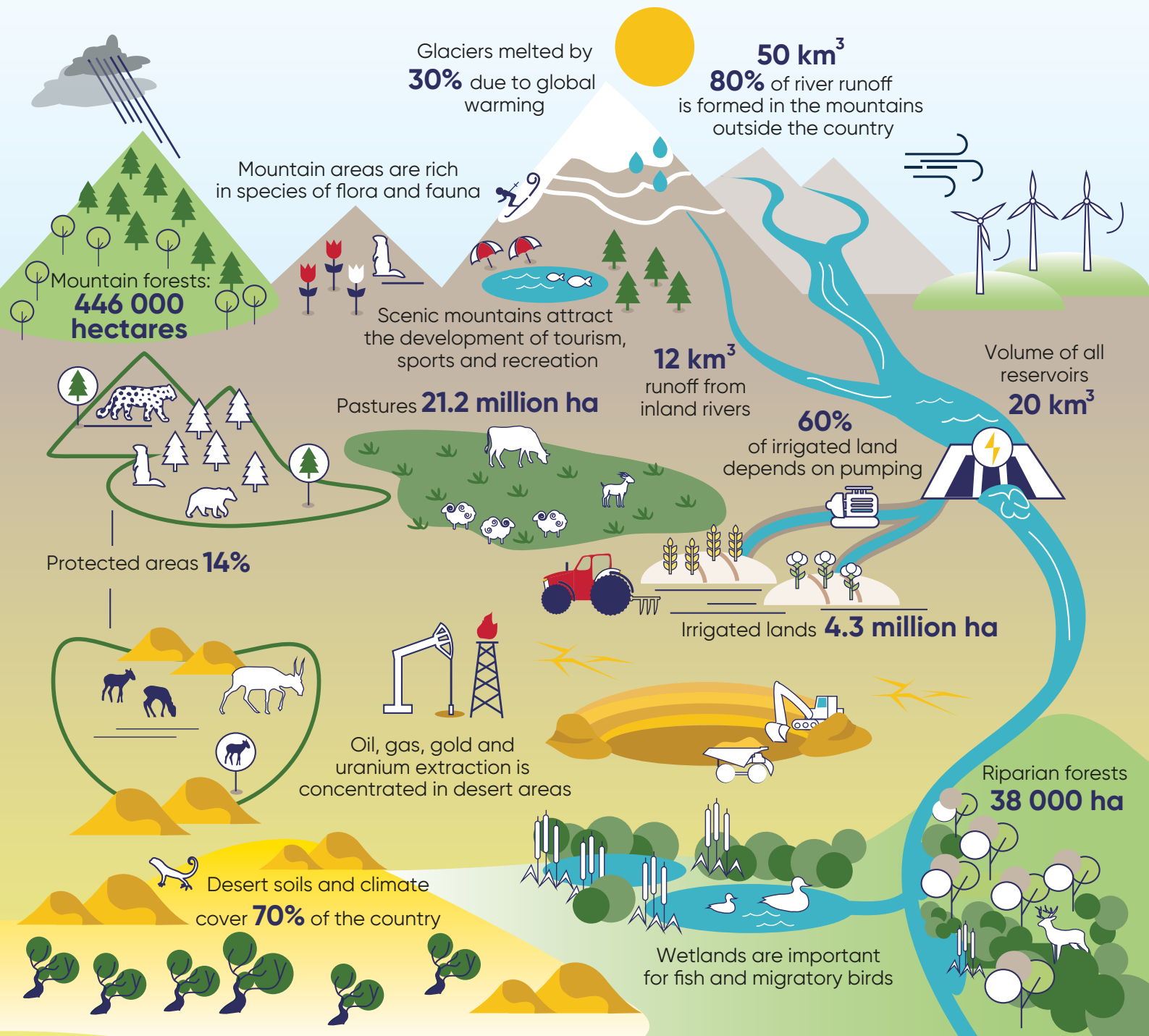
Uzbekistan is the most populous country of Central Asia, with a population of 36 million and an annual growth of 750 000. Half of the population is urban. The rural population lives mainly in irrigated areas and river valleys, as large parts of the country are deserts. Mountains play an essential role in forming water and supporting rich biodiversity. Uzbekistan is one of the world's top ten producers of cotton, gold and uranium and has a well-developed industrial and science base. The country's economy and population depend on natural resources.



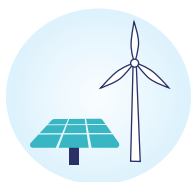
Uzbekistan is party to 14 international conventions and more than 20 agreements and memoranda of understanding on environmental protection. The Ministry of Ecology cooperates with the United Nations and other organizations, such as the International Union for Conservation of Nature (IUCN), the Organization for Security and Cooperation in Europe (OSCE) and the European Union (EU). Regional cooperation is promoted via the Central Asia Regional Environmental Centre (CAREC), the International Fund for Saving the Aral Sea (IFAS) and its structures – ICWC and ICSD – and other platforms.

The Ministry of Ecology is implementing 31 international grant projects totalling \$100 million, and eight more projects with the total budget of \$40 million are in the pipeline. Project themes include biodiversity conservation, including migratory species; measures on climate change and forests; desertification; improving the situation in the Aral Sea region; and sound waste and chemicals management.

Natural resources of Uzbekistan in figures



Main areas of international environmental cooperation



Renewable energy



Climate change



Sound waste and chemicals management



Ozone layer protection



Combating desertification



Biodiversity conservation

Regional environmental cooperation



Migratory species, combating wildlife traffic



Conservation of mountain ecosystems and species



Monitoring of glaciers and water resources



Modernising hydrometers, improving weather forecasts



Industrial safety in major river basins

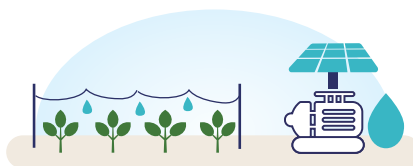


Conferences and meetings

International and regional efforts on the Aral Sea



Afforestation, conservation and restoration of wetlands in the Aral Sea zone



Water and energy saving technologies to improve the living conditions of the population



Creation of a trust fund and innovation zone in the Aral Sea region to develop alternatives



Gissarak Reservoir



Ancient Bukhara

Air Quality



Stationary emissions



Mobile sources emissions



Particulate matter and dust



NO_x emissions



SO₂ emissions



CO emissions



Air quality in major cities

Atmospheric emissions from stationary sources in Uzbekistan remained stable in recent years, but pollution from mobile sources, including emissions of particulate matter and nitrogen oxides, is increasing. Air pollution is also influenced by natural factors: still weather, temperature inversions and dust storms.

The main emissions are registered in the Tashkent, Kashkadarya, Syrdarya and Samarkand provinces, where mining and processing enterprises, power stations and petrochemical plants are located. Emissions from stationary sources amount to 874 000 tonnes per year.

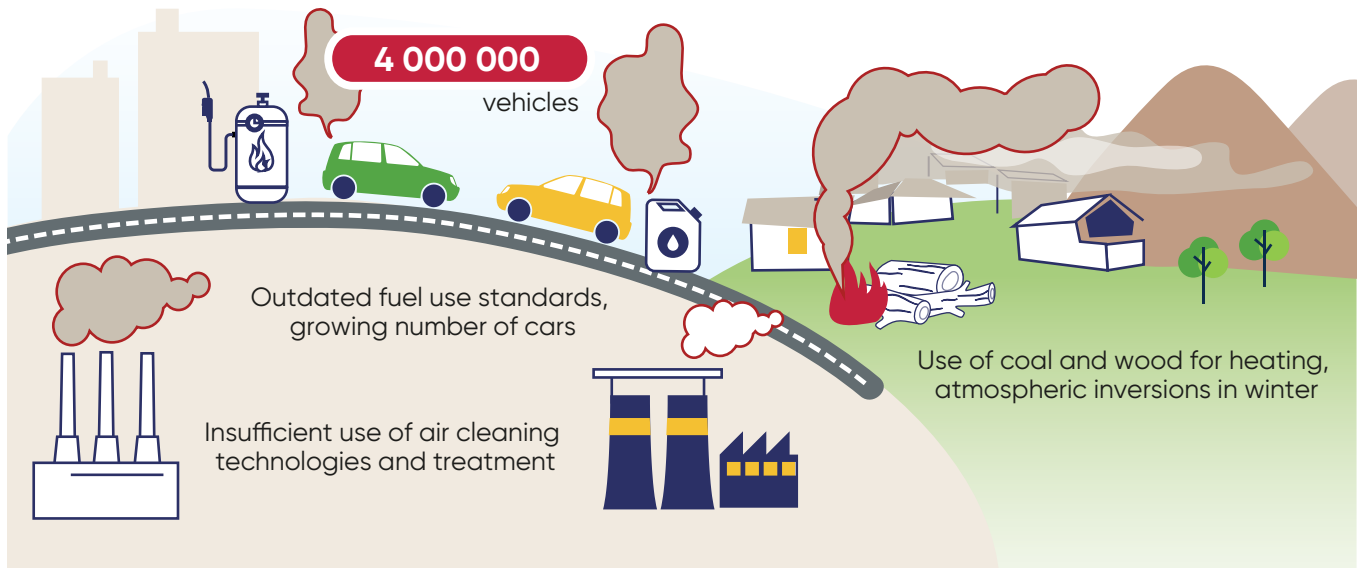
There are 4 million cars in Uzbekistan, annually emitting 1.3 million tonnes of pollutants, mainly in the Tashkent city and province. The number of cars is increasing.

Air quality is monitored by 66 monitoring stations in 26 cities of Uzbekistan. Industrial emissions are monitored at 800 enterprises. The Atmospheric Pollution Index (API) is used to assess air pollution. Over the past five years, the API has remained low in many cities of Uzbekistan. The country's industrial areas and large cities sometimes experience situations of excessive air pollution.

To reduce air pollution, industries and vehicles are being equipped with pollution reduction technologies and filters, and urban green zones are being expanded. Much of Uzbekistan's road transport is powered by low-carbon natural gas. The import and use of electric vehicles is growing. The general public has open access to real-time information on air quality via the monitoring.meteo.uz web-portal and AirUz app.

In accordance with the decree of the President of the Republic of Uzbekistan, the area and length of parks, avenues and green zones in Tashkent will be increased by 2030. The use of public transport will double, and the proportion of electric buses will reach 50 per cent.

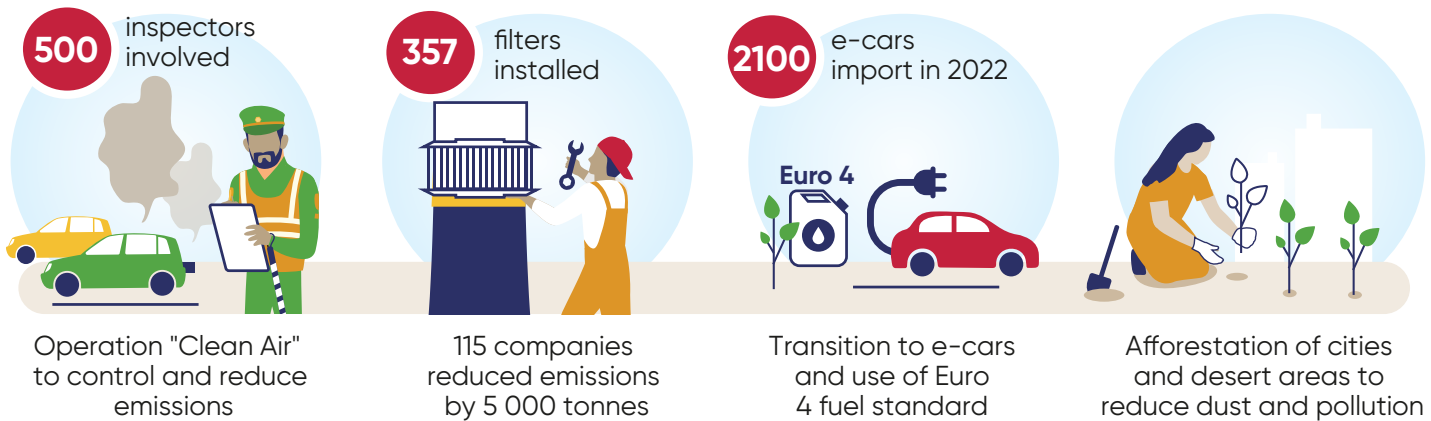
Factors influencing air quality and emissions



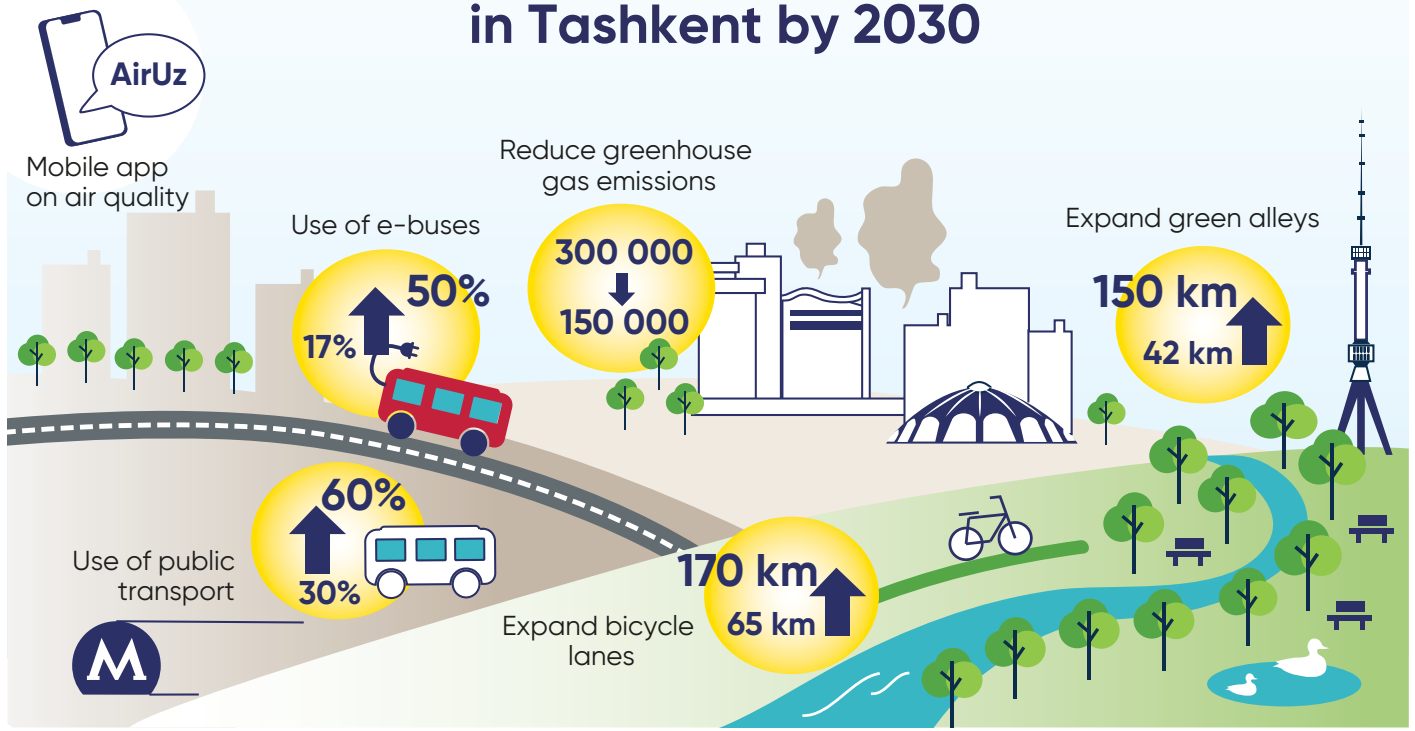
Emissions of air pollutants



Pollution reduction measures



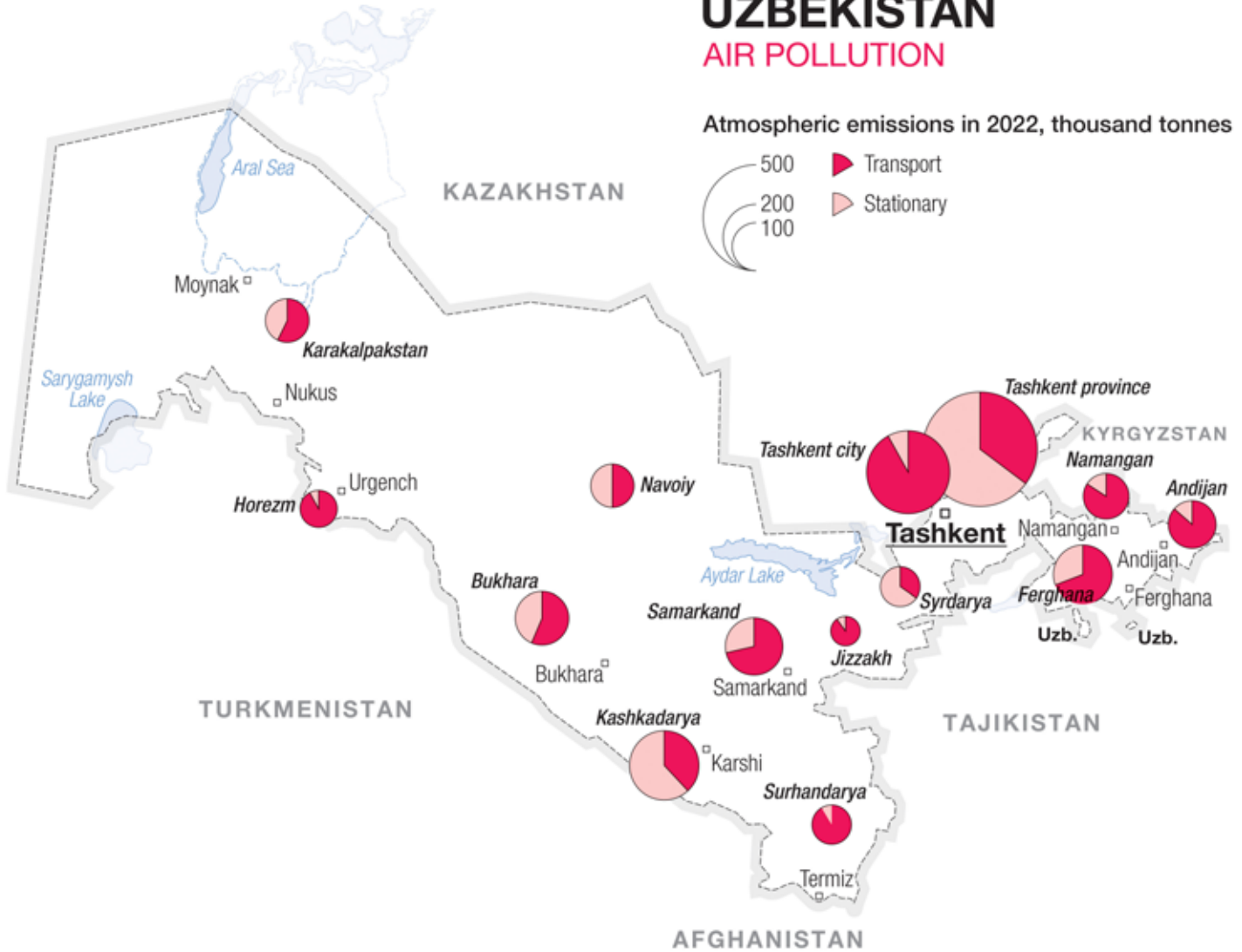
Measures to improve air quality in Tashkent by 2030



UZBEKISTAN

AIR POLLUTION

Atmospheric emissions in 2022, thousand tonnes



0 100 km

Map produced by Zoï Environment Network, December 2023



Youth on bicycles

Water Resources



Water use in agriculture and industry



Water loss in agriculture and industry



Water pollution



State of glaciers



Water availability per person



Duration and severity of droughts



Adoption of water saving

Water is becoming increasingly scarce in Uzbekistan. This is partly due to population growth and increasing public demand for food and energy. On the other hand, the effects of climate change, especially low river levels and droughts, are evident. Snow cover and glaciers in the mountains are diminishing, and the risk of intense rainfall leading to mudslides and flooding is growing.

Agriculture accounts for 90 per cent of water use in Uzbekistan. Water abstraction and use varies from year to year depending on water availability and demand, and averages 52 km³/year. The irrigated area of 4.3 million ha is supported by an extensive irrigation network of 28 000 km of canals and 70 reservoirs with a total volume of 20 km³. About 60% of the irrigation area is dependent on pumping stations, which consume 8 billion kWh of energy annually.

Water-saving technologies are used on 23 per cent of cultivated land. Large water losses occur in main and inter-farm canals and in on-farm networks. Average water use in irrigation (10 700 m³/ha) remains high. Other water consumers are: residential and municipal sectors, fisheries and industry.

Environmental monitoring shows that most of the country's waters are classified as moderately polluted (class III). A deterioration in the quality of the water is observed in the areas of large enterprises and downstream of cities. Agricultural run-off and drainage tends to mineralize rivers.

Poor water quality affects human health. The pollution of water bodies with plastic waste and sewage leads to a loss of the value of water for recreation and fishing. Increased salinity of water affects soils, crop yields and ecosystems.

The main use of groundwater is for municipal and domestic purposes. A total of 50 000 wells are in operation in the country. The most important reserves of non-saline groundwater are located in the provinces of Tashkent, Samarkand, Surkhandarya, Namangan and Andijan.

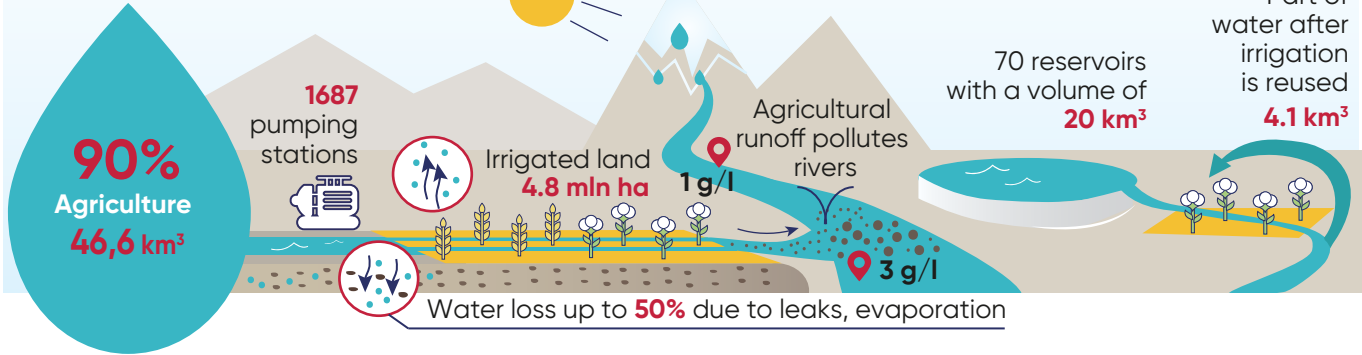
Uzbekistan has adopted state programmes to conserve and protect water resources. It has also introduced payments and fines for water pollution and overuse. The application of Integrated Water Resources Management (IWRM) principles, water accounting and water saving systems is increasing. In the near future, 13 000 water management facilities will be equipped with digital technologies. Drip and sprinkler irrigation technologies have already been introduced on 400 000 ha. Drought-resistant and early growing varieties of crops are being used to reduce water consumption.

Environmental impact assessments are regularly carried out on projects, and surface water and wastewater discharge points are monitored. The Uzbek Hydromet water monitoring network covers 59 water bodies at 108 gauges and 86 locations. More than 1 000 water samples are taken and analysed annually.

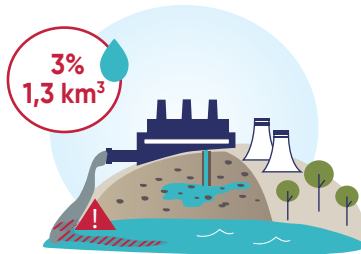
Surface water

Water withdrawal from surface sources

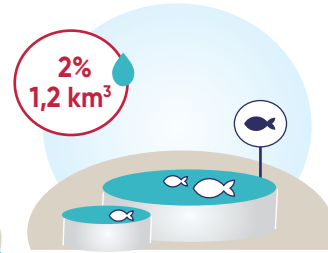
52 km³/year



Domestic water use

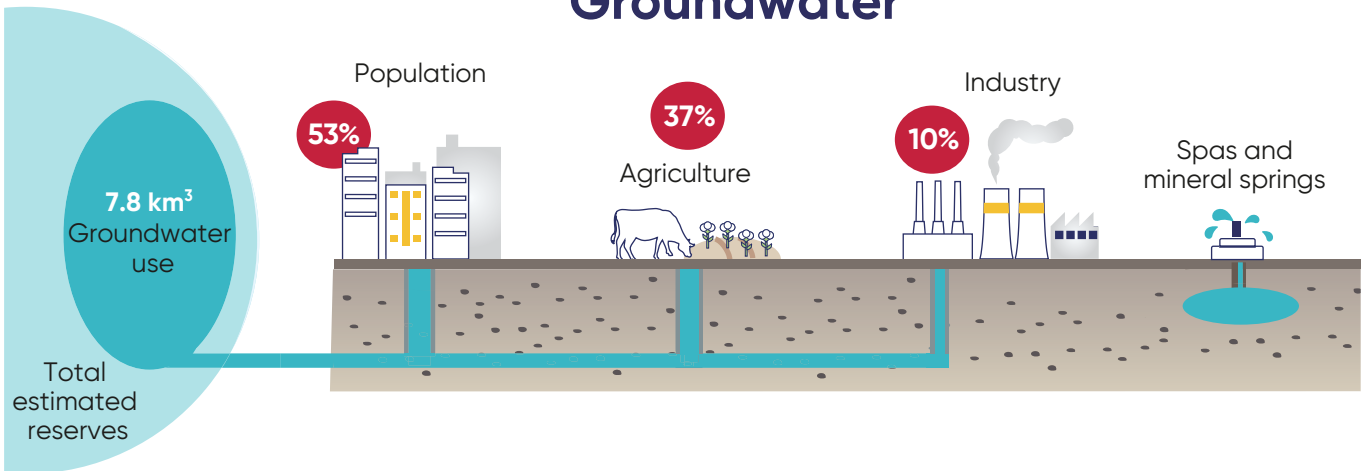


Industrial and energy water use

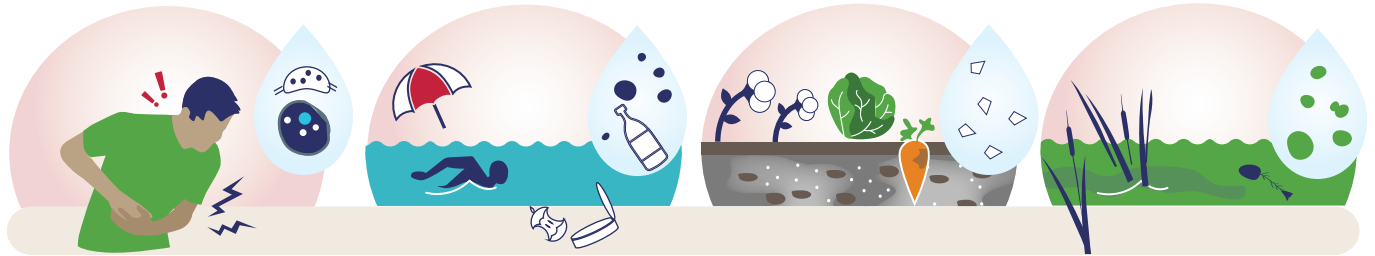


Other uses

Groundwater



Consequences of water pollution



Health impacts,
disease outbreaks

Loss of recreational
value

Salinisation of soils,
damage to crops

Impact on aquatic
ecosystems

Solutions



Compulsory payments and taxes
for the use of natural resources,
fines, compensation for pollution



Investment in water
treatment and purification



New regulations,
impact assessments



Integrated water resource
management, river basin planning



Improved water monitoring,
data digitisation

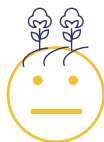


Interactive maps,
accessible reports



Amu Darya river suffers from low water levels

Soils and Land Resources



Land use



Soil and water
conservation
technologies



Mudflows and
soil erosion
in mountains



Soil salinity



Forests and
planted areas

The total land area of Uzbekistan is 44.9 million ha, of which 26.2 million ha (58%) are used in agriculture. Pastures occupy 21.2 million ha or half of the country's area.

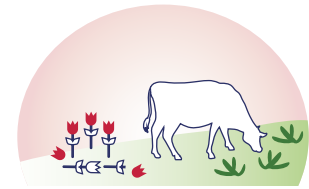
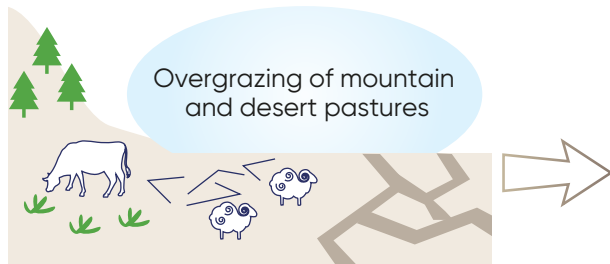
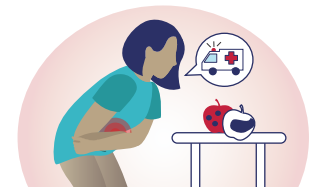
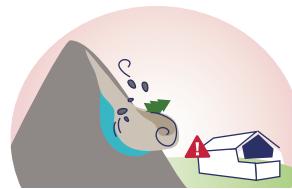
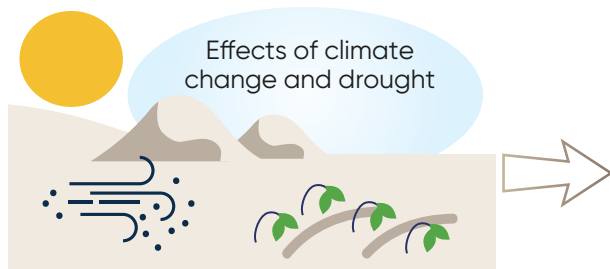
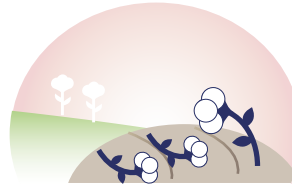
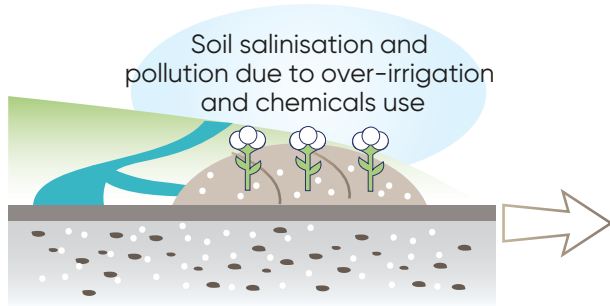
About 70 per cent of Uzbekistan's territory (31 million ha) is in the arid zone, with a wide distribution of desert soils and sands, frequent dust storms and dry winds. Large areas of these natural deserts are subject to water and wind erosion.

Human activities such as overgrazing, salinization of irrigated land, irrational planning and land use in infrastructure development, industrial pollution and land degradation can have a negative impact on soil conditions and desertification.

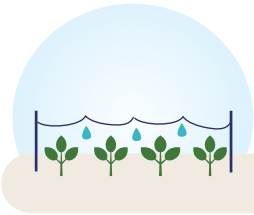
Overgrazing is the main cause of desertification: 70 per cent of pastures in Uzbekistan are degraded. Reducing or stopping grazing helps to restore grass cover, but some types of soil degradation are irreversible – for example, the destruction and pollution of soils by industry or toxic waste.

Uzbekistan is implementing small- and large-scale measures to combat land degradation, to improve the condition of arable land and to expand the planting of trees in cities, deserts and mountains. Scientific research and monitoring of the land is also being carried out. In November 2023, an international meeting of the UN Convention to Combat Desertification was held in Samarkand, where participants organized a tree planting campaign.

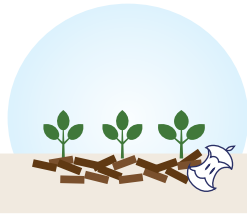
Causes of land degradation



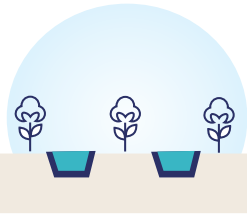
Solutions



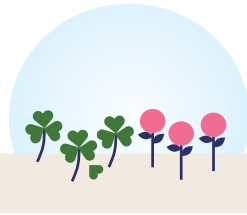
Drip irrigation



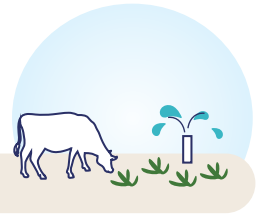
Mulching and
compost use



Maintaining good
drainage in irrigation



Crop rotation,
alfalfa



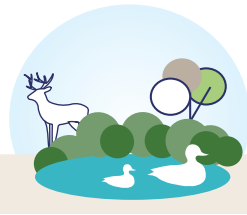
Reduce grazing
intensity, irrigate
pastures



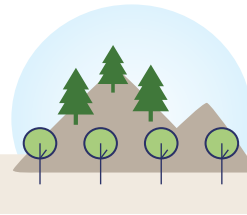
Sand soil stabilisation
with saxauls



Agro-forestry



Protection of riparian
forests and wetlands



Planting forests
in mountains to
reduce disaster risk



Mapping and remote
sensing of forests
and soils



Drip irrigation

Wild Nature and Biodiversity



Number and size of protected areas



Other areas with conservation measures



Status of Red List species



Status of natural landscapes



Pressure on natural landscapes



Biodiversity monitoring



Breeding and restoration of wildlife and birds

Intensive grazing results not only in soil and pasture degradation, but also in forest degradation, the disappearance of rare plants and the reduction of wildlife habitats. Aquatic ecosystems have long suffered perhaps the greatest anthropogenic stress. Tugai forests now cover 38 000 ha, mostly in the Republic of Karakalpakstan. This is only 10 per cent of the original area of tugai forests in the Amu Darya delta.

Poaching affects rare and endangered animals (turtles, marmots, gazelles), raptors and songbirds. The illegal collection of medicinal plants, flowers, seeds and bulbs for sale is a threat to the flora. Wild ungulates are in competition with livestock for grazing land. Ecosystems and species, such as the snow leopard in the high mountains and the flora and fauna of the Aral Sea region, are also affected by climate change.

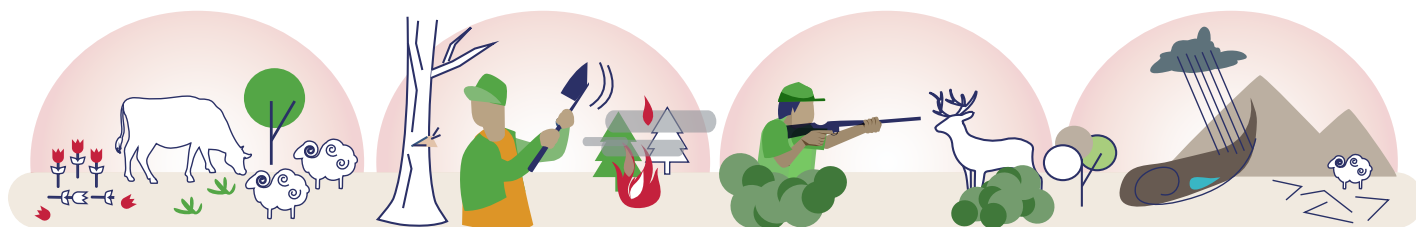
Uzbekistan's flora includes 4 300 species of higher plants, 10 per cent of which are endemic. Of particular interest are the wild relatives of the cultivated plants – wild almond, apple, persimmon, onion, spices and aromatic plants. There are 715 species of vertebrates: 77 species of fish, 3 species of amphibians, 61 species of reptiles, 467 species of birds and 107 species of mammals. The degree of endemism for reptiles and fish is as high as 50 per cent. Migratory species include mammals (saiga, Bukhara deer, kulan, snow leopard), birds (crane, sociable lapwing) and fish.

Uzbekistan is implementing its National Biodiversity Strategy and Action Plan (NBSAP) for 2019–2028. NBSAP provisions and targets may soon be updated to reflect the recent Kunming-Montreal Global Biodiversity Framework and targets. The Ministry of Ecology approves quotas for hunting and plant harvesting and conducts regular environmental inspections in coordination with the Academy of Sciences.

The lands of the State Forest Fund cover 11.7 million ha, or 26 per cent of the country's total area, of which 3.5 million ha are covered by forests (forest cover 7.7%). Since 2021, the “Yashil Makon” country-wide project has been implemented to increase forest plantations.

Protected areas form the basis of biodiversity conservation and cover 6.3 million ha (14% of the country's total area), significantly more than 5–10 years ago. New categories and types of protected areas have been introduced, including integrated landscape reserves and nurseries. Key Biodiversity Areas (KBAs) have been identified, some of which are now targeted by conservation projects.

Impacts on wildlife and biodiversity



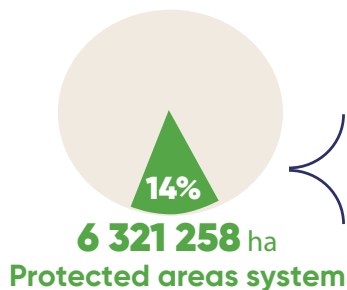
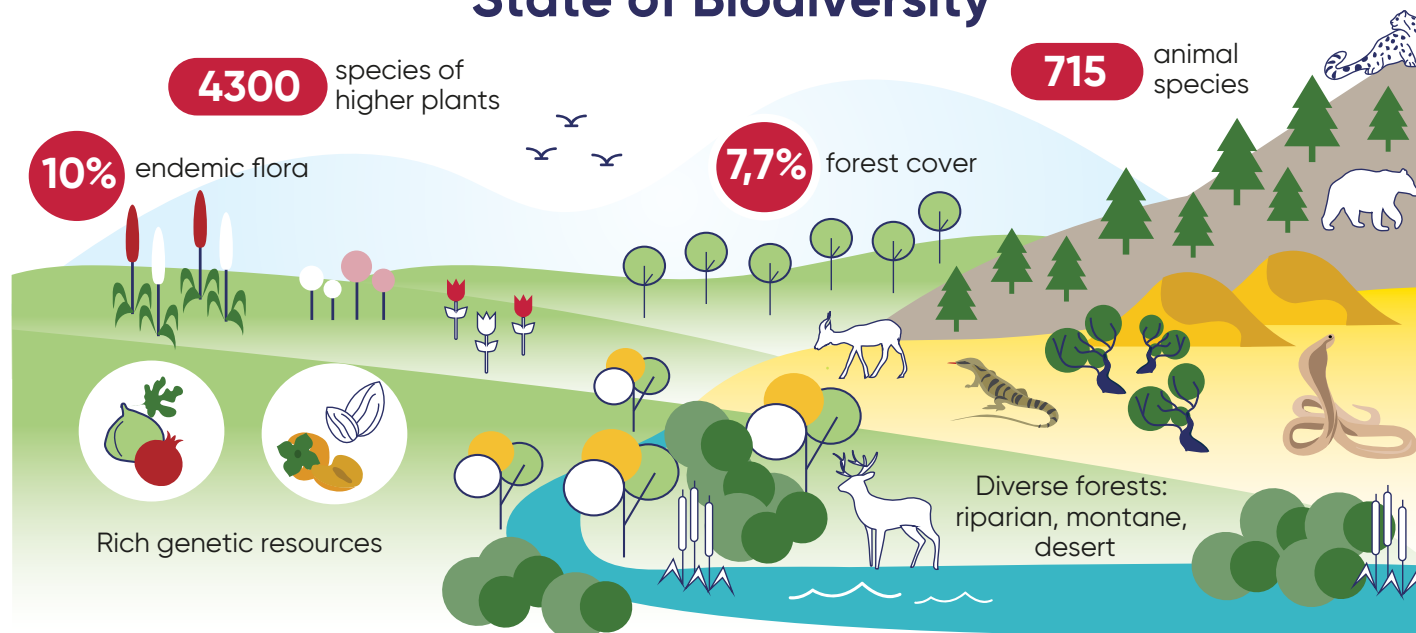
Intensive grazing

Forest disturbance

Extinction and decline of plant and animal species

Climate change and land degradation

State of Biodiversity

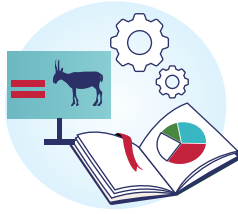


- 2** biosphere reserves
- 1** national natural park
- 2** UNESCO world natural heritage sites
- 7** strict nature reserves
- 12** species management areas
- 4** Ramsar wetlands
- 12** nature parks
- 11** nature monuments
- 1** nursery
- 1** integrated landscape reserve
- 36** Key Biodiversity Areas in mountains and foothills

National conservation efforts



Hunting and plants collection and use permits



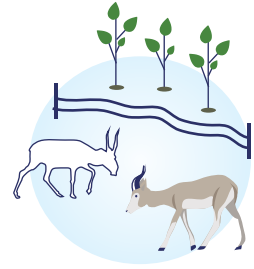
Wildlife inventory and reporting



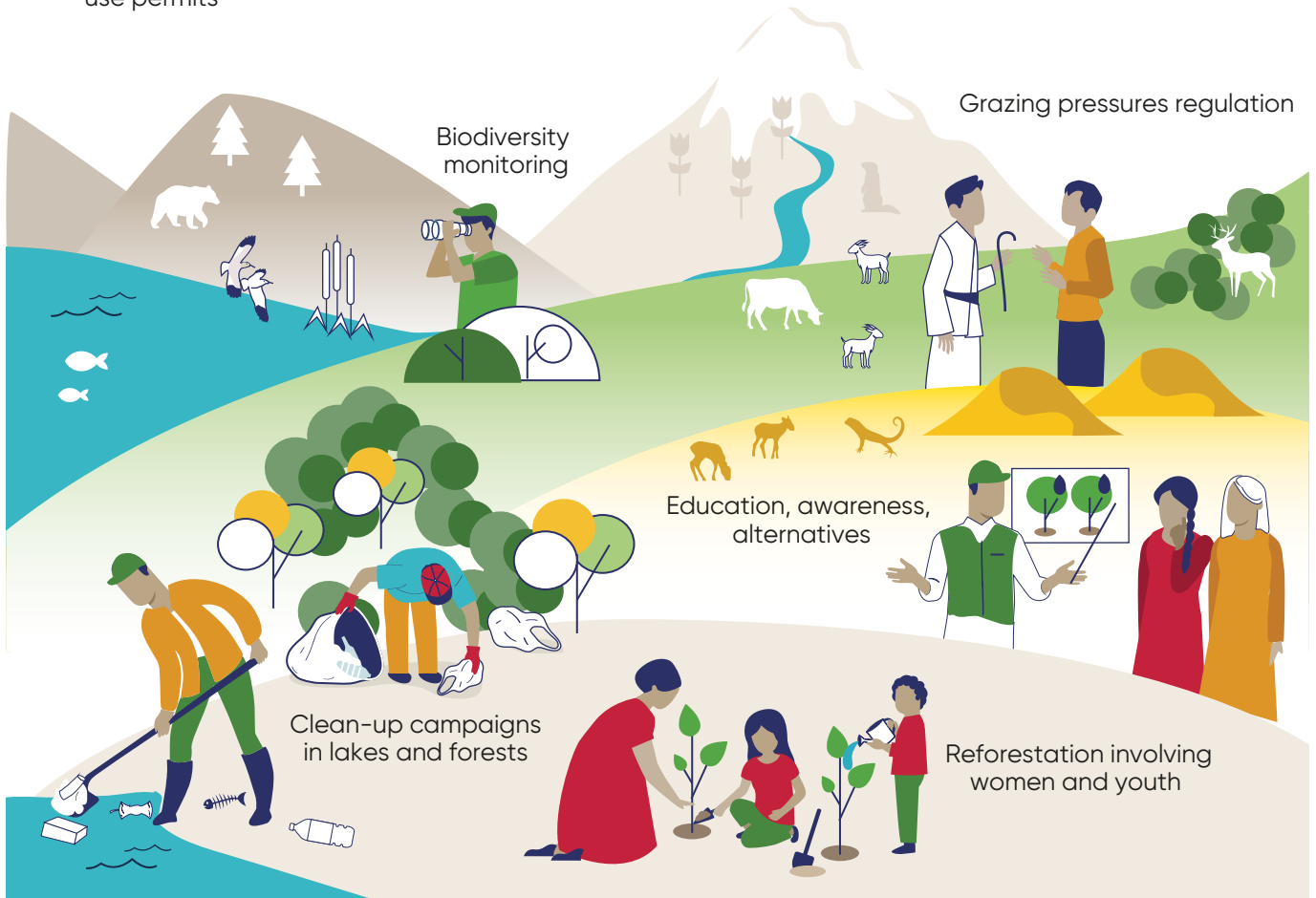
Red List enforcement and update



Ecological inspections



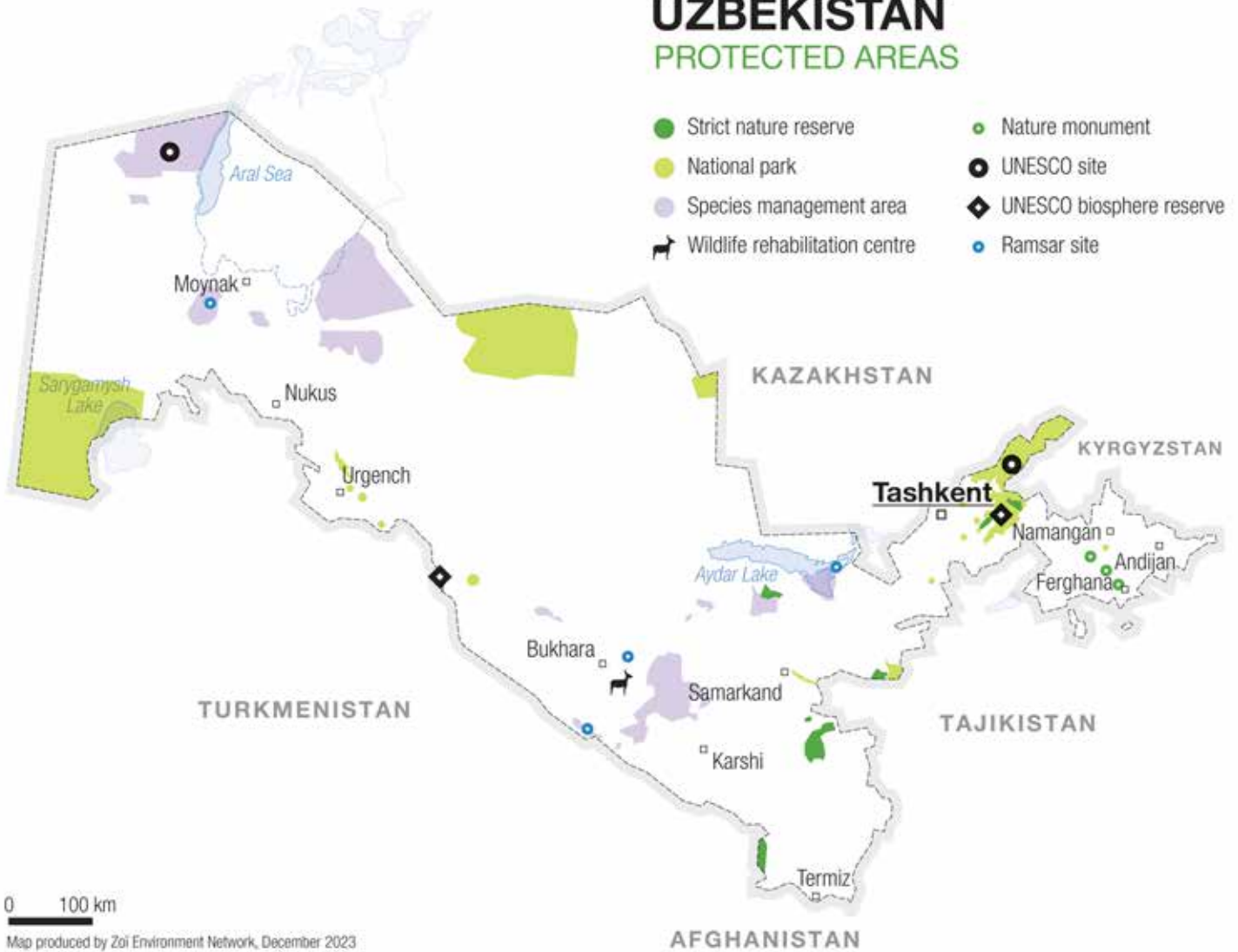
Nurseries for birds, mammals and trees



UZBEKISTAN

PROTECTED AREAS

- Strict nature reserve
- National park
- Species management area
- Wildlife rehabilitation centre
- Nature monument
- UNESCO site
- ◆ UNESCO biosphere reserve
- Ramsar site



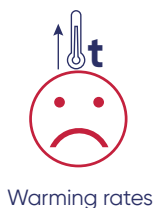
0 100 km

Map produced by Zoï Environment Network, December 2023



Pallas's Cat (Manul)

Climate Change



In Uzbekistan, the average annual temperature has increased by 1.6 °C (from 13.2 to 14.8 °C) since the beginning of instrumental meteorological observations (1880). Over the last five years, the number of hot days has exceeded the average by 5–7 days, and in the Aral Sea region by 12–17 days. Climate change is associated with increased extreme weather events, glacial retreat, increased dust storms and desertification, floods and mudslides.

According to climate scenarios, precipitation in the desert areas of Uzbekistan and in the southern regions of Central Asia may decrease, and in mountainous areas during the winter months there may be some increase in precipitation, including in the form of heavy rainfall. In 80 per cent of cases, heavy rainfall is the cause of mudflows. About 800 settlements are located in mudflow hazard zones.

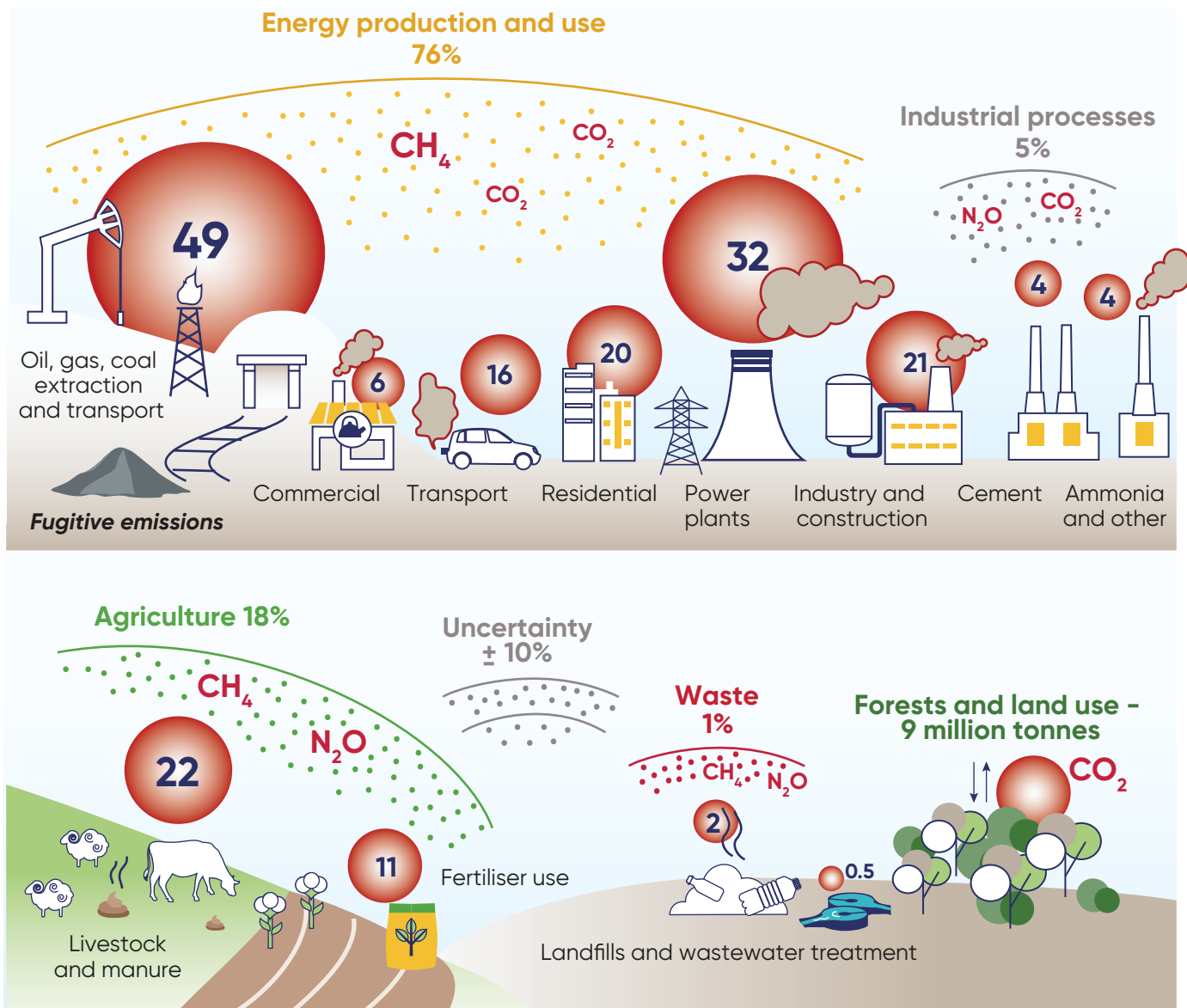
Over the last 50–60 years, the volume of glaciers in the Pskem River basin has decreased by 24 per cent, in the Kashkadarya by 70 per cent and in the Surkhandarya by 40 per cent. In the glaciated basins of medium and large rivers, intensive glacier melting may initially lead to an increase in run-off, but by mid-century the flow of the Amu Darya and Syr Darya Rivers is expected to decrease by 5–15 per cent, leading to an increased water deficit.

Climate warming is caused by global greenhouse gas emissions. In Uzbekistan, emissions have remained stable over the last five years of reporting under the United Nations Framework Convention on Climate Change (UNFCCC) at 189 million tonnes of CO₂ equivalent (according to the latest inventory for 2017). The main contributors are fuel production and consumption (76%) and agriculture (18%). Compared to the base year 1990, emissions have increased by 7 per cent.

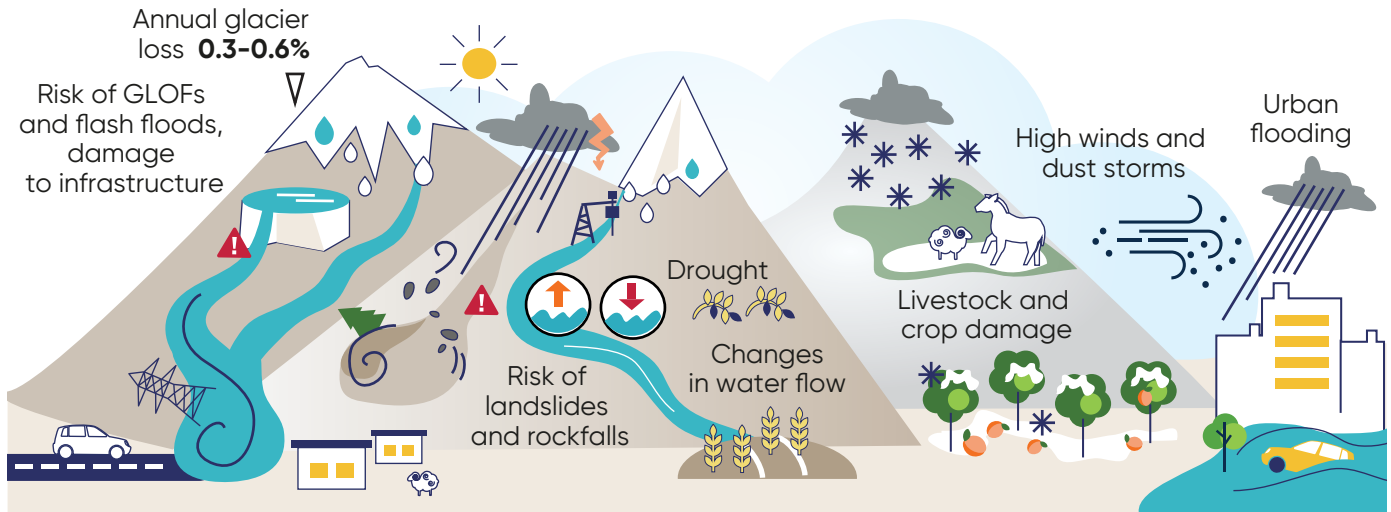
At the 28th Conference of the Parties (COP-28) to the UNFCCC in Dubai in December 2023, Uzbekistan for the first time organized its pavilion to inform and engage Parties and partners. As part of its commitments, Uzbekistan prepared and submitted to the UNFCCC three national communications, a biennial report with an inventory of greenhouse gas emission sources for 1990–2017, and its revised nationally determined contribution. Implementation of the strategy for the transition to a green economy by 2030 has begun. A Ministry of Ecology with a climate change mandate has been created through institutional reform, and the National Adaptation Plan (NAP) is being finalized.

Carbon footprint: Greenhouse gas emissions

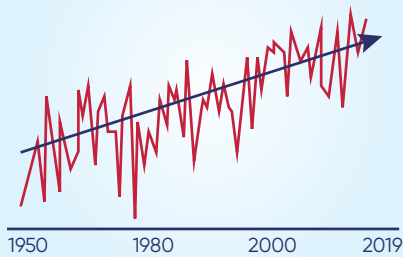
million tonnes of CO₂ - equivalent



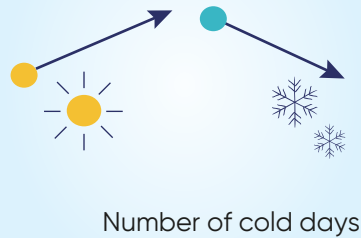
Climate Change



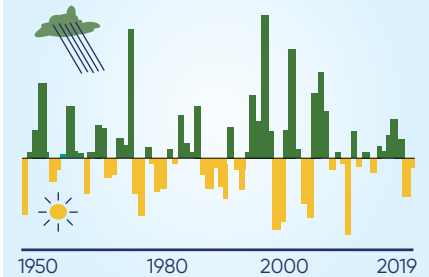
Average temperature trends



Number of hot days



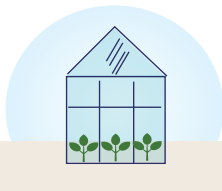
Precipitation variability



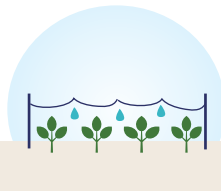
Solutions



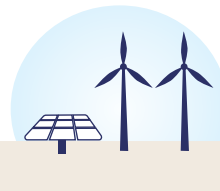
Regular reporting on emissions, targets and action plans



Greenhouses to protect against severe weather



Water saving technologies



Renewable energy

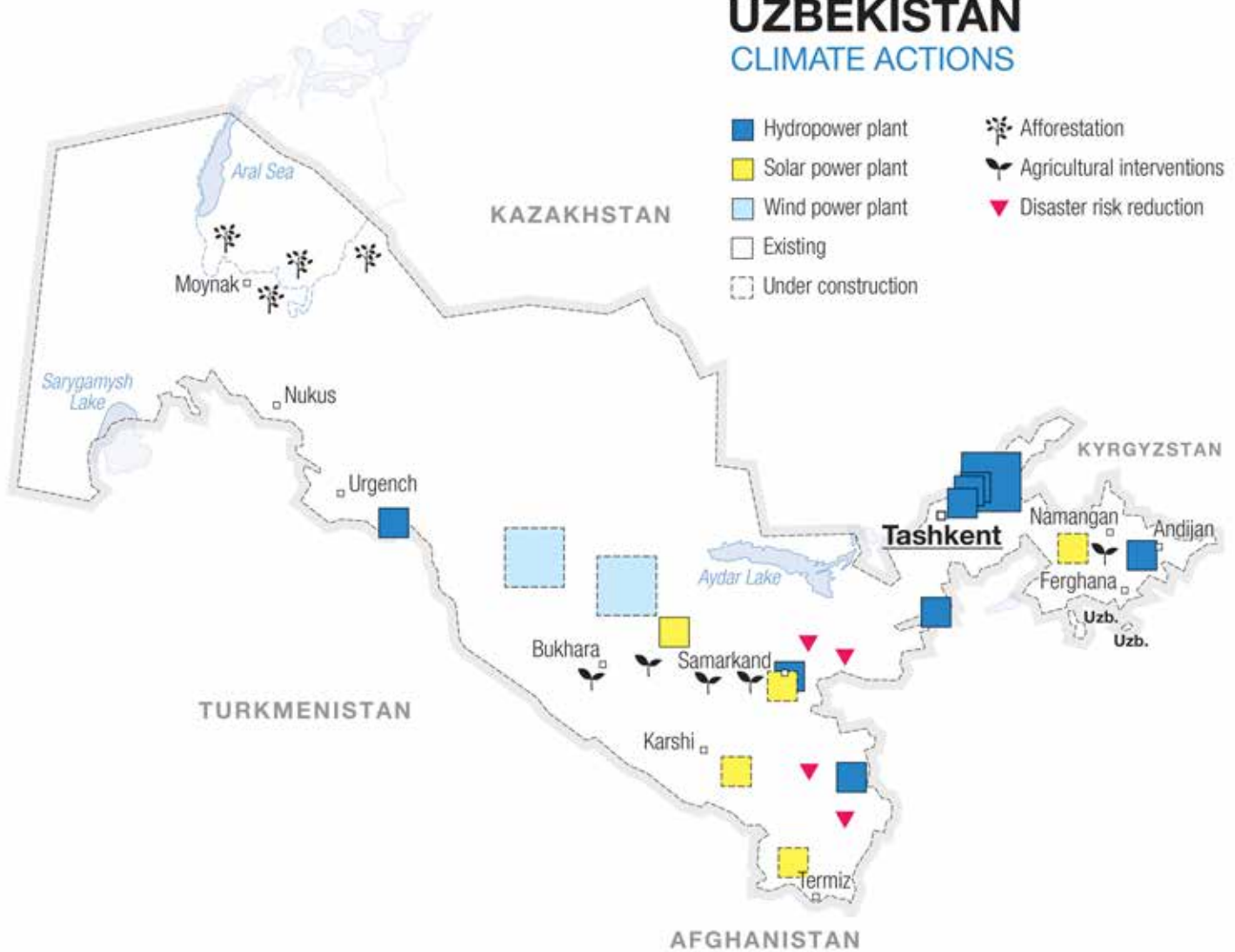


Energy efficiency, green cities and public transport

UZBEKISTAN

CLIMATE ACTIONS

- Hydropower plant
- Solar power plant
- Wind power plant
- Existing
- Under construction
- Afforestation
- Agricultural interventions
- Disaster risk reduction



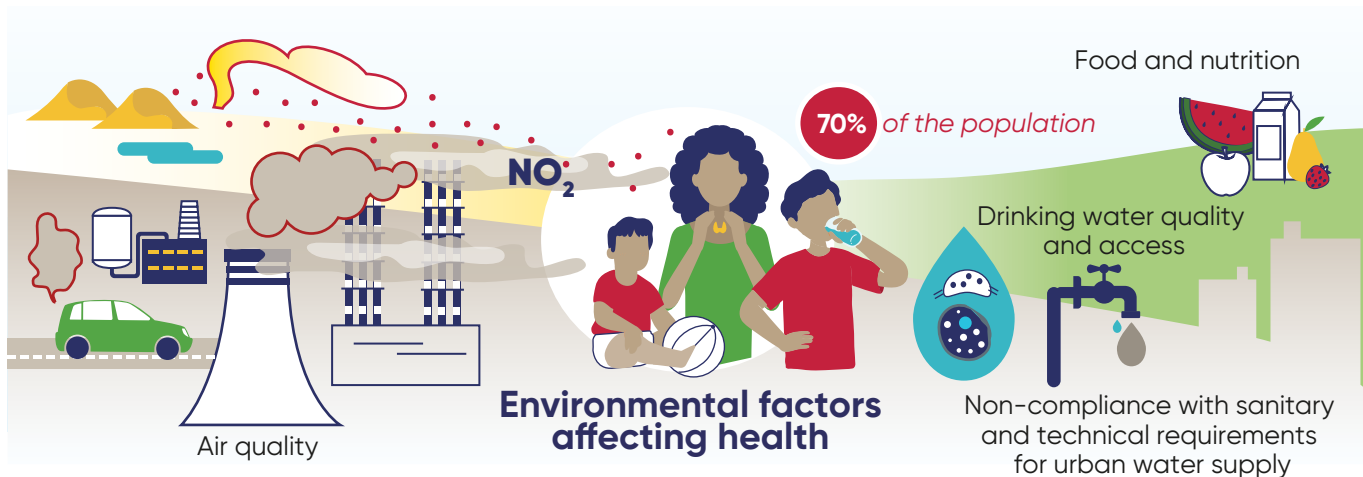
0 100 km

Map produced by Zoi Environment Network, December 2023



Tree planting by participants of the international conference CRIC21 in Samarkand, November 2023

Health and Environment



Life expectancy



Child development



Heart diseases



Cancer



Nutrition



Access to safe drinking water supply



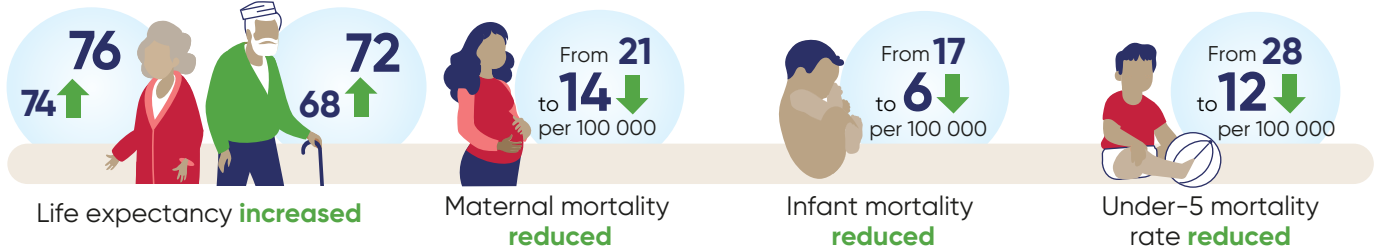
Population exposed to polluted air

Studies show that there is a link between air pollution and the incidence of disease. Increased mineralization and drinking water quality affect health. During dry periods, in the lower reaches of the Amu Darya and in some areas of Fergana, Tashkent, Syr Darya, Navoi and Bukhara provinces, the concentration of mineral salts in water supply systems has increased.

Dietary quality, including consumption of meat and dairy products, eggs, fruits and vegetables, has improved in recent years. This has had a positive impact on the health of the population: the number of underweight children has halved and child obesity is negligible. The incidence of anaemia among women has fallen by a factor of 2.5, and life expectancy has increased.

Health and Environment

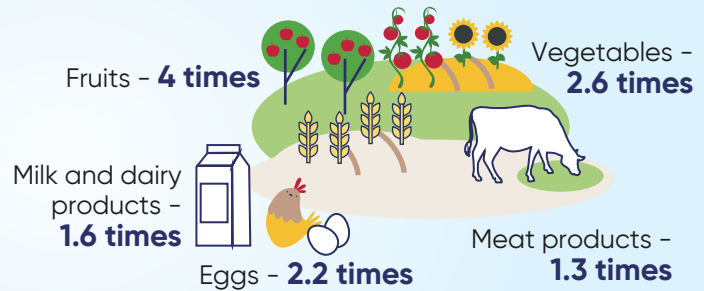
Achievements



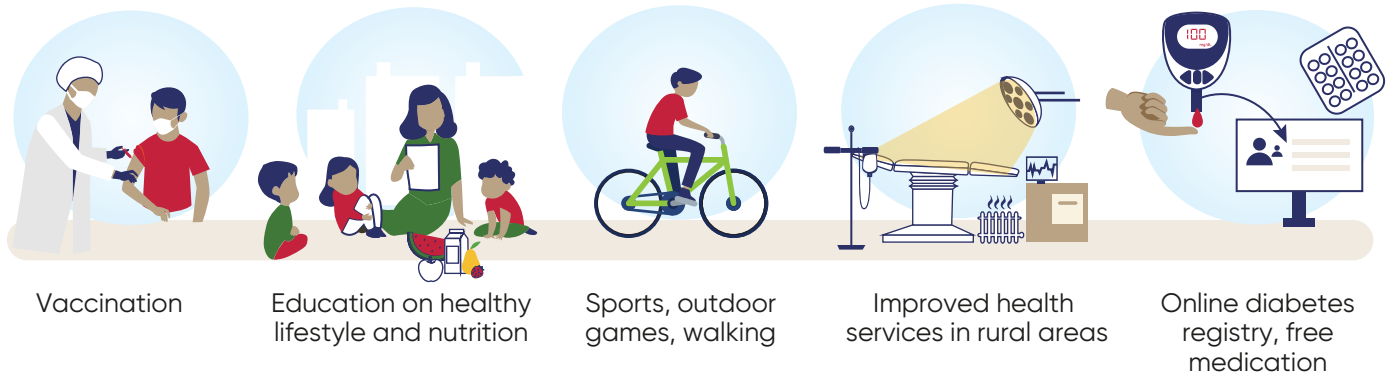
Access to safe water increased:



Nutrition and food consumption per person improved:



Solutions





Wastewater treatment plant in Samarkand

The Aral Sea Region



Aral Sea drying



Loss of biodiversity



Food security



Diseases



Access to clean water

In the second half of the 20th century, the condition of the Aral Sea deteriorated: its volume and area decreased significantly due to the increase in water withdrawals for irrigation and the reduction in the flow of the Amu Darya and Syr Darya rivers, which feed the sea. Compared to 1960, the volume of the Aral Sea has decreased from 1 083 km³ to 69 km³ (16 times). The negative effects of excessive use of agrochemicals on agricultural fields and poor water quality in the rivers have persisted for a long time.

Water mineralization in the lower reaches reaches 3 g/l in the Syr Darya and 2 g/l in the Amu Darya. Water pollution and dust-salt storms from the bottom of the dried Aral Sea are the main factors behind the increased incidence of anaemia, kidney disease, gastrointestinal disease, respiratory disease, cardiovascular disease and cancer. Agricultural yields in the Aral Sea region are one-half to one-third of normal levels. Declining productivity of pasture and irrigated land, dying tugai vegetation and drying lakes have led to the loss of 100 000 jobs.

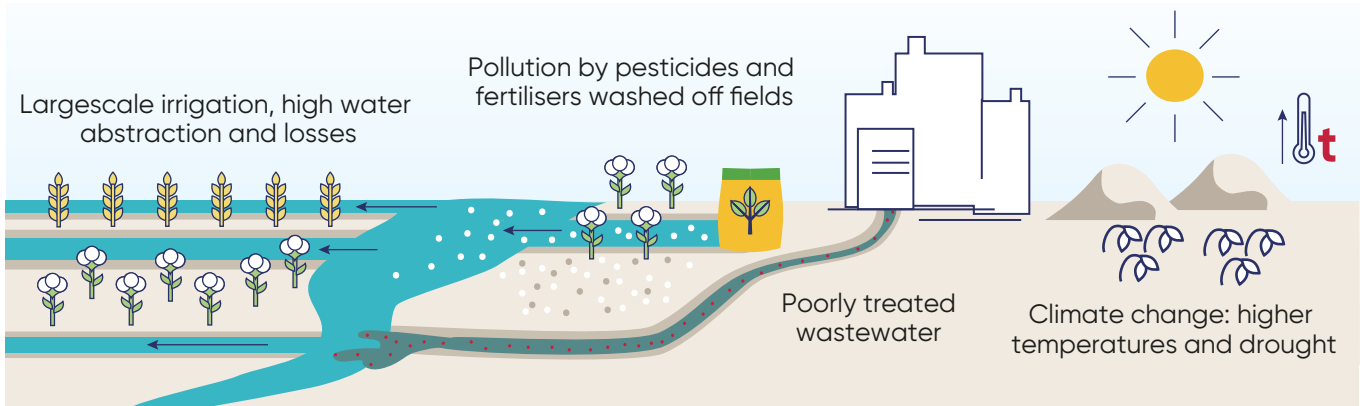
The situation has stabilized over the past 10 years, but could worsen again if and when Afghanistan completes and commissions the 285 km Kosh-Tepa canal (under construction) in the upper reaches of the Amu Darya. Climate change could increase pressure on the Aral Sea region over time – both through low water and droughts throughout the basin, and through increased heat and water scarcity in the populated area around the Aral Sea.

In 2018, the International Innovation Centre of Aral Sea was created to improve ecosystems and implement best practices on saline lands. The UN Multi-Partner Trust Fund on Human Security for the Priaralie Region (MPTF) was also created. The fund has attracted more than \$16 million for the development and implementation of five rural development and climate change adaptation projects, reaching 250 000 people.

In 2021, the President of Uzbekistan, Sh. Mirziyoyev, signed the decree “On measures to implement the special resolution of the UN General Assembly of 18.05.2021 ‘On the declaration of the Aral Sea region as a zone of environmental innovation and technology’”. In 2023, Central Asian countries celebrated the 30th anniversary of the establishment of the International Fund for the Saving of the Aral Sea (IFAS), which aims to finance and coordinate measures for the socio-environmental restoration of the Aral Sea basin. Its measures and projects include the creation of water reservoirs in the Amu Darya delta, the establishment of forest plantations and others.

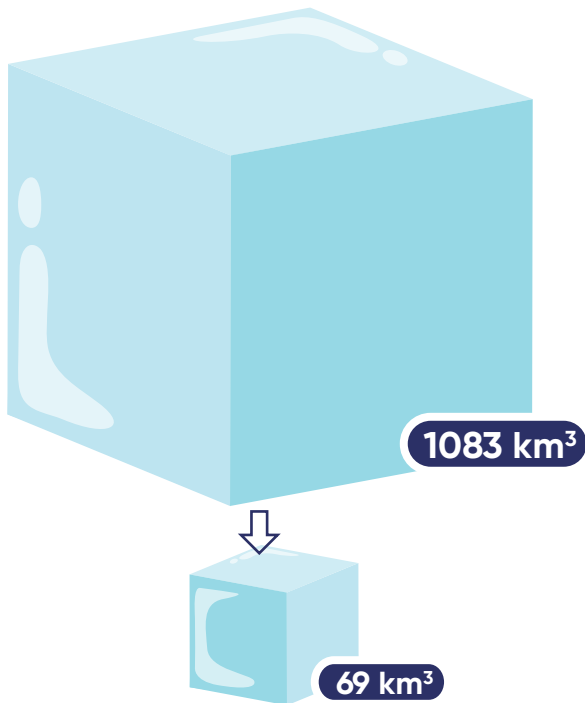
At the expense of state programmes, 1 500 km of drinking water supply networks have been built and rehabilitated, and access to clean water has increased from 40 per cent to 68 per cent of the population. Five new protected areas were created, covering a total of 3.6 million ha, and 1.7 million ha of saxaul, cherkess and other trees were planted on the dried Aral Sea bottom.

Causes of the Aral crisis



Consequences

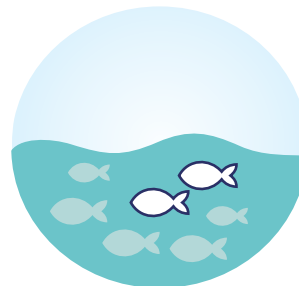
Water volume reduction:



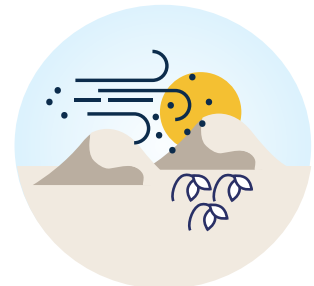
Water shortages and poor water quality



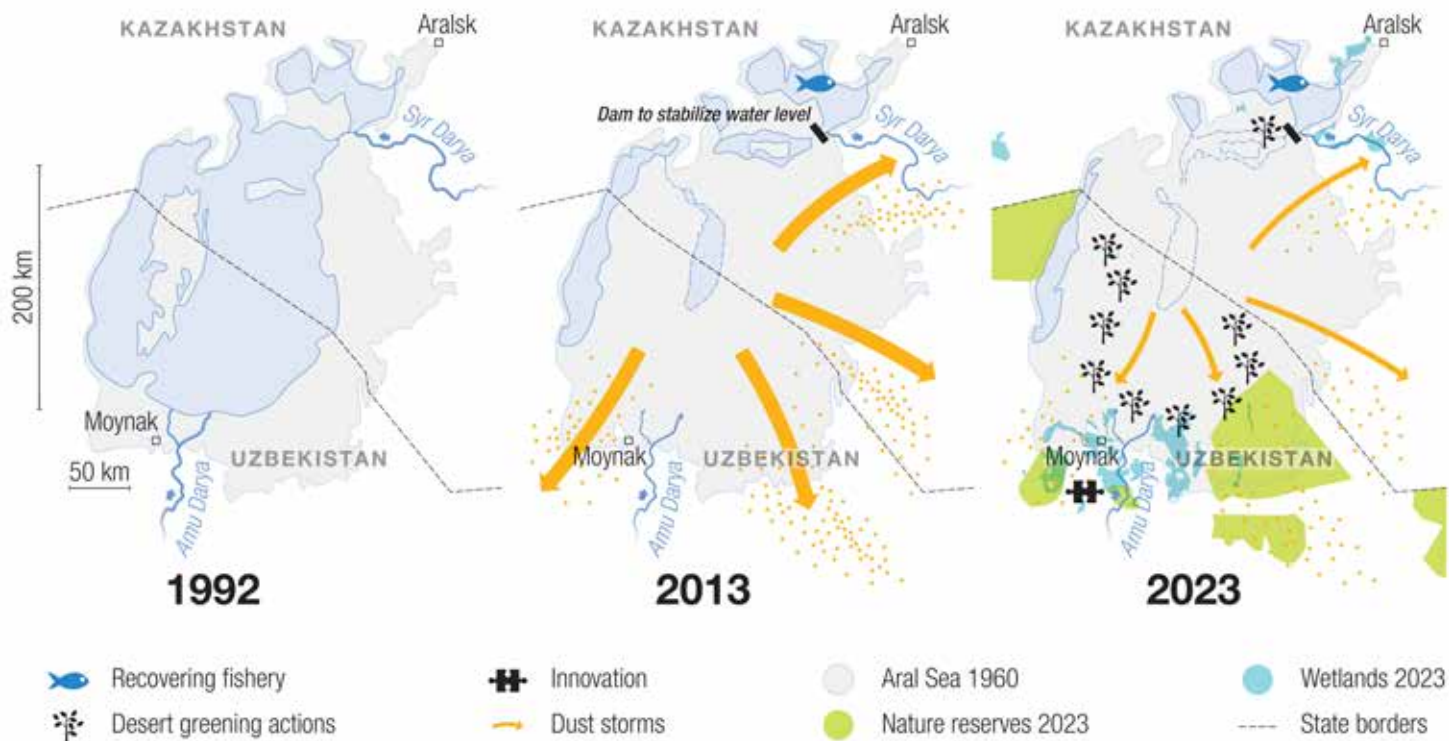
Environmental migration



Decline in fish stocks, ecosystem degradation



Increased desertification and dust storms



Map produced by Zoi Environment Network, December 2023

Addressing the Challenges of the Aral Sea Region

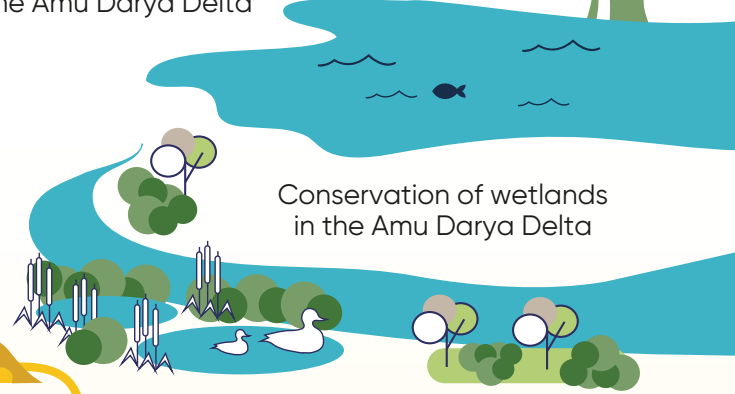


1.7 million hectares
of forest plantations
on former seabed

Birds survey in the Aral Sea
and the Amu Darya Delta



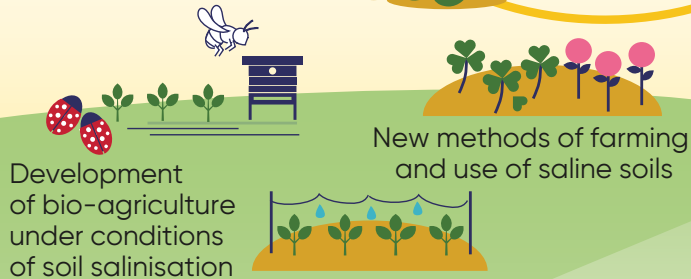
Conservation of wetlands
in the Amu Darya Delta



5 new protected
areas covering
3.6 mln ha



1500 km of water supply networks
constructed and rehabilitated



Development
of bio-agriculture
under conditions
of soil salinisation

New methods of farming
and use of saline soils



Innovative
technologies



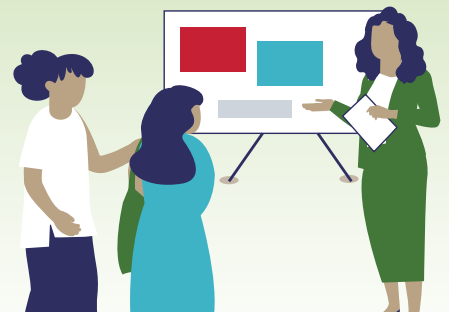
Access to the centralised water supply increased
from 40% to 68%



Support for small
businesses

Establishment of innovation
centre, business training

250 000 people are informed on water and
soil technologies and climate adaptation





Saxaul planting on the former Aral Sea bed

Sound Waste and Chemicals Management



Waste generation per person



Total household waste



Household waste collected



Household waste recycled



Awareness and environmental



Hazardous waste management



Monitoring and statistics

Waste in Uzbekistan is increasing due to growing population, consumption, industrial production and booming construction. On average, each inhabitant of the country produces 0.77 kg of waste per day. The amount of plastic waste is increasing in Uzbekistan and worldwide. Every day, 1 000 tonnes of plastic waste is generated in the country, 270 tonnes of which is PET.

Household waste is collected and transported to 165 landfills that cover a total area of 1 445 ha. The amount of solid waste that accumulated in landfills is estimated to be 33 million tonnes. There are more than 4 000 waste collection points in the country, where recyclable materials as well as hazardous household waste is partially sorted for processing. The current recycling rate is 32 per cent, which is much higher than it was 5 or 10 years ago.

In spite of controls and fines, there is still some dumping of municipal solid waste in illegal landfills close to settlements, along the roads, on the edges of agricultural fields and on the banks of rivers and lakes. In 2022, almost 20 000 cases were registered in connection with the dumping of waste in places where this is not permitted.

In addition to municipal solid waste, 115 million tonnes of industrial waste is generated in Uzbekistan annually, mainly by the mining and processing industries in the provinces of Navoi, Tashkent and Fergana. About 256 million tonnes of industrial waste are stored in 21 sludge ponds, and almost 3 billion tonnes of industrial waste are stored in 15 tailings. The amount of other industrial waste stored is estimated at 40 million tonnes. Part of the industrial waste and waste from energy sector is recycled.

Eight thousand medical facilities across the country generate 42 000 tonnes of medical waste annually, including 1 600 tonnes of hazardous medical waste, part of which is neutralized. The amount of e-waste is estimated at 100 000 tonnes per year.

Since 2017, Uzbekistan has made significant improvements in its waste management system, and has adopted State decrees, resolutions and orders of the President and the Cabinet of Ministers, and the Waste Management Strategy for 2019–2028. Waste clusters with a capacity of 1 million tonnes per year have been established, and special vehicles and waste bins have been purchased. A methane capture system is operational at the Tashkent landfill. A ban on the production and sale of packaging less than 100 microns thick will be introduced in 2024, and there are big plans to scale up circular economy principles.

Waste management

Household waste

Five years ago – **6 900 000 tonnes**

Now – **7 500 000 tonnes**



32% recycling

Collection coverage
Five years ago – **12%**
Now – **86%**

Composition of household waste

33%

Food waste

4%

Plastic containers

4%
Glass

1%
Metals

6%

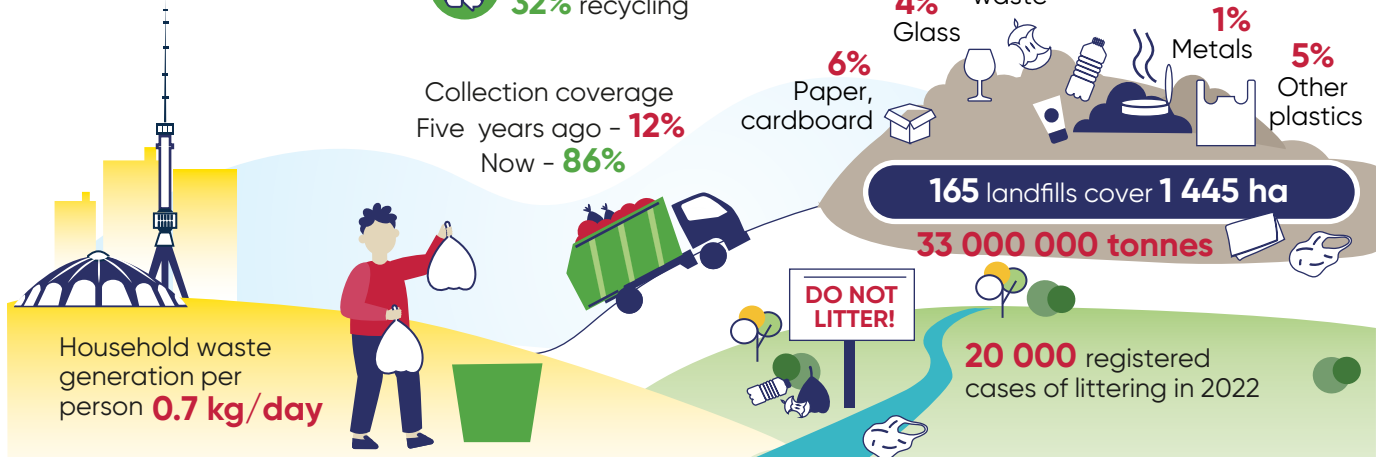
Paper, cardboard

5%
Other plastics

165 landfills cover **1 445 ha**

33 000 000 tonnes

20 000 registered cases of littering in 2022



Household waste generation per person **0.7 kg/day**

DO NOT LITTER!

Industrial waste

Other waste storage sites:

40 million tonnes

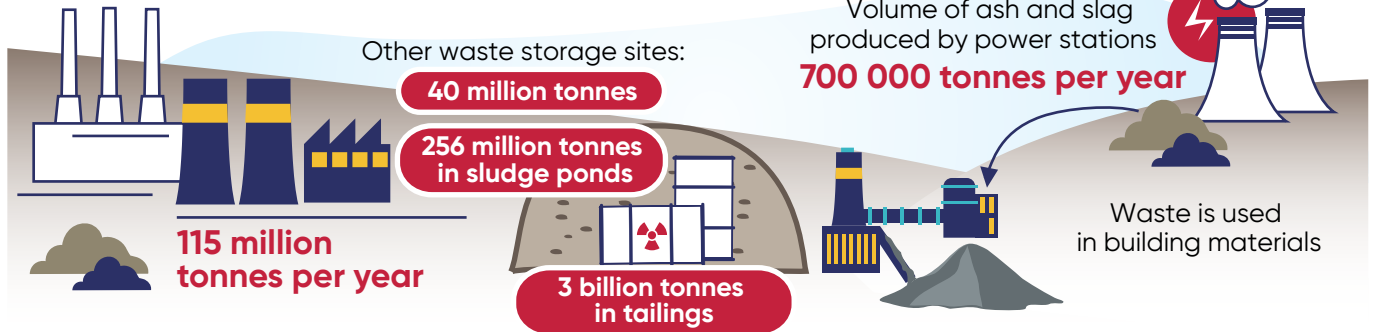
256 million tonnes in sludge ponds

3 billion tonnes in tailings

Volume of ash and slag produced by power stations
700 000 tonnes per year

Waste is used in building materials

115 million tonnes per year



Electronic waste

100 000 tonnes

700

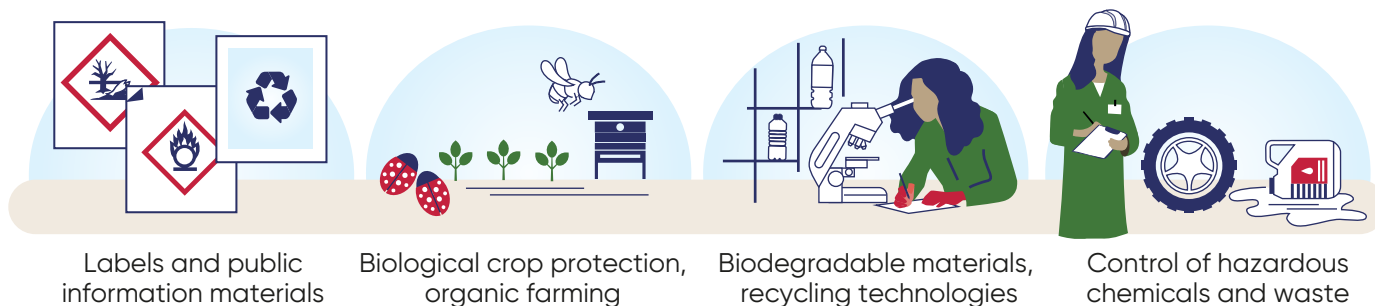
containers for batteries



Waste measures



Measures to reduce the exposure to chemicals



Useful websites with environmental information on Uzbekistan and Central Asia

- ▶ eco.gov.uz – official website of the Ministry of Ecology, Environmental Protection and Climate Change of the Republic of Uzbekistan and Telegram channel: t.me/ecogovuz
- ▶ hydromet.uz – official website of the State Hydrometeorological Service under the Ministry of Ecology, Environmental Protection and Climate Change of the Republic of Uzbekistan, including an interactive map of air quality monitoring: monitoring.meteo.uz
- ▶ greenuniversity.uz – official website of the Central Asian University of Environment and Climate Change under the Ministry of Ecology, Environment Protection and Climate Change of the Republic of Uzbekistan
- ▶ iic-aralsea.uz – official website of the International Innovation Centre of Aral Sea
- ▶ data.gov.uz – open data portal of Uzbekistan, including environmental data
- ▶ stat.uz – official website of the Statistical Agency under the President of the Republic of Uzbekistan
- ▶ sreda.uz – publications on environmental issues in Uzbekistan and Central Asia by environmental journalist Natalia Shulepina
- ▶ ekolog.uz – information and news on ecology and environmental protection in Uzbekistan and abroad
- ▶ ekomaktab.uz – Eco-Maktab environmental resource and education center
- ▶ uzspb.uz – website of the Uzbek Society for the Protection of Birds
- ▶ cawater-info.net – water information portal on the Aral Sea basin, SIC ICWC
- ▶ sgp.uz/ru/publikacii – publications of the GEF Small Grants Program (SGP) in Uzbekistan
- ▶ aral.mptf.uz/site/aralsea.html – UN Multi-Partner Trust Fund for the Aral Sea Region
- ▶ cepf.net/our-work/biodiversity-hotspots/mountains-central-asia – Critical Ecosystems Partnership Fund (CEPF) Ecosystem Profile and Small Grants for the “Mountains of Central Asia” biodiversity hotspot

International environmental reporting and reviews on Uzbekistan

- ▶ UNECE (2020). Third Environmental Performance Review of Uzbekistan: unece.org/DAM/env/epr/epr_studies/ECE.CEP.188.Eng.pdf
- ▶ Convention on Biodiversity CBD (2018). Sixth National Report of the Republic of Uzbekistan on Biodiversity Conservation: cbd.int/doc/nr/nr-06/uz-nr-06-en.pdf
- ▶ UN Framework Convention on Climate Change UNFCCC (2021). First Biennial Report of the Republic of Uzbekistan: unfccc.int/sites/default/files/resource/FBURUZeng.pdf



Taking care of the Bukhara deer in the Zarafshan National Park

