

SECTION

Key Water Developments in the Countries of Central Asia

5.1. Kazakhstan



Water Sector

Water resources. In terms of hydrography, the territory of Kazakhstan is divided into eight water basins: Aral-Syrdarya, Balkhash-Alakol, Ertis, Yesil, Zhaiyk-Caspian, Nura-Sarysu, Tobyl-Torgai, and Chu-Talas. Surface waters form the main water resources, with an average annual volume of 102.3 cubic kilometers. Of this total, 50.74 cubic kilometers (49.6%) is local runoff, while 51.56 cubic kilometers (50.4%) flows from transboundary rivers in China, Uzbekistan, Russia, and Kyrgyzstan.

As of March 1, 2023, the average annual runoff in Kazakhstan has decreased by 12.5 cubic kilometers com-

pared to 1960. Of this decrease, 9.0 cubic kilometers (72%) is attributed to local rivers, while 3.5 cubic kilometers (28%) is attributed to transboundary rivers.

There are 4,416 deposits (5,384 sites) with approved exploitable groundwater reserves of 43,120.56 thousand cubic meters per day in the country.

Water infrastructure. Total number of water management facilities is more than 13,000, including: 352 reservoirs, 117 hydroschemes, 472 dams, 8,278 irrigation canals, 246 dikes, 300 ponds, 3,408 pumping stations, wells, collecting drains, and others. In terms of ownership, 6,629 are state-owned, 6,007 – public utilities,

528 – private ownership, and 9 facilities have been abandoned.

The total length of irrigation systems is more than 35,000 km, of which 20,600 km are state-owned, 14,700 km – public utilities, and 500 km – in private ownership. Over 14,000 km of irrigation systems are in emergency state, leading to over 40% water loss in transportation.

Public administration reforms. In September 2023, the Ministry of Ecology and Natural Resources was reorganized by separating water management functions and establishing the Ministry of Water Resources and Irrigation (MWRI RK). The latter is responsible for water resource use and protection, as well as water supply and disposal (Decree No.318 of 01.09.2023). The Ministry includes the Committee for Water Management (CWM), which fulfills strategic planning, regulatory, implementation, and control functions on water use and protection. The CWM manages eight regional basin inspections responsible for regulating water use and protection within their respective areas.

Latest developments in legislation. Several Presidential Resolutions were approved: (1) Resolution No.100 dated February 9, 2023, "On Amendments to Presidential Decree No.933 dated December 29, 2017, 'On the List of Water Management Facilities of Special Strategic Importance, including those that can be leased or transferred to trust management'; (2) Resolution No.1245 dated December 29, 2023, "On the Annulment of the Government Resolution of the Republic of Kazakhstan No.21 dated January 9, 2004, 'On the Approval of the Rules for Water Regulation between Provinces in the Republic of Kazakhstan.'

New appointments. Nurzhan Moldiyarovich Nurzhigitov was appointed as the Minister of Water Resources and Irrigation (UPRK No.337 of 04.09.2023), and Arsen Armanovich Zhakanbaev was appointed as the Chairman of the Committee for Water Management.

Meetings of the Water Council of Kazakhstan⁶⁴. Recent meetings of the Water Council have focused on: (1) enhancing the effectiveness of the authorized body for water resource use and protection, strengthening basin inspections and training water specialists, fortifying water diplomacy efforts, establishing a Consortium of leading water research and educational institutions, accelerating the adoption of digital technologies and automated risk management systems in the water sector (June 29); (2) MWRI's initiatives, including on establishment of the (a) National hydrogeological service to monitor and assess groundwater, control the state of irrigated lands, maintain a groundwater cadastre, carry out prospecting and exploration operations, and deal with decommissioning and conservation of hydrogeological wells and (b) Caspian Sea Research Institute, which will conduct comprehensive research on the Caspian Sea and its coastal zones (December 11).

Results of the MWRI RK in 2023. The Ministry has developed several key documents: (1) Draft of the new Water Code, which aims to preserve water and resource potential of Kazakhstan, increase the role of society in water resource management, digitalize and ensure safety of hydraulic facilities, manage irrigation and drainage, water supply and discharge; (2) Concept of Water Management System Development for 2024-2030 (PPRK No.66 of 05.02.2024), which aims to increase the area of irrigated lands up to 2.2 million ha, bring the share of water-saving technologies to 40%, reduce irrigation water losses in transportation up to 15%, etc.; (3) Comprehensive Water Sector Development Plan for 2024-2030.

To enhance water resource management efficiency and create a unified information system, the MWRI RK

MINISTRY OF WATER RESOURCES AND IRRIGATION Developed the comprehensive water sector Development plan for 2024-2030



Source: https://www.gov.kz/memleket/entities/water/ press/news/details/668368?lang=ru

⁶⁴ the Water Council of Kazakhstan is a consultative and advisory body under the Kazakh Government (Order of the Kazakh Prime Minister No.47-r of 09.03.2022). The MWRI RK is a working body of the Council (Order of the Kazakh Prime Minister No.187-r of 28.11.2023)



Source: https://www.gov.kz/memleket/entities/water/ press/news/details/668368?lang=ru

is collaborating with the national company "Kazakhstan Space Technologies" to develop an **interactive geoinformation platform** (https://hydro.gov.kz). The platform will establish a central depository for waterrelated data, including water bodies, hydraulic facilities, water basins, gauging stations, etc.

Projects. Ongoing projects: (1) Second Irrigation and Drainage Improvement (WB, 2013-2025). Construction progress varies by province, with the national average reaching 70% completion, and some areas approaching 90%; (2) "Governance of Groundwater Resources in Transboundary Aquifers" (GGRETA)⁶⁵, which aims to strengthen joint management of the Tashkent area Transboundary Aquifer (TBA)⁶⁶; (3) USAID Regional Water and Vulnerable Environment Activity (\$21.5 million, October 2020-September 2025), which aims to strengthen regional capacity to manage shared water resources and mitigate environmental risks in the Syr Darya and Amu Darya River basins.

The MWRI RK and GIZ have signed an agreement on implementation of the regional program "Water Resource Management in Central Asia in the context of Climate Change" (Astana, October 18).

Capacity building. In 2023, the staff of basin inspections under the Ministry of Water Resources and Irrigation of the Republic of Kazakhstan (MWRI RK) was increased from 98 to 242 personnel. The Ministry has also undertaken several key initiatives: proposed the inclusion of new programs in the current classifier of higher and postgraduate education disciplines; advocated for the allocation of grants to support Kazakh students pursuing water-related disciplines at universities abroad; launched joint training programs in collaboration with the Tashkent Institute of Irrigation and Agricultural Mechanization Engineers (TIIAME); announced plans to introduce professional development programs tailored to the water sector.

Events. A regional workshop was held on monitoring, assessment and information sharing in transboundary basins of Central Asia (Astana, February 1-2).

The delegation of Kazakhstan participated in the: (1) UN Water Conference 2023 (New York, USA, March 22-24,); (2) International Conference "Central Asia: Towards a Sustainable Future through a Strong Regional Institution" on the occasion of the 30th Anniversary of IFAS (Dushanbe, Tajikistan, June 5-7,); (3) 2nd Flash Flood Guidance System Global Workshop (Skopje, Republic of North Macedonia, June 19-23); (4) extraordinary session of the Intergovernmental Council of Hydrological Program (Paris, France, November); (5) meeting of experts of the CA states on water resource management in view of climate change (December 7, online).

Regional and international cooperation. Kazakhstan hosted and participated in meetings of bilateral and trilateral joint working groups and commissions on water with Central Asian countries. See Cooperation between the Countries of Central Asia on Water and Other Matters.

The President of Kazakhstan participated in the meeting of the Council of Heads of State-Founders of IFAS (Dushanbe, Tajikistan, September 15). Delegation of Kazakhstan took part in the: (1) 84th (Dushanbe, Tajikistan, May 10) and 85th (Tashkent, Uzbekistan, November 1-2) meetings of the ICWC; (2) IFAS Board meeting (Dushanbe, Tajikistan, June 5). Authorized representatives of Kazakhstan participated in the Working Group on Institutional and Legal Improvement of IFAS. The Republic of Kazakhstan assumed the chairmanship of the International Fund for Saving the Aral Sea (IFAS) for the 2024-2026 term. President Kassym-Jomart Tokayev of Kazakhstan was elected as the Chairman of IFAS. See IFAS and Other Regional Organizations in Central Asia.

Kazakhstan held and participated in the meetings of the Working Groups of the Joint Kazakhstan-Russia Commission on the Use and Protection of Transboundary Water Bodies focused on various river basins, including Ertis/Irtysh (March 15, online; Omsk, Russian Federation, September 5), Yesil/Ishim (Petropavlovsk, July 12), Tobol (March 16, online; Kurgan, Russian Federation, August 17), Zhaiyk/Ural (August 24, online), Kigach, Karaozen. Additionally, the XIII Meeting of the Commission took place on December 6-7 in

⁴⁵ implemented by the UNESCO International Hydrological Program (UNESCO IHP) in close cooperation with the UNESCO International

Groundwater Resource Assessment Center (IGRAC), International Union for Conservation of Nature (IUCN) and field project teams ⁴⁶ the small southeastern part of the aquifer is located in the Tashkent province of Uzbekistan and the larger, northwestern part is located in the Shymkent province of Kazakhstan, https://unece.org/sites/default/files/2023-02/S4-4%20Valentina%20Rahimova.pdf

Almaty. Implementation of a Unified Roadmap aimed at enhancing cooperation on research within the basins of major rivers, such as the Ural, Irtysh, and other transboundary water bodies was discussed at the bilateral working meeting of experts from Kazakhstan and the Russian Federation (Yekaterinburg, Russian Federation, October 20).

In addition, within the framework of the Joint Kazakhstan-China Commission on the Use and Protection of Transboundary Rivers, five events were organized in cooperation with the People's Republic of China.

Drinking Water Supply

2023 Results and Plans. The Kazakh Ministry of Industry and Construction⁶⁷ has reported significant progress in access to water supply services: urban areas: 98.9% access, with 100% coverage in 9 provinces; rural areas: 96.6% access, with 100% coverage in Mangistau, Atyrau, and Almaty provinces; however, there are areas with lower coverage, such as Pavlodar and Abay provinces. To further improve access and infrastructure, the government has allocated 218 billion KZT for the construction and reconstruction of water supply and wastewater disposal systems in both urban and rural areas.

The Concept for Housing and Communal Infrastructure Development for 2023-2029 outlines goals to improve Kazakhstan's water infrastructure: by 2030, the depreciation of water supply and wastewater disposal networks will be reduced from 51% to 40%; the population's access to water supply services will be increased by 2.1 million people; in cities of national and provincial importance, wastewater treatment will be increased from 77.7% to 98.1%.

The MWRI RK⁶⁸ continued implementing: (1) 33 projects to improve water supply and modernize water supply systems in 375 settlements with a total population of 868,000 people; (2) 35 investment projects to reconstruct and modernize hydraulic facilities; (3) a project to improve irrigation and drainage systems on the area of 105,100 ha in Almaty, Zhambyl, Kyzylorda and Turkistan provinces. To ensure a stable water supply for Astana, 93 million cubic meters of water were transferred from the K. Satpayev Canal to the Esil and Nura rivers.

Agriculture

2023 results. According to the Ministry of Agriculture of the Republic of Kazakhstan (MA RK), the total area under crops reached 23.4 million hectares, marking an increase of 68.6 thousand hectares compared to the previous year. Farmers harvested 17 million tons of grain crops. The harvest of oilseeds amounted to 2.2 million tons and production of fodder crops reached 5 million tons.



Source: https://www.gov.kz/memleket/entities/moa/press/ news/details/676773?lang=ru

Kazakhstan boasts over 2.3 million hectares of irrigated land, yet traditional methods still dominate its irrigation practices. In 2023, out of 1.5 million hectares, 75% relies on furrow irrigation, 6% is under flood irrigation (primarily for rice), and 21% is covered by modern irrigation (drip or sprinkler). To encourage a shift towards water-saving methods, the Kazakh government has taken steps. The Order of the Kazakh Minister of Agriculture No.409 of 20.11.2023 amended the subsidy rules to increase subsidies for purchasing and installing water-saving technologies from 50% to 80% and local budgets will contribute 30% subsidy.

The interactive map Jerkarta.gharysh.kz was updated to reflect locations and areas of all reclaimed agricultural lands and to include data on territories that lack pasture lands.

New appointments. Aidarbek S. Saparov was appointed as the Minister of Agriculture (UPRK No.336 of 04.09.2023).

Projects. Ongoing projects: (1) Sustainable Food Systems and Improved Ecosystems Service (UNDP, 2021-2026); (2) Delivering a Climate Change Strategy for Central and West Asia (ADB, \$3 million, 2022-2025); (3) Restoration of Sustainable Landscapes in Kazakhstan (WB, \$3.8 million, 2021-2025).

⁶⁷ formed by reorganizing the Ministry of Industry and Infrastructure Development of the Republic of Kazakhstan (UPRK No.318 of 01.09.2023) with the transfer of functions and powers, including state regulation in water supply and wastewater disposal, heat supply (excluding cogeneration plants and boiler-houses producing heat in the district heating zone) within settlements

⁴⁸ functions on water supply and wastewater disposal outside settlements (PPRK No.863 of 04.10.2023)

The S. Seifullin Kazakh Agrotechnical Research University (KazATU) started implementing the scientific and technical program "Development of new technologies for organic production and agricultural processing" (4 billion KZT), which aims to contribute new technologies for organic production and processing of agricultural products based on the principles of green economy, regional technological parks and engineering centers in agro-industry. The program is to develop an information and analytical database for innovations in the field of organic agriculture, including the digital platform for agricultural entities.

For UNDP projects and FAO efforts on agriculture and food, see the United Nations and its Specialized Agencies.

Events. The following events were organized: (1) dedicated exhibition "Kazakhstan Field Day "Jańa Dala/ Green Day 2023" (Akmola province, July 13-14); (2) KazAgro/KazFarm-2023 international exhibitions, including a conference of the CIS Member-States on cooperation on food security (Astana, October 19-21); (3) conference "Seed Day 'Tukym-2024" (Astana, December 6).

The Kazakh delegation participated in: (1) Ministerial meeting of the CA states⁶⁹, which discussed agricultural financing (February 15, online); (2) international exhibition "GreenTech Week", including a Kazakh-Dutch roundtable "Opportunities for Greenhouse Development" (Amsterdam, Netherlands, June 13-15); (3) 2nd meeting of Agricultural Ministers of the Organization of Turkic States (OTS) and II Agribusiness Forum of Turkic-speaking States (Baku, Azerbaijan, September 26); (4) AGRITECHNICA-2023 exhibition (Hannover, Germany, November 12-18).

Regional and international cooperation. During the state visit of the Tajik President to Kazakhstan, a number of documents was signed, including the road-map for enhanced cooperation on agriculture for 2023-2025 (Astana, May 3-4). See Cooperation between the Countries of Central Asia on Water and Other Matters.

Kazakhstan and the Netherlands signed a memorandum of understanding and establishment of a joint agricultural committee⁷⁰ to provide a platform for high-level discussions on agriculture and agribusiness development (Almaty, November 1).

As part of cooperation with China, the events included: (1) Kazakhstan-China Business Forum⁷¹ (Shenzhen, PRC, August 14); (2) I Forum of interregional cooperation between the RK and KR "Expanding Cooperation Boundaries", where 12 contracts and memorandums were signed for over \$64 million (Taraz, September 22).



The Kazakh Minister of Agriculture held discussions on cooperation issues with: (1) European Commissioners (Brussels, Belgium, February 28); (2) Minister of Agriculture and Food Sovereignty of France⁷² (Paris, France, February 25-March 5); (3) CEOs of leading Russian agricultural holdings and large companies (Moscow, June).

Energy

2023 Results. The country relies on 222 power plants of varying ownership to generate electricity. The average depreciation rate of these power plants is 56%. As of January 1, 2024, Kazakhstan had a total installed capacity of 24,641.9 MW, but the available capacity was lower at 20,428.4 MW. By 2030, the projected electricity demand is estimated to reach 28.2 GW. According to the approved capacity balance by 2030, the demand will amount to 28.2 GW, while the available capacity will be increased to 22 GW through the commissioning of new power plants.

In 2023, total electricity consumption reached 115.06 billion kWh, a 1.9% increase compared to the previous year. Electricity generation remained relatively unchanged at 112.82 billion kWh. Due to the increased demand, there was a power deficit of 1,519 MW. This deficit was covered by importing electricity from Russia. Electricity generated by RES reached 6.675 billion kWh: wind power – 3,824.99 million kWh; solar power – 1,853.95 million kWh; hydropower – 993.87 million kWh; biopower – 2.71 million kWh.

In Kazakhstan, investments in fixed capital in electricity generation reached 451.4 billion KZT: thermal power – 206.9 billion KZT; nuclear power – 288.6 million KZT; wind power – 175.8 billion KZT; solar power – 39.1 million KZT; hydropower – 12.4 billion KZT.

⁶⁹ organized by FAO and MFA RUz

⁷⁰ signed on the sidelines of the Agroworld Qazaqstan exhibition (November 1-3, Almaty)

⁷¹ organized jointly by the Kazakhstan-China Trade Promotion Association and Shenzhen Cross Supply Service Association

⁷² negotiations were held on the margins of SIA-2023



Source: https://energyprom.kz/articles-ru/markets-ru/naobekty-vie-prihoditsya-uzhe-pochti-6-vyrabotki-elektroener gii-v-rk-eto-vsyo-eshhyo-ochen-malo-no-zametno-luchshechem-bylo-ranee/

Installed capacities increased to 560 MW (112% of the plan), including: 65 MW traditional facility and 495.57 MW through 16 RES facilities (12 WPPs of 437.1 MW in Akmola and Zhetysu provinces; 2 HPPs of 3.7 MW in Almaty and Turkistan provinces; 2 SPPs of 54.77 MW in Turkistan and Karaganda provinces).

Latest developments in legislation. (1) Concept for Energy Sector Development in Kazakhstan for 2023-2029 (PPRK No.263 of 28.03.2023); (2) Concept for Energy Saving and Energy Efficiency Improvement in the Republic of Kazakhstan for 2023-2029 (PPRK No.264 of 28.03.2023).

New appointments. Almasadam Maidanovich Satkaliev was appointed as the Minister of Energy of the Republic of Kazakhstan (UPRK No.181 of 04.04.2023).

Capacity building. Kazakhstan's energy experts attended: (1) inter-system Russian-Kazakhstan trainings (Omsk, Russian Federation, February); (2) annual national competition "Qazaqstan Project Management Awards-2023" (June 1-October 12); (3) international inter-system emergency training for control operators (Moscow, Russian Federation, November).

Events. Astana hosted: (1) Forum of Veterans of Power Industry of Kazakhstan and CIS (June 15); (2) 7th Annual International Congress and Exhibition: Hydropower Central Asia and Caspian (June 21-22); (3) Kazakhstan Energy Week-2023 (KEW-2023)/XV KAZENERGY Eurasian Forum (October 3-6); (4) V International Forum on Energy Conservation (November 10). The Kazakhstan's delegation actively participated in numerous events on energy issues, including, among many others: (1) 3rd meeting of the Expert Group to coordinate drafts of the Energy Cooperation Concept for the CIS Member-States until 2035 and the plan of priority measures (Moscow, Russian Federation, March 1); (2) Forum on Regional Energy Trade and Investment in Central Asia 2023 (London, England, March 2-3); (3) International Energy Conference "CERAWeek 2023" (Houston, USA, March 6-8); (4) 6th meeting of the RK-EU Sub-Committee on Energy, Transport, Environment and Climate Change (Brussels, Belaium, March 13); (6) 3rd meeting of energy ministers of the SCO Member-States (March 14, online); (7) 39th (Dushanbe, Tajikistan, May 3-5) and 40th (Samarkand, Uzbekistan, October 26) meetings of the Central Asian Coordination Council for Electric Power Industry.

Kazakhstan chaired the SCO Energy Forum⁷³ (Astana, October 4) and facilitated negotiations on the draft⁷⁴ "Strategies for Energy Cooperation of the SCO Member-States until 2030" aimed at defining a systemic approach and extending the agenda of the organization in the most promising areas of cooperation in the energy sector (November 16, online).



Regional and international cooperation. For bilateral interaction of Kazakhstan with the CA states and on trilateral agreements (Kazakhstan-Kyrgyzstan-Uzbekistan) and meetings on water-energy cooperation issues, see Cooperation between the Countries of Central Asia on Water and Other Matters.

The Kazakh Ministry of Energy held meetings with: (1) Head of the EBRD Sustainable Infrastructure Group (Abu Dhabi, UAE, January 16); (2) CNPC Vice President (Astana, April 26); (3) EU delegation (Astana, May 4); (4) Minister of Energy of Kingdom of Saudi Arabia (Riyadh, Kingdom of Saudi Arabia, June 12); (5) Russian energy representatives (Moscow, Russia,

 $^{^{\}rm 73}\,$ during the Kazakhstan Energy Week-2023 / XV KAZENERGY Eurasian Forum

⁷⁴ draft document was developed on the initiative of the President of Kazakhstan, announced during the Council of Heads of the SCO Member-States on September 15-16, 2022 in Samarkand

September 18); (6) European Commission Directorate-General for Energy (Brussels, Belgium, October 18) and others.

Hydropower. Kazakhstan possesses hydropower potential, estimated at 170 billion kWh, of which 62 billion kWh are technically feasible.

Kazakhstan is pursuing its "Hydropower Development Plan for 2020-2030." Recent developments include: commissioned 2.2-MW hydropower plant⁷⁵ on the Orta Kakpak River in Almaty province; project documentation drafted by AO Samruk-Energy for the following hydropower projects: 50-MW Kerbulak HPP on the IIi River, 300-MW plant on the Irtysh River, 70-MW plant on the Shelek River. Feasibility study⁷⁶ is underway for reconstruction and modernization of the Almaty HPP cascade.

Renewable Energy Sources

There are 144 RES facilities with the installed capacity of 2,868.6 MW, including: 57 wind plants (1,394.6 MW), 45 solar plants (1,202.61 MW), 39 hydro (269.605 MW), and 3 bio (1.77 MW).

Solar power. Plants launched in 2023: (1) 50-MW Shaulder SPP⁷⁷ in Turkistan province (100 ha) to generate 90,000 kWh annually; (2) 4.77-MW SPP⁷⁸ in Karaganda province. The SPPs have double-sided panels to utilize both direct sunlight and reflected sunlight from the ground.



Wind power. The following plants were commissioned: (1) second phase of Akmola WPP⁷⁹ (56 MW) in the north of the country. The total plant capacity reached 206 MW; (2) Abai-2 WPP of 50 MW in Zhetysu province (16 wind turbines generate 3.2 MW of electricity each), etc.

The Ministry of Energy has signed (1) an agreement on principles of implementation of the 1-GW Dzungarian Gate project in Zhetysu province with the AO Samruk-Kazyna and ACWA Power (Riyadh, Kingdom of Saudi Arabia, March 1); (2) roadmaps for 1-GW Shokpar WPP project in Zhambyl province⁸⁰ with China Power International Holding limited and 1-GW WPP with energy storage system in Zhambyl and Kostanay provinces with Masdar (UAE) (Astana, June 9).

Nuclear power. Kazakhstan has been actively exploring the possibility of nuclear power generation. Several key events and initiatives have shaped this discussion: (1) public discourse (Ulken village, Zhambyl district, Almaty province, August 22); (2) open discussion "Referendum on NPP in Kazakhstan: public participation" (Almaty, September 22); (3) meeting of the Public Council on Fuel and Energy to discuss nuclear power projects in Kazakhstan, improvement of the regulatory framework for nuclear power projects, training of personnel for the nuclear power industry, and the draft law "On Radioactive Waste Management" (Astana, October 4). An IAEA Integrated Nuclear Infrastructure Review (INIR) mission was conducted. The mission concluded that Kazakhstan had effectively addressed recommendations in areas such as program coordination, financing, emergency planning, and radioactive waste management (Astana, March 28-31). Kazakhstan and the IAEA signed a Country Framework Program for 2023-2028, which recognizes Kazakhstan's intention to build its first nuclear power plant (Astana, April 18). In October 2023, an IAEA team of experts conducted a safety review of Kazakhstan's process for selecting the site for its planned nuclear power plant.

Several capacity building events were organized, including on "Information Security Fundamentals" (13-17 February), "SEED Capacity Building for Site Safety Evaluation and Review for New Nuclear Programs in Kazakhstan" (29 May-2 June), on a legal and regulatory framework for the development and safe implementation of the Nuclear Program for peaceful purposes (12-16 June, Astana), and a national introduction course in nuclear forensics (March 27-31, Almaty). A memorandum of understanding on Training and Education in the Peaceful Uses of Atomic Energy was signed also (Budapest, Hungary, January 27).

The Kazakhstan's delegation actively participated in a number of events on nuclear power, including, among others: (1) 8th and 9th review meetings of the Convention on Nuclear Safety (New York, USA,

- ⁷⁶ conducted by the AFRY Switzerland consulting company and funded by the WB
- ⁷⁷ constructed by a subsidiary of Plenitude

⁸⁰ AllB signed a loan agreement for \$36 million; EBRD will provide co-financing; the project (construction and operation) will be supported by concessional financing of up to \$10 million from the GCF and up to \$5.7 million from the Clean Technology Fund

⁷⁵ this project, implemented by Konaev & Company LLP between 2021 and 2023 with a \$3.5 million investment, is expected to reduce CO₂ emissions by 8,334 tons per year and save 31,523 MWh of primary energy annually

⁷⁸ investment project was implemented by Kounrad Copper Company at its own funds

⁷⁹ includes two sub-projects: "Sofievskaya-39 MW" and "Arkalyk-17 MW". The facility is connected with the first phase – Borey 100 MW WPP and Energo Trust 50 MW WPP

March 20-31); (3) IAEA events: URAM⁸¹-2023 Symposium (May 8-12) and 67th session of the IAEA General Conference (Vienna, Austria, September 25), meeting "Nuclear Power for Achieving Carbon Neutrality" (Dubai, UAE, December 1).

At the 67th session of the IAEA General Conference, Kazakhstan initiated a resolution "Restoration of Sovereign Equality of IAEA Member-States" (Vienna, Austria, September 29).

AO NAC Kazatomprom has singed: (1) memoranda on cooperation in the field of digitalization of nuclear industry with Samsung Electronics and Honeywell (September 19); (2) cooperation agreement on nuclear fuel cycle with Framatome (November 1); (3) contract for supplies of Kazakhstani natural uranium concentrate with the China National Uranium Corporation Limited (November 9), and others.

Thermal power. TPP-3 and "South-East" and "Turan" thermal gas stations were launched in Astana; boiler houses in Kokshetau, TPPs in Ekibastuz and Ridder cities, TPP-1, TPP-2 and "MAEK" TPP in Mangistau province, and TPP in Uralsk have been reconstructed. Modernization and reconstruction are underway at Ekibastuz GRES-1 and unit No.1 of 500 MW. Memorandum of cooperation was signed between the Kazakh and Russian energy ministries for the construction of "Kokshetau", "Semey" and "Ust-Kamenogorsk" TPPs (November 9).

Environment and Climate Change

Public administration reforms. The Ministry of Ecology, Geology and Natural Resources of the RK was reorganized into the **Ministry of Ecology and Natural Resources of the RK** (MENR RK). The functions and authorities on geological surveying of subsoil and reproduction of mineral resource base have been transferred to the Ministry of Industry and Infrastructure Development.

Latest developments in legislation. In 2023, several laws were enacted in this sphere, including: (1) "On the flora" (No.183-VII of 02.01.2023) to regulate social relations and establish the legal framework for state policy in the areas of flora protection, preservation, restoration, and utilization; (2) "On amendments and additions to some legislative acts of the Republic of Kazakhstan on the flora and specially protected natural areas" (No.184-VII of 02.01.2023); (3) "On amendments and additions to the Criminal Code and the Code on Criminal Procedure of the Republic of Kazakhstan on strengthening responsibility for environmental offences and manifestations of vandalism" (No.186-VII of 03.01.2023); (4) "On amendments and additions to the Code on Administrative Offences of the Republic of Kazakhstan on strengthening administrative responsibility for environmental offenses and manifestations of vandalism" (No.187-VII of 03.01.2023).

The Strategy on Achieving Carbon Neutrality by 2060 in the Republic of Kazakhstan was approved in February (UPRK No.121).

New appointments. Yerlan N. Nysanbayev was appointed as the Minister of Ecology and Natural Resources (UPRK No.339 of 05.09.2023).

Projects. Ongoing projects: Environmental Restoration of the Aral Sea/ERAS-I (USAUD, \$430 thousand, 2021-2024). For details, see Executive Directorate of IFAS in Kazakhstan; Biodiversity in Kazakhstan (UNDP/ GEF, 2018-2024).

The current Green Kazakhstan Program (2021-2025) is aimed at creating a healthier and more sustainable environment for the people of Kazakhstan. Key objectives include: improving air quality, promoting efficient and sound water use, preserving the ecosystems of Lake Balkhash and the Northern Aral Sea, implementing effective waste management practices, etc.

Events. The Turanian Temperate Deserts, spanning across Kazakhstan, Turkmenistan, and Uzbekistan, were inscribed on the UNESCO World Natural Heritage List⁸² in 2023. This designation includes two protected natural sites within Kazakhstan: Altyn-Emel National Natural Park at the foot of Dzungarian Alatau and Barsakelmes Reserve located in the Aral Sea ecological disaster zone.

The following important events have been organized: environmental campaign "Together for Clean Kazakhstan" (Southern regions in Kazakhstan, March,); interregional forum of environmental initiatives "Our Sky" (April 21); World clean-up day campaign (September 16); regional forum "Central Asia Towards the 28th Conference of the Parties to the UNFCCC: 5 countries – 1 region – 1 vote" (November 7); roundtable "Strengthening the role of the public in environmental protection" (November 29).

The Kazakh delegation participated in: (1) 7th European Union-Central Asia High-Level Conference on Environment and Water Cooperation (Rome, Italy, February 23-24); (2) joint meeting of Central Asian heads of agencies and the Regional Working Group on Glacier Monitoring and Modeling (Tashkent, Uzbekistan, March 17); (3) 9th meeting of Foreign Ministries and Parliamentarians of Central Asia: preparation for UNFCCC COP28 (Tashkent, Uzbekistan, April 19); (4) 5th Central Asia Climate Change Conference (Dushanbe, Tajikistan, May 16-17); (5) 10th Nevsky International Ecological Congress (Saint-Petersburg, Russian Federation, May 26); (6) International Conference "Central Asia: Towards Sustainable Future through a Strong Regional Institution" (Dushanbe, June 5-7); (7) COP28 (Dubai, UAE, November 30-December 12).

Regional and international cooperation. The Vice-Minister of Ecology and Natural Resources of Kazakh-

⁸¹ Uranium Raw Materials for the Nuclear Fuel Cycle

⁸² Kazakhstan has three World Natural Heritage sites: Sary-Arka – steppes and lakes of Northern Kazakhstan, Western Tien-Shan and Turanian Temperate Deserts; the latter two are transboundary sites

stan and the Minister for Overseas Territories, Commonwealth, Energy, Climate and Environment of the UK convened to discuss strategies for biodiversity conservation in Kazakhstan. A significant outcome of this meeting was the decision to join the High Ambition Coalition for Nature and People (March 16, online).

The 10th meeting of the Kazakhstan-China commission on cooperation in the field of environmental protection was held. Reports were presented on activities of the working groups on monitoring, analysis and assessment of transboundary river water quality and the working group on rapid response to emergencies and prevention of transboundary river pollution. The meeting resulted in the approval of the 2024-2025 Work Plan (November 21, online).

The MENR RK singed: (1) a memorandum of understanding with the Committee for Environmental Protection under the Government of Tajikistan⁸³ (May 3); (2) agreement on implementation of the regional program "Climate Risk Management in Central Asia" with GIZ (June 20); memorandum of cooperation on protection of endangered habitats and wildlife and sustainable use of natural resources with the German Nature and Biodiversity Conservation Union (September 28). The Governments of Kazakhstan and Japan concluded a memorandum of cooperation on a joint lending mechanism aimed at achieving the goals of the Paris Agreement (October 30, Astana).

SDGs in Kazakhstan

A Parliamentary Commission for Monitoring the Implementation of National Sustainable Development Goals and Targets has been established in Kazakhstan. Series of meetings were held to approve the Regulations on the Parliamentary Commission and the Action Plan (June 23, October 6, and October 31).



Status of SDG targets for Kazakhstan (% trend indicators)



Kazakhstan was ranked 66th out of 166 countries in the annual sustainable development rating.

Events. In the course of the year, the following events were held: (1) workshops and meetings to discuss opportunities for achievement of the SDGs at the local level (September 13-15, December 4-5); (2) VI Rural Women's Forum "The Role of Rural Women in Shaping Sustainable Development Priorities" (November 17, Astana); (3) workshop "The Role of Public Financing in Achieving the SDGs in the Republic of Kazakhstan" (December, Astana).

The delegation of Kazakhstan participated in the: (1) UN Summit on Sustainable Development Goals (New York, USA, September 18); (2) Global Conference "Public Finance for Inclusive and Sustainable Development: the Role of Strategic Budget Initiatives and Fiscal Policy" (Istanbul, Turkey, November); (3) II Global Forum of Interparliamentary Cooperation on SDGs (Tashkent, Uzbekistan, November 30).

Emergencies and Disasters

In 2023, a total of 12,891 natural and anthropogenic emergencies were recorded in the country, marking a 3.5% decrease compared to the previous year. The economic losses resulting from these disasters amounted to a significant 172,911 million KZT, a substantial increase from the 36,980 million KZT recorded in 2022.

Latest developments in legislation. The Presidential Decree No.565 of 14.07.2023 was issued to amend and supplement the Government Resolution No.486 of 16.08.2017. This decree approved action plans to address emergency situations of global and regional scale, including devastating earthquakes, natural fires, floods, highwater, floodwaters, mudflows, and other potential disasters.

⁸³ within the framework of the visit of the President of the RT to Kazakhstan

New appointments. Syrym Dyusengazievich Sharipkhanov was appointed as the Minister for Emergency Situations (UPRK No.251 of 10.06.2023).

Preventive measures. As part of the Comprehensive Plan for Mudflow, Landslide and Avalanche Safety for 2020-2024, the Ayusai retaining dam⁸⁴ was completed in June 2023 to protect the population of Almaty and Almaty Province from potential mudflow disasters. The construction of the Aksai retaining dam and Khorgos dam is ongoing.



To enhance earthquake preparedness, several proactive measures have been implemented: automated earthquake early warning stations installed in Almaty; evacuation routes and assembly points revised and updated; stockpiles of essential medical supplies and equipment established; the public educated on earthquake safety procedures.

Strategies and projects. As part of the Strategy for Development of Cooperation of the Central Asian Countries in Disaster Risk Reduction for 2022-2030⁸⁵, series of events were organized, including: (1) final meeting of the UNDRR "Strengthening Disaster Resilience and Accelerating Implementation of Sendai Framework for Disaster Risk Reduction in Central Asia" project (February 15); (2) meeting of the Working Group (October 4) of the Regional Forum-Meeting of the Heads of Emergency Authorities of Central Asian countries²⁶, where a range of documents was approved and signed (November 10, Almaty).

Under the UNICEF "Capacity Building of the Sectors of Emergency Situations, Health, Education, Social Protection, Internal Affairs on the Core Commitments for Children in Emergencies" project, trainings were held on: (1) instruction of hotline operators in gendersensitive feedback mechanisms for the population vulnerable to emergencies, including informing the population on resilience to emergencies (May 11-12); (2) preparedness to response to emergency situations taking into account the commitment to children (May 17-18); (3) capacity building of stakeholders on access to water, sanitation and hygiene (WASH) in emergency situations (June 20).

The "Climate Risk Management in Central Asia" project was launched (GIZ) and started with a kickoff meeting of the Steering Committee (June 13-14) and a working visit to Bonn (Germany) to gain insights into German and European approaches, best practices, and technologies related to climate risk management and transboundary early warning systems for hydrometeorological disasters (December 3-8).

Capacity building. Several training programs were conducted during the year: (1) a series of training sessions to enhance skills in utilizing territorial drought response plans (Kokshetau, March 1; Astana, March 14) and developing a comprehensive drought response system based on effective monitoring and forecasting (Astana, March 27); (2) master trainings for canine services personnel from emergency departments across Central Asia (Rock City – Astana, May 15); (3) a training seminar for heads of Crisis Situations Departments and specialists from the Crisis Management Center of the Ministry of Emergency Situations. The focus of this training was on utilizing the web portal "GIS Platform for Emergency Situations" (Turkistan, June 26-28).

Events. The following events were held: (1) regional workshop on lessons learned as part of the USAUD funded implementation program "Strengthening Local and National Capacities for Emergency Preparedness and Response in High Earthquake and Natural hazard prone Countries of Central Asia" (July 19-21); (2) 1st meeting of the Technical Working Group⁸⁷ on the creation of the Regional Early Warning and Mutual Information System for disaster threats and occurrence (September 5); (3) International Rescue All-Around Competition "Kazkutkaru-2023" (September 13); (4) seminar on disaster prevention in urban areas (November 2); (6) 14th meeting of the Council of the Center for Emergency Situations and Disaster Risk Reduction (November 9); (7) International Scientific and Practical Conference "Mudflow safety – 50 years of activity of Kazselezaschita: status and prospects" (November 22-24); (8) regional consultation workshop on International Disaster Response Law (December 5).

Regional cooperation. The Kazakh delegation participated in: (1) 35th meeting of the Interstate Council on Natural and Man-Caused Emergency Situations (Yerevan, November 25); (2) extraordinary summit of

⁸⁴ this dam is situated in the Ulken River basin in Almaty. This upper basin is home to 98 mudflow-prone areas, 89 glaciers, 20 moraine and glacial lakes

^{as} approved by the Protocol of the Regional Forum-Meeting of the Heads of Emergency Authorities of Central Asian countries (November 5, 2021)

⁸⁶ as part of the UNDRR "Strengthening disaster resilience and accelerating implementation of Sendai Framework for Disaster Risk Reduction in Central Asia" initiative

⁸⁷ in pursuance of paragraph 2 of the Protocol of the Regional Forum – Meeting of the Heads of Emergency Authorities of the Central Asian Countries (signed on October 6, 2022 in Dushanbe, Tajikistan)

the OTS Member-States "Emergency Management and Humanitarian Assistance" (Ankara, March 16); (3) regional workshop on strengthening cooperation in disaster management at the national and subregional levels (Kuala Lumpur, Malaysia, May 23-25); (4) regional review workshop on loss and damage within the Santiago Network for Asia and the Pacific (Bangkok, Thailand, June 19-21); (5) ASEAN (Association of Southeast Asian Nations) Interregional Dialogue and Forum on Disaster Resilience (Singapore, June 21-24); (6) 2nd meeting of the Ministers on Disaster and Emergency Management of member and observer states of the OTS (Baku, September 6-8); (7) 2nd high-level dialogue on climate change and resilience in the Central Asian region "Early warning systems for climate change resilience" (Bishkek, September 21-22); (8) Asian Conference on Disaster Reduction (Dushanbe, October 20); (9) 8th meeting of the Regional Expert Group of the Asian and Pacific Centre for the Development of Disaster Information Management (Dushanbe, December 7-8).

Foreign Policy and International Cooperation

Working and official visits. In 2023, the Head of State paid state, official and working visits to the UAE (January, December), Turkey (March, June), PRC (May, October), Russian Federation (May, December), KR (June, October), Kingdom of Saudi Arabia (July), Vietnam (August), Germany (September), USA (September), RT(September), and Belarus (November).

Major Significant Events in the Foreign Policy of the Republic of Kazakhstan in 2023

Kazakhstan's foreign policy is primarily focused on sovereignty and territorial integrity, citizen protection and economic growth.

Several significant events took place: (1) Expert Meeting "Central Asia-2030: Images of the Future": this meeting focused on strengthening cooperation among Central Asian countries in areas such as trade, economy, transport, energy, human capital development, and cultural exchange (Astana, January 20); (2) Central Asian Interparliamentary Forum: this forum adopted the Turkistan Declaration, which outlined the future trajectory of interparliamentary relations. The declaration emphasized expanding economic cooperation and fostering a shared cultural and historical space for the region (Turkistan, February 10).

Astana hosted: meeting of foreign ministers of Central Asia and the United States in the C5+1 format (February 28); 35th Plenary Session of the Foreign Investors' Council (June 8); Astana International Forum (June 8-9); Kazakhstan-German Business Forum (June 20); International Volunteer Forum (June 21); INNOPROM.QAZAQSTAN International Industrial Trade Fair (September 25-27); Digital Bridge 2023 (October 12-13).

Development of alliances and strategic partnerships. Kazakhstan actively pursues mutually beneficial cooperation with its Central Asian neighbors, as well as with Russia and China.

Within the **CIS**, Kazakhstan participated in the meetings of: (1) CIS Council of Heads of State (Bishkek, KR, October 13), Council of Heads of Government (Sochi, Russia, June 8; Bishkek, October 26; Moscow, Russia, December 18); (3) Council of Foreign Ministers (Samarkand, Uzbekistan, April 14; Bishkek, October 12); (4) Economic Council (Moscow, March 17; September 22, online; Moscow, December 8), as well as in the informal Summit of the Heads of CIS Member-States (Saint Petersburg, Russia, December 26).

Within the **SCO**, Kazakhstan attended the meetings of the SCO Council of Heads of State (July 4, online), SCO Council of Heads of Government (Bishkek, KR, October 26), and SCO Council of Foreign Ministers (Panaji, India, May 4-5).

Within the **CSTO**, in Minsk Kazakhstan participated in the meeting of the heads of CSTO Member-States (November 23) and in the session of the CSTO Collective Security Council (November 23).

As part of regional cooperation, the Kazakh delegation attended a number of important meetings and fora, including, among many others: (1) 6th Ministerial Meeting in the format "Central Asia-Russia" (Samarkand, Uzbekistan, April 14); (2) 4th Central Asia-China Ministerial Meeting (April 27), Kazakhstan-China investment roundtable (May 18) and 1st China-Central Asia Summit (May 19); (3) Il Eurasian Economic Forum (Moscow, Russian Federation, May 24-25); (4) 2nd meeting of the Heads of Central Asia States and the President of the European Union (Cholpon-Ata, KR, June 2); (5) Meeting of Foreign Ministers of Central Asia (September 13), V Consultative Meeting of the Heads of Central Asia States (September 14), meeting of the Council of Heads of Founder-States of IFAS (September 15) and Dushanbe 2023 International Investment Forum (September 29-30); (6) 6th meeting of the High-Level Working Group on the Caspian Sea (Ashgabat, Turkmenistan, September 11-13).

Chairmanship in international organizations. In 2023, Kazakhstan chaired the (1) OTC and took part in the 2nd Extraordinary Summit "Disaster-Emergency Management and Humanitarian Assistance", which addressed prospects of multilateral cooperation in disaster management and humanitarian assistance, as well as coordination of efforts in preventing and overcoming the consequences of natural disasters (Ankara, Turkey, March 16) and hosted the 10th Summit, which resulted in signature of the Declaration and Protocol on cooperation between relevant institutions of the OTS Member-States in the field of metrology (Astana, November 3); (2) **Dialogue of Women of Central Asia**.

Promotion of the national interests and reinforcement of the country's image. Kazakhstan actively cooperates with a wide range of international organizations, including the UN, EU, OSCE, OIC, ECO, and others. **UN.** On December 18th, 2023, the UN General Assembly adopted a resolution⁸⁸ (A/78/127) declaring 2026 as the International Year of Volunteers for Sustainable Development. This significant achievement was initiated by Kazakhstan and supported by like-minded countries from around the world.

Speaking at the 78th UNGA session, the President of Kazakhstan noted that the country plans to launch the Just Energy Transition Partnership and Project Office for Central Asia on Climate Change and Green Energy in Almaty. A significant part of the statement was focused on climate change. It was noted that Kazakhstan, within the framework of its presidency in the IFAS, would continue to work on preventing further environmental degradation and mitigating the impact of the Aral Sea crisis. The President highlighted the growing environmental challenges facing the Caspian Sea and emphasized the need for international cooperation to protect this vital ecosystem.

The 78th UNGA session also adopted resolutions on: International cooperation and coordination for the human and ecological rehabilitation and economic development of the Semipalatinsk region in Kazakhstan (December 19) and Addressing the legacy of nuclear weapons: providing victim assistance and environmental remediation to Member-States affected by the use or testing of nuclear weapons⁸⁹ (New York, USA, December 22).

The Kazakh delegation participated in: (1) virtual summit "Voice of Global South" (January 13, online); (2) summit "Abu Dhabi Sustainability Week – ADSW 2023" (January 16); (3) 1st Gulf Cooperation Council and Central Asia Summit (Jeddah, Kingdom of Saudi Arabia, July 19); (4) Berlin Global Dialogue forum (September 28); (6) meeting of the Heads of Central Asian States with German Chancellor (September 29); (7) III Belt and Road Forum for International Cooperation (Beijing, PRC, October 18); (8) 1st Summit of Heads of State of the UN Special Program for the Economies of Central Asia (SPECA) (Baku, Azerbaijan, November 24); (9) UN Climate Change Conference COP28 (December 1, Dubai, UAE).

Sources:

Official sites of the:

President, www.akorda.kz/ru;

Ministry of Foreign Affairs, https://www.gov.kz/memleket/entities/mfa?lang=ru; Ministry of Water Resources and Irrigation,

https://www.gov.kz/memleket/entities/water?lang=ru; Ministry of Ecology and Natural Resources,

https://www.gov.kz/memleket/entities/ecogeo?lang=ru; Ministry of Industry and Construction.

https://www.gov.kz/memleket/entities/mps?lang=ru; Ministry of National Economy,

https://www.gov.kz/memleket/entities/economy?lang=ru; Ministry of Aariculture.

https://www.gov.kz/memleket/entities/moa?lang=ru;

Ministry of Digital Development, Innovations and Aerospace Industry, https://www.gov.kz/memleket/entities/mdai?lang=ru;

Ministry of Energy,

https://www.gov.kz/memleket/entities/energo?lang=ru; Ministry of Emergency Situations,

https://www.gov.kz/memleket/entities/emer?lang=ru; Legal Information System of the Republic of Kazakhstan, http://adilet.zan.kz/rus;

Institute of Economic Research, https://eri.kz/ru/

Information agencies:

https://inbusiness.kz/ru; https://ainews.kz/; www.kazenergy.com/ru/; https://forbes.kz/; https://kursiv.kz/; https://informburo.kz/; https://liter.kz/; https://kazaral.org; https://kazakh-zerno.net; https://lenta.inform.kz/ru; https://centrasia.org; https://centrasia.org; https://economy.kz/ru/

⁸⁸ the initiative was originally announced by the President of Kazakhstan during his address to the 75th UN General Assembly session in 2020

⁸⁹ Joint Initiative of Kazakhstan and Kiribati

5.2. Kyrgyz Republic



Water sector

Water resources. The total available water resources in KR are 2,458 km³, including 650 km³ (26.4%) in glaciers, 1,745 km³ (71%) in lakes, 13 km³ (0.5%) as potentially usable groundwater and mineral thermal water, and 44.5 to 51.9 km³ (2%) as average annual river runoff. Total annual volume of renewable water resources in Kyrgyzstan is 46.5 km³.

Kyrgyzstan has a complex hydrological network, consisting of over 3,500 watercourses. Among these, 30 are considered large rivers. The average long-term river runoff within the country is estimated at 44.5 km³, which increases to 47.2 km³ when accounting for return water.

2023 Results. According to the data of the Water Resources Service (WRS): water withdrawal limit was 8,364.2 million m³, while the actual water withdrawal reached 8,081.6 million m³ (97% of the limit); irrigation water delivery plan was 6,075 million m³, and the actual water delivery reached 5,659.1 million m³ (93% of the plan); irrigated area plan was 3,872.9 thousand hectares, of which 3,526.5 thousand hectares were actually irrigated.

Public administration reforms. By Presidential Decree "On amendments to the Cabinet of Ministers of the Kyrgyz Republic" (No.354 of 25.12.2023) the Kyrgyz Ministry of Agriculture was renamed as the Ministry of Water Resources, Agriculture and Processing Industry[®] (MWRAPI KR).

New appointments. Bakyt Torobaev was appointed as the Minister of Water Resources, Agriculture and Processing Industry.

Latest developments in legislation. The Kyrgyz government has approved: (1) National Water Strategy 2023-2040 (Presidential Decree No.23 of 10.02.2023), which focuses on protecting water resources from contamination, promoting their rational use, and reforming the water management system in Kyrgyzstan, and an action plan for its implementation for 2023-2025 (Order of the Kyrgyz Cabinet of Ministers No.389-r of 03.07.2023); (2) territorial boundaries of the key river basins, based on their hydrography⁹¹ (Resolution of the Kyrgyz Cabinet of Ministers (hereinafter – PKM KR) of 17.02.2023).

Water management system. In 2023, 962.1 million KGS of allocated budget were used for: repair and rehabilitation of canals (675 km), 958 hydraulic structures, gauging stations, 105 pumping stations and cleaning of collector-drainage systems (223.6 km). The WRS procured special-purpose equipment worth 200 million KGS and dredging machines worth 199.4 million KGS.

Irrigation flumes (worth 9 million KGS) were installed in Yssyk-Ata district, Chu province. In addition, Luxemburg aiyl okmotu (local rural authority) completed overhaul of irrigation systems and built irrigation flumes at a total length of 2.314 km (9,275 thousand KGS). The P-1 canal, spanning 4.4 km, was commissioned to supply irrigation water to the Ishak-Polotkhan aiyl aymak (municipal unit) in Batken province. The Shibe-Zhekendi canal was constructed in Osh province. In Talas province, reconstruction of the Sarymsak canal has been completed in Kara-Buura district and the commissioning of Kyzyl-Zhar and Zhalpak-Til canals is underway in Bakay-Ata district.

In the next decade, Kyrgyzstan plans to construct 64 reservoirs for 10-day regulation on all rivers.

Drip irrigation has been installed on an area of 13,223 thousand ha, of which 9,490 thousand ha – in Chu province, 1,678 thousand ha – in Issyk-Kul province, 142 ha – in Naryn province, 25 ha – in Talas province, 452 ha – in Osh province, 566 ha – in Batkent province, and 870 ha – in Zhalal-Abad province.

Projects and programs. Ongoing projects: (1) Climate change and disaster-resilient water resources sector (ADB, \$43.6 million, 2019-2025)⁹²: rehabilitation of the "Osmon" channel (5,862 ha) was started in Chu province; (2) Climate-Resilient Water Services /CRWSP⁹³ (IDA, \$100 million, 2022-2028, Batkent, Zhalal-Abad and Osh provinces): training workshops were organized for project specialists (Bishkek, August 1-2, September 21); World Bank's mission was conducted (November 14-23), as part of which meetings were held with the heads of the CWMA and the DWMA of Osh, Zhalal-Abad and Batkent provinces; a regional workshop "Stakeholder engagement for interaction during implementation" was organized (December 7, Osh);



(3) National Water Resources Management Project/ AF NWRMP (SDC, WB, \$12.24 million, 2015-2024): a draft of 2040 National Water Strategy was developed, assistance was provided to establish the boundaries of 5 river basins and prepare five basin water management plans in Kyrgyzstan; (4) USAID Regional Water and Vul-

⁹⁰ regulations of the Ministry of Water Resources, Agriculture and Processing Industry and the institutional setup were approved by the PKM KR No.98 of 07.03.24

⁹¹ five key basins exist in the territory of the Kyrgyz Republic: Talas, Chu, Issyk-Kul-Tarim, Naryn-Syrdarya and Karadarya-Syrdarya-Amudarya

⁹² https://water-climate.kg/wp-content/uploads/2023/12/PP-presentation-on-CFTDs-analysis-v1-November-2023.pdf

⁹³ implementing agencies: Water Resources Service for irrigation and Department for Development of Drinking Water Supply and Sanitation for drinking water supply and sanitation

nerable Environment Activity (USAID, \$21.5 million, August 2022-July 2025), within the framework of which an expert group was formed to assess the current state of the Orto-Tokoy (Kasansay) reservoir, analyze conditions of control and measuring facilities and gauging stations, and develop safety and operating rules for the reservoir.

The following projects were launched in 2023: (1) a regional project "Climate-Sensitive Water Resources Management in Central Asia^{"94} (BMZ, SDC, GIZ, €12.9 million, 2023-2027), aimed to strengthen the capacity of organizations that are responsible for water management at the national and transboundary level, address effectively water issues that arise due to climate impact. As part of the project, a meeting was organized to discuss a draft Agreement on project implementation between GIZ and the Water Resources Service; (2) a pilot project on organization of integrated maintenance and development of irrigation and drinking water supply systems in Naryn province (January 2023-January 2025)⁹⁵, as part of which an integrated system for collection, administering and distribution of fees to be charged for further operation, maintenance and development of irrigation systems, drinking water supply systems in rural areas and for improvement of pastures and pasture infrastructure will be established.

With the support of the "CAMP Alatoo" Foundation, a new water distribution system has been developed and tested in Chu province. This system, powered by software from the "SlySoft Community," empowers Water User Associations (WUAs) to efficiently manage water allocation and distribution. The project "Adapting and Strengthening Community-Based Water Management Approaches in the Kyrgyz Republic" (USFS/IP⁹⁶, METI⁹⁷, 2022-2023) has been completed. Activities included the assessment of WUA activities, establishment of an automated information system on water distribution, and public awareness raising about water management issues.

The Kyrgyz Republic has secured loans from the European Bank for Reconstruction and Development (EBRD) to modernize and reconstruct the Aravan-Ak-Buura canal in the Kara-Suu and Aravan districts of the Osh region: credit of ≤ 14 million 130 thousand and grant of ≤ 3 million 740 thousand.

The STREAM project, a USAID-funded initiative, aims to improve water resource management in the Kozu-Baglan, Ak-Suu (Shakhimardan), and Isfayram river basins. This \$2.5 million, three-year project (2023-2025) focuses on an inclusive, gender-sensitive, and integrated approach to river basin management (Bishkek, September 27). The Coca-Cola Foundation has launched a \$500,000 regional project aimed at enhancing economic independence and improving the situation of women in Central Asia through improved access to irrigation water and infrastructure. This initiative will focus on empowering local communities to implement sustainable water management practices.

Events. The following meetings were held: (1) 18th Steering Committee Meeting of the National Policy Dialogue on IWRM⁹⁸ in Kyrgyzstan, during which the participants shared information about current events on water, food, energy and environmental security (Bishkek, February 3); (2) meeting of the National Water and Land Council under the President of the Kyrgyz Republic (Bishkek, December 20).

The Kyrgyz delegation participated in: (1) UN 2023 Water Conference (New York, March 22-24); (2) 1st Kyrgyz-Kazakh Interregional Forum and 11th meeting of the Kyrgyz-Kazakh Intergovernmental Council, on which water resources issues were addressed among others (Taraz, September 23); (3) international scientific-practical conference "Problems of monitoring, modeling and forecasting of water and energy resources of Central Asia in the context of Climate Change" (Bishkek, November 9); (4) high-level segment "One Planet Summit", as part of which the President of the Republic delivered a call to unite global efforts to preserve glaciers and protect the critical water resource formation zones (Paris, November 10); (5) meeting of the Asian Inter-Parliamentary Advisory Council on Water Resources (Seoul, November 16).

Regional and international cooperation. A high-level meeting was held between Kyrgyz and Kazakh officials to discuss the construction of the Chu-2 by-pass canal. The meeting involved the Kyrgyz Minister of Agriculture, A. Janybekov, the Director of the Water Resources Service, A. Sokeev, and the Kazakh Minister of Water Resources and Irrigation, N. Nurzhigitov (Bishkek, November 14).

The Kyrgyz delegation attended: (1) 11th meeting of the Working Group on environmental protection under the Secretariat of the Chu-Talas Water Commission (Almaty, November 21); (2) 32nd meeting of the Chu-Talas Water Commission, during which a joint statement on approval of the 2022-2030 Strategic Action Program for the Chu and Talas River Basins was signed (Almaty, December 22).

Several agreements have been signed, including: (1) framework agreement⁹⁹ on strategic cooperation between the Naryn province of Kyrgyzstan and the Xinjiang Trade and Logistics Corporation and the Xinjiang Water Resources Investment and Development Corporation (Urumqi, China, August 19); (2) grant agree-

⁹⁴ as part of the Green Central Asia initiative

⁹⁵ the outcomes of the pilot project will be summarized by February 1, 2025 and the experience gained – distributed to the aiyl aymaks of other provinces in the Republic

⁹⁶ U.S. Forest Service International Program

⁹⁷ International Organization for Management and Engineering Technologies

⁹⁸ as part of the "National Policy Dialogues (NPD) of the European Union Water Initiative in Central Asia" (EU, UNECE/OECD)

⁹⁹ on the sidelines of the Kyrgyz-China business forum

ment between Kyrgyzstan and Japan¹⁰⁰ on the grant aid for the project "Improved Equipping of Irrigation Canals"¹⁰¹ (Tokyo, November 17-20).

Drinking Water Supply

Public administration reforms. The PKM KR No.84 of 17.02.2023 led to a reorganization within the State Agency for Architecture, Construction and Housing and Communal Services. The Department of Construction and Engineering Infrastructure was divided into two separate departments: Department of Residential and Civil Engineering Construction and Department for Development of Drinking Water Supply and Sanitation. The newly formed Department for Development of sustainable conditions for the development and operation of centralized drinking water supply and sewerage systems in Kyrgyz settlements.

Projects and programs. The Community Development and Investment Agency/KR ARIS is implementing the following projects: (1) Naryn Rural Water Supply and Sanitation Development Program/NRWSSDP (ADB, \$32.9 million, 2020-2027); (2) Rural Water Supply and Sanitation Improvement Project for Batken and Talas Provinces/RWSSIP BT (IsDB, Saudi Fund for Development), which plans: laying the water supply system, construction of a well and rehabilitation of a reservoir (500 m³), establishment of the municipal water operator and training for staff; (3) Sustainable Rural Water Supply and Sanitation Development Project/ SRWSSDP (WB, IDA, \$26 million 364 thousand + additional financing - \$36 million 323.9 thousand, 2017-2025, Chu, Issyk-Kul and Osh provinces); (4) Rural Water Supply and Sanitation Improvement Project (IsDB, \$21 million, 2019-2023): the construction of water supply and sanitation systems in 16 villages and 24 schools of Zhalal-Abad province has been completed.

The following projects are continued: (1) CRWSP (see above), subcomponent 1.1 Water Supply and Sanitation Infrastructure, which covers investments to increase climate resilience of drinking water supply and sanitation services and to enhance wastewater treatment capacity: 95,000 people in 31 villages around Lake Issyk-Kul and Batken province will be provided with climate-resilient drinking water supply services, and 43,000 – with climate-resilient sanitation services; (2) Bishkek Water Supply and Wastewater Rehabilitation (Phase II, Government of Swiss Confederation, EBRD, €16 million): the 10.5-km sewage collector has been completed; (3) Issyk-Kul Wastewater Management Project/IWMP in Balykchy and Karakol (ADB): a Sludge Management Plan has been developed and a training on "Gender Equality and Integration in Water Resources Management" has been conducted (Karakol, October 31).

KR and EBRD have signed: (1) loan and grant agreements for the project "Kyrgyz Water Resilience Framework – subprojects in Kadamzhai, Tash-Komur, Kok-Dzhangak and Aidarken" (€18.6 million, including €10.6 million as a technical assistance grant), aimed at improving drinking water supply; (2) document "Bazar-Korgon Water Supply Rehabilitation" (€8.5 million).

Agriculture

Irrigated area. According to the State Statistics Committee of the Kyrgyz Republic, the total crop acreage reached 1,232 thousand ha, which is 3.3 thousand ha more than in 2022. As to the cropping patterns, grain crops are grown on 585.4 thousand ha (47.5% of all crop area), legumes – on 53.6 thousand ha (4.4%), oilseeds – on 15.3 thousand ha (1.2%), cotton – on 17.6 thousand ha (1.4%), tobacco – on 0.5 thousand ha (0.04%), sugar beet – on 13.1 thousand ha (1.1%), potatoes – on 72.5 thousand ha (5.9%), vegetable and forage crops – on 54.8 thousand ha (4.4%) and 396.3 thousand ha (32.2%), respectively, and other crops (rice, cucurbits and others) – on 22.9 thousand ha (1.9%).

Agricultural production. In 2023, the gross agricultural production amounted to 378.7 billion KGS, with a real growth rate of 100.6% as compared to 2022 (increase by 7.3% in 2022).

Grain production reached 1.6 million tons, which is 13% less than in 2022, due to a 14.6% decrease in yields of grain crops (with the exception of legumes, rice and buckwheat). The unusually high temperatures experienced during the 2023 growing season had a significant impact on agricultural yields in Kyrgyzstan. While certain crops benefited from the warmer conditions, others suffered due to the extreme heat (decreased yields: wheat -25.7%, barley -29.2%; increased yields: sugar beet +32.7%, tobacco +19.2%, corn +9.2%, vegetables +4.6%, cucurbits +4.2%, fruits and berries +1.2%.

Public administration reforms. State enterprises and institutions under the Kyrgyz Ministry of Agriculture's¹⁰² jurisdiction have been merged to streamline operations and improve efficiency (PKM KR No.267 of 18.05.2023). Amendments to Cabinet of Ministers resolutions have been made to optimize the size of the civil service staff and reduce state budget costs (PKM KR No.358 of 12.07.2023)

New appointments. Aynura Tuybaeva was appointed as the Deputy Minister of Agriculture for agricultural policy, water resources, ecology and regional development, while Asylbek Satyvaldiev was appointed as the Director of the Land Resources Service at the Kyrgyz Ministry of Agriculture.

¹⁰⁰ within the framework of the official visit of the Kyrgyz President to Japan (November 17-20)

¹⁰¹ Japan International Cooperation Agency/JICA is planned to purchase 44 units of equipment for over \$7.2 million for seven provinces in Kyrgyzstan

¹⁰² according to the Presidential Decree No.354 of 25.12.2023 "On Amendments to Cabinet of Ministers of the Kyrgyz Republic", the Kyrgyz Ministry of Agriculture was renamed as the Ministry of Water Resources, Agriculture and Processing Industry of the KR (MWRAPI KR)

Latest developments in legislation. A comprehensive "Program for the Development of Agricultural Cooperation for the period 2023-2027", an action plan for its implementation and a matrix of monitoring and evaluation indicators have been adopted by resolution of the Cabinet of Ministers (PKM KR No.418 of 23.08.2023).

The following laws and resolutions have been adopted as well: (1) "On amendments to Legislative Acts in the Field of Agriculture" (ZKR No.11 of 25.01.2023); (2) "On the Progress of Preparations for the 2023 Spring Field and Agricultural Work in the Kyrgyz Republic" (PKJ 974-VII of 16.02.2023); (3) "On amendments to the Kyrgyz Government Decree on Approval of the 'Agriculture Financing-9' Project No.34 of 04.02.2021" (PKM KR No.549 of 12.10.2023); (4) "On amendments to Resolutions of the Kyrgyz Cabinet of Ministers that govern the Land Resources Service under the Kyrgyz Ministry of Agriculture" (PKM KR No.696 of 22.12.2023).

The Kyrgyz Republic and Uzbekistan have approved a draft agreement aimed at strengthening cooperation in the field of agriculture (Resolution of the Kyrgyz Cabinet of Ministers No.22-r of 25.01.2023).

Projects. The following projects have been completed: (1) "Support to Development of a Green Agriculture by Local Communities"/"GoGreen" (EU, €1.1 million, December 2020-June 2023), as part of which a mobile application "Birlik" was developed for farmers and potential buyers of agricultural products. The project outcomes were summarized at the final conference in Bishkek on May 23-24; (2) "Agriculture Productivity and Nutrition Improvement Project"/APNIP (\$38 million, GAFST, WB, 2015-2023) aimed at increasing food security among rural households in specific areas across the country. The project outcomes were presented at the final conference on June 22; (3) "Biodiversity Conservation and Poverty Reduction with the Involvement of Local Communities in the Management of Nut Forests and Pastures in Southern Kyrgyzstan" (BMZ, GIZ, 2021-2023, Bazar-Korgon and Aksy Districts, Zhalal-Abad province).

The ongoing projects include: (1) "Kyrgyzstan Pasture and Natural Resource Management" (US Forest Service, 2021-2025, Naryn and At-Bashy Districts, Jerge-Tal aiyl aymak, Naryn province); (2) "Additional Financing for the Third Village Investment Project (AF VIP-3)" (IDA, \$17 million, 2022-2024, Chu province), which aims to build local capacity for participatory development and improve access to improved community infrastructure services in targeted rural communities.

The expert support was provided to the Pastures and Livestock Breeding Department (PLBD) of the Kyrgyz Ministry of Agriculture in the development of a unified methodology for monitoring and assessment of pastures (BMZ, GIZ, 2023).

The "Agriculture Financing-11" project has been approved. The project is to provide public support to

Kyrgyz farmers for timely performance of agricultural operations in 2023. The Ministry of Finance allocated 3.3 billion KGS as planned to support the project.

ADB has approved the "Resilient and Inclusive Agricultural Development and Food Security in the Central Asia Regional Economic Cooperation" technical assistance project (\$3 million). Loan and grant agreements have been signed for the "Climate-Resilient Agricultural Value Chain Development" Project (ADB, \$40 million).

Events. The Kyrgyz delegation took part in the 1st meeting of the Uzbek-Kyrgyz Working Group for agricultural cooperation, which resulted in signature of a MoU (Tashkent, March 16), and the 35th meeting of the Intergovernmental Council on the CIS Agro-Industrial Complex¹⁰³ (November 16, video-conference).

Regional and international cooperation. The number of documents were signed: (1) a "Roadmap" for agro-industrial cooperation between Kyrgyz and Uzbek ministries of agriculture (Bishkek, January 26); (2) 2023-2025 cooperation plan on agriculture between the Kyrgyz Ministry of Agriculture and the Chinese Ministry of Agriculture and Rural Affairs (Xi'an, China, May 18); (3) 13 documents between Kyrgyzstan and Qatar, including a memorandum of understanding and cooperation in the field of agriculture and food security (Bishkek, June 7); (4) an agreement on agricultural cooperation between the Cabinet of Ministers of the Kyrgyz Republic and the Government of Mongolia, and a memorandum of understanding between the Kyrgyz Ministry of Agriculture and the Ministry of Environment and Tourism of Mongolia for the development of forest ecosystems (Ulan Bator, July 9); (5) a memorandum of understanding between the Kyrgyz Ministry of Agriculture and the Ministry of Natural Resources and Ecology of Russia in the field of development of forest ecosystems (Bishkek, October 12).

Energy

2023 Results. In 2023, according to the Ministry of Energy of the Kyrgyz Republic, reconstruction of the second hydrounit of Toktogul HPP (capacity increased from 300 MW to 360 MW) and of At-Bashi HPP (capacity increased from 40 to 45.7 MW) were completed. Planned overhauls, current repairs, and maintenance were conducted across all hydroelectric power plants (HPPs); 261 units of special-purpose equipment were purchased for regional power plants. The total electricity generation capacity reached 72.73 MW. Notably, the reconstruction of HPP hydrounits contributed to a significant increase of 65.6 MW in power generation. Construction of new solar power plants added a total capacity of 430 kW and the commissioning of small hydropower plants contributed an additional 6.7 MW to the overall electricity generation capacity.

¹⁰³ Deputy Minister of Agriculture A.A. Tuybaeva was elected as the Chairman of the Council

In 2024, Kyrgyzstan plans to increase its hydropower capacity by 69 MW through the reconstruction of the Toktogul and Uch-Kurgan HPPs. The commissioning of 50.6 MW of small hydropower plants will contribute an additional 119.6 MW to the country's energy mix.

Since August 1, 2023, a state of emergency has been declared in the country's energy sector.

Public administration reforms. OJSC "National Energy Holding" has been liquidated by government's decision PKM KR No.482 of 18.09.2023.

Latest developments in legislation. In June 2023, the government approved the "Implementation of Policy of Energy Saving and Energy Efficiency in the Kyrgyz Republic for 2023-2027" Program (PKM KR No.328). Furthermore, in July 2023, the Law of the Kyrgyz Republic "On Electric Power Industry" was amended (Law No.147).

Hydropower construction and modernization. Electric Power Plants JSC has completed its annual work schedule for 2023, focusing on the Kambarata-2, At-Bashi, Tash-Kumyr, and Toktogul HPP cascades. Addi-

tionally, the company has initiated preparatory work for the construction of the Kambarata-1 HPP¹⁰⁴. The rehabilitation of the Toktogul HPP (Phase 3) and the modernization of the Uch-Kurgan HPP are ongoing projects.

The draft Law of the Kyrgyz Republic "On ratification of the agreement between the Kyrgyz Republic and the World Bank" was approved in its second reading on February 16, 2023. This agreement will provide grant funds for the following initiatives under the "Electricity Sector Modernization and Sustainability" project: digitization of the distribution network, implementation of an automated power accounting and a SCADA (supervisory control and data acquisition) systems.

Alternative energy

OJSC Chakan HPP, which includes 9 small hydropower plants (1) implements a pilot project (ADB) on the construction of a floating solar power plant¹⁰⁵ at HPP-5 reservoir; (2) signed an agreement with the China National HEAVY Machinery Corporation on the construction of a small HPP at the Orto-Tokoy reservoir¹⁰⁶ of 21 MW (January 13).



Source: OJSC Chakan HPP, leading Kyrgyz company in the small hydropower sector

¹⁰⁴ planned capacity – 1,860 MW, average annual generation – 5.6 billion kWh

 $^{^{\}scriptscriptstyle 105}$ a floating part of the plant of 95 kW and an above-ground part of 5 kW

¹⁰⁶ Orto-Toky reservoir is the first reservoir in Kyrgyzstan, which is designed for seasonal regulation of flow along the Chu River and irrigation of 120 thousand ha. The small Orto-Tokoy HPP will be operated in irrigation mode



The construction of **small 25 MW Bala-Saruu HPP**¹⁰⁷ (downstream of the Kirov reservoir, Manas district, Talas province), with an average annual electricity generation of 92 million kWh, is almost complete.

A credit agreement with EBRD and a grant agreement with EBRD and OJSC Chakan HPP were ratified on June 20, 2023 (ZKR No.120) for the reconstruction of the Lebedinovskaya HPP¹⁰⁸ (€13.8 million).

The Kyrgyz Government has approved financing of \$88 million for the construction and operation of the Kulanak HPP on the Naryn River (through EDB and the Russian-Kyrgyz Development Fund on a parity basis). The total project cost is \$127.9 million. The project capacity is 100 MW and an average annual generation is 435 million kWh. Its commissioning is planned by the end of 2025.

The construction of the Kun-Bulagy solar power plant is currently underway in the Toru-Aygyr aiyl aymak of the Issyk-Kul province. This \$35 million project aims to generate 50 MW of clean, renewable energy.

Regional and international cooperation. The following documents were signed: (1) Roadmap for construction of the Kambarata-1 HPP between energy ministers of Kazakhstan, Kyrgyzstan and Uzbekistan (January 6); (2) agreement on the construction of 100-150 MW solar power plant¹⁰⁹ on the basis of PPP between the Kyrgyz Ministry of Energy, the Ministry of Economy and Finance and the International Finance Corporation (IFC) (January 18); (3) framework agreement on implementation of the project "Construction of a solar power plant with a total capacity of 400 MW in the Kara-Talaa area of Kok-Moynok aiyl aymak situated in Ton district of Issyk-Kul province", between the Kyrgyz Ministry of Energy and the Chinese company "Molin Energy" (October 25); (4) memorandum of understanding between the Kyrgyz Ministry of Energy, the French energy company Électricité De France (EDF), and the Abu Dhabi Future Energy Company PJSC (Masdar, UAE). The MoU aims to foster cooperation between the two parties to explore and develop hydropower and renewable energy projects within the Kyrgyz Republic, with a combined potential capacity of up to 3.6 GW (December 2).

The World Bank has approved financing for the first phase of the "Kyrgyz Renewable Energy Development Project". The project aims to support an increase of hydropower generation, meet the growing demand for electricity and attract private investments to the energy sector. It will be implemented using a multi-phase programmatic approach with a total financing of \$125.7 million over 10 years.

Environment Protection and Climate Change

On the initiative of the President of Kyrgyzstan, the United Nations General Assembly declared 2023-2027 the "Five Years of Action for the Development of Mountain Regions." Kyrgyzstan presented the Global Framework for the Five Years of Action, which addresses key issues like climate change adaptation, environmental conservation, infrastructure development, and improving the living conditions of mountain communities (New York, July 19). In this context, the following documents were approved: Presidential Decree No.237 of 15.09.2023 "On the declaration of the period 2023-2027 as the Five Years of Action for the Development of Mountain Regions", the Concept for the Five Years of Action for the Development of Mountain Regions and the Roadmap for implementation of the Five Years of Action. Kyrgyzstan will host the Second Global Mountain Summit in 2027.

Public administration reforms. The Environmental Research, Consulting and Auditing Center was removed from the structure of the Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic (PKM KR No.360 of 12.07.2023).

New appointments. Melis Turgunbaev was appointed as the Minister of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic, and Azamat Temirkulov–as Deputy Minister.

Latest developments in legislation. The following laws were adopted: "On amendments to the Law of the Kyrgyz Republic on Hydrometeorological Activities in the Kyrgyz Republic" (ZKR No.67 of 23.03.2023) and "On restricting the circulation of bags made of polymer film and plastic products in the territory of the Kyrgyz Republic" (ZKR No.177 of 09.08.2023).

Projects. The "Advancing regional cooperation on integrated land use through strengthened regional expert networks – Green CA" project launched in

 $^{^{\}scriptscriptstyle 107}\,$ HPP was launched on May 21, 2024

¹⁰⁸ this project aims to significantly increase the power generation capacity of the Lebedinovskaya HPP, which was initially commissioned between 1943 and 1948 and currently supplies electricity to Bishkek. The reconstruction will boost the plant's annual power generation from 34.2 GWh to 53.5 GWh

¹⁰⁹ as part of the "Scaling Solar" Program (WB)

2023 (BMZ, GIZ, 2023-2024) has facilitated several events: regional meeting of GREEN CA specialists (Tashkent, April 11-13); 1st international conference on enhancing the effectiveness of expert services in addressing environmental and related issues in the region (Almaty, September 25-26); training in "Deep Analysis of Land Degradation Economics: How to Assess Ecosystem Services for Better Recognition of Nature's Value in Land Management" (September).

Events. Kyrgyzstan hosted: (1) international conferences "Environmental and Socio-Economic Security as a Factor of Sustainable Mountain Development" (Bishkek, January 19-21) and "Actual Issues of Environmental Research for Sustainable Development in Arid Zones" (Chok-Tal, Issyk-Kul, August 16-17); (2) round-tables on "UNESCO Global Geoparks: Opportunities and Potential in the Kyrgyz Republic" (February 9) and "Restoration of Mountain Ecosystems" (December 15); (3) Climate Week (September 16-23); (4) Caravan of Climate Events (October 19-November 10); (5) National Forum on Climate Change (November 10); (6) Green Economy Forum 2023: Common Goals for Sustainable Development of the Central Asian region (Bishkek, November 16).

The Kyrgyz delegation took part in: (1) 7th "EU-Central Asia" high-level conference on environment and water resources (Rome, February 23-24); (2) 9th meeting on climate change of representatives of foreign ministries and members of parliaments from the Central Asian countries (Tashkent, April 19); (3) international forum "Children and Youth in Action – Climate Change in Central Asia" (Tashkent, November 9); (4) "One Planet: Polar Summit" (Paris, November 10); (5) COP28 (Dubai, November 30-December 12).

Kyrgyz President delivered a speech at the COP28, during which he: (1) called on the international community to support the efforts of mountain countries aimed at solving the climate and environmental problems of mountain ecosystems; (2) noted that "by 2050, on the platform of green development, Kyrgyzstan plans to achieve carbon neutrality"; (3) called on the world community, primarily developed countries, to do "more targeted work on accumulating climate finance, simplifying the mechanisms for obtaining it and creating new mechanisms to support developing countries"; (4) hoped that "the issues of mountain ecosystems will be included as priority on the agenda of COP28".

International cooperation. The MNRETS signed: (1) a memorandum of understanding with the Ministry of Natural Resources and Ecology of the Russian Federation on cooperation in the field of environmental protection and natural resources (Bishkek, October 12); (2) a memorandum of understanding and cooperation in the field of environmental protection with the Ministry of Environment of the Republic of Korea (Bishkek, October 20).

SDGs in Kyrgyzstan

In 2022, the Government of the Kyrgyz Republic and the UN signed the UN Sustainable Development

Cooperation Framework (UNSDCF) in the Kyrgyz Republic for 2023-2027 (UNSDCF). The UNSDCF is fully aligned with the national development strategies and plans of the Kyrgyz Republic. According to the National Development Strategy of the Kyrgyz Republic for 2018-2040, the country strives to achieve the adopted SDGs.

Kyrgyzstan was ranked 45th out of 163 countries in the annual sustainable development rating published by the UN and BertelsmannStiftung.

In 2023, the SDI Public Foundation was established in Bishkek, building upon the "YLSP" Public Platform. Its mission is to empower youth and advance the SDGs in Kyrgyzstan and Central Asia across social, economic, and environmental dimensions.



Status of SDG targets for Kyrgyz Republic (% trend indicators)



Source:

https://dashboards.sdgindex.org/profiles/kyrgyz-republic

Capacity building. Kyrgyzstan hosted: the seminar "Statistics of the Sustainable Development Goals", with the support of GIZ (Bishkek, June 26-27); the workshop on the development of a country initiative on the "Education for Sustainable Development" Framework Programme until 2030 (Bishkek, October 27).

The "Sustainable Development Initiatives" Public Foundation and members of the UN Youth Advisory Council held an intellectual quiz "Youth Quiz" within the International Youth Day in the Kyrgyz Republic (Bishkek, November 10).



Events. The Kyrgyz delegation participated in: (1) the high-level Political Forum on Sustainable Development, during which Kyrgyzstan presented a Global Framework developed jointly with the Mountain Partnership Secretariat to support the implementation of the "Five Years of Action for the Development of Mountain Regions 2023-2027" (New York, July 10-20); (2) the SDG Summit, on which the head of state emphasized that "Kyrgyzstan is ready to commit for SDG acceleration", specifically through: initiative 1 -"Transforming the system and reforms for inclusive and quality education" (goal 4) and initiative 2-"Promoting an inclusive green economy" (goals 7, 12, 13 and 15) (New York, September 19-20); (3) the Global Forum on Inter-Parliamentary Cooperation in achieving the SDGs (Tashkent, November 30).

Cooperation. The SDI Public Foundation in the Kyrgyz Republic and the "ASAA" youth public association in Kazakhstan signed a memorandum of understanding and cooperation aimed to promote sustainable development in the CA countries and across the region (November 24).

Publications. The National Statistical Committee of the Kyrgyz Republic¹¹⁰ prepared and published:

"Sustainable Development Goals and Gender in the Kyrgyz Republic"; "Sustainable Development Goals and Youth in the Kyrgyz Republic"; "A Tutorial on Statistics of the Sustainable Development Goals".

Emergencies

The Kyrgyz Republic is taking steps to implement the "Concept for comprehensive protection of the population and the territories of the Kyrgyz Republic from emergencies for 2018-2030" in alignment with the Sendai Framework Program.

Latest developments in legislation. The following laws and regulations were adopted: (1) "On amendments to the Government Order of the Kyrgyz Republic 'On the Concept for comprehensive protection of the population and the territories of the Kyrgyz Republic from emergencies for 2018-2030'" (PKM KR No.1 of 10.01.2023); (2) "On amendments to the Law of the Kyrgyz Republic 'On Civil Protection'" (ZKR No.71 of 27.03.2023); (3) "About the emergency situation in the energy sector of the Kyrgyz Republic" (Presidential Decree No.178 of 24.07.2023); (4) "On ratification of the agreement between the Cabinet of Ministers of Kyrgyzstan and the Government of Uzbekistan on cooperation in the field of emergency prevention and response signed on 27.01.2023 in Bishkek" (ZKR No.4 of 10.01.2024), which is aimed at organizing cooperation in the field of prevention and response to emergency situations, reducing the risk of natural disasters, ensuring the readiness and response to potential emergencies, and rendering mutual assistance in addressing their consequences; (5) "On issues of prevention and risk mitigation of disasters due to riverbank erosion in the Kyrgyz Republic" (Resolution of the Jogorku Kenesh of the Kyrgyz Republic No.1278-VII of 15.06.2023).

Natural disasters. In 2023, the Ministry of Emergency Situations (MES) reported a total of 57 emergencies and over 4,000 individual incidents, leading to tragic consequences: 347 fatalities and 783 injuries. The economic toll was also significant, with material damage estimated at 1.707 billion KGS. Floods and mudslides accounted for 7 of the 57 emergencies and 109 of the incidents. These events caused over 40 million KGS in damage, primarily affecting the Issyk-Kul, Naryn, and Chu provinces.

Preventive measures. As of 01.12.2023, 5,396 meters of protective dams were built and strengthened along the coast lines of transboundary rivers in the territory of Kyrgyzstan (Chu, Kara-Darya, Kok-Art, Kara-Unkur-Sai, Sokh). Also, 118 meters of reinforced concrete fences and 2 bridges were built for 120 meters of flood channels.

The MES KR branch for Batken province took flood protection measures in Orozbekov aiyl aymak of Kadamjay district (Tash-Bulak canal). In Suzak district

¹¹⁰ member of the Coordination Committee for SDGs Adaptation, Implementation and Monitoring in the Kyrgyz Republic until 2030 and the governing body of the working group "Monitoring and Evaluation" for the preparation of the voluntary national review on progress in achieving the SDGs

of Jalal-Abad province, flood control dams were erected in Changyr-Tash village of Kara-Darya aiyl aymak, and the strengthening of fences of Changet-Say canal in Besh-Moynok village of Barpin aiyl okmotu have been completed.

The MES KR has also bought 3 helicopters and upgraded 700 units of special-purpose equipment.

Projects. (1) "Landslide Risk Management in the Kyrgyz Republic" (ADB): the Atlas of Landslides in the Kyrgyz Republic was prepared and published. It provides a consolidated overview of evidence, risks and control of landslides in Kyrgyzstan. This atlas draws data from the national and international literature, analytical data and results from the ADB technical assistance; (2) "Climate Risk Management in Central Asia" (GIZ): study trips were organized (1) along the Danube (Munich-Passau, Germany; Linz, Austria, November 6-10), (2) to Germany, with the visits to the German Committee for Disaster Reduction and the European Centre for Medium-Range Weather Forecasts, the purpose of which was to explore approaches, best practices and technologies related to climate risk management and transboundary early warning systems on hydrometeorological disasters in Germany and Europe (Bonn, December 3-8); (3) "Enhancing Resilience in Kyrgyzstan" (ERIK, WB): the cultivation of the insurance market in Kyrgyzstan and the development of an earthquake risk model are ongoing; the system for actuarial loss valuation in the insurance portfolio is still under formation. The planned activities include risk-based pricing for the compulsory disaster insurance program in the country. Works aimed to improve the performance of the national fire service were finalized. Specialists from the Department of monitoring and forecasting of emergencies under the MES KR studied areas that are prone to dangerous landslide. 15 territorial offices of the MES KR received suitable equipment for organization of the distance training on civil protection.

Capacity building. MES specialists continue to conduct the mobile training sessions among the population. The training topics cover: how to protect themselves against hazards that are likely to arise during emergencies of various types; emergency preparedness; and, the rules of behavior in emergency situations.

MES KR held: an international diving training course sponsored by the International Civil Defense Organization (ICDO) at Lake Issyk-Kul (Cholpon-Ata, August 8-18); a training on the pilot drought information system for Kyrgyzstan, which is aimed at addressing the issue of "monitoring and forecasting" of the drought management cycle (Bishkek, October 31-November 2).

MES specialists took part in: (1) international drills "Kazkutkaru-2023" on the use of UAVs for emergency response (training ground "Rock City – Astana", Kazakhstan, May 14-18); (2) sub-regional workshop on the mine tailings safety and the prevention of accidental water pollution in Central Asia (Dushanbe, online, May 25-26); (3) training on the use of GIS technologies and mapping in emergencies (Almaty, June 12-16); (4) regional consultation workshop on international disaster response law¹¹¹ (Almaty, December 5).

Events. Kyrgyzstan hosted the following events: (1) 2nd high-level dialogue on climate change and resilience in the Central Asian region "Early warning systems for climate change resilience" (September 21-22); (2) Disaster Risk Reduction Day (October 4); (3) 56th session of the ICDO Council (October 18).

The Kyrgyz delegation participated in: (1) 14th meeting of the CSTO Coordination Council for Emergency Situations (Minsk, September 5); (2) 2nd meeting of emergency ministers of OTS (Baku, September 7); (3) 67th regular session of the IAEA General Conference (Vienna, September 25-29); (4) 14th meeting of the Council of the Center for Emergency Situations and Disaster Risk Reduction, chaired by the Kazakh side, a meeting of the working group of the Regional Forum-Meeting of the heads of emergency departments of Central Asian countries (Almaty, November 9) and the Regional Forum-Meeting (Almaty, 10 November); (5) international scientific-practical conference "Mudflow Safety - 50 Years of Kazselezashchita's activities: State and Prospects" (Almaty, November 22-24); (6) 8th meeting of the regional expert group of the Asian-Pacific Center for development of disaster information management (Dushanbe, December 7-8).

Cooperation. The Ministry of Emergency Situations of Kyrgyzstan and the International Civil Defense Organization (ICDO) signed an agreement to establish the ICDO Regional Humanitarian Office for Central Asia and Asia in Bishkek (October 27). This new office will play a crucial role in improving emergency response efforts in the region. By providing rapid access to vital resources and expert knowledge, the office will facilitate more effective and timely interventions during crises. It will work closely with local authorities, NGOs, and international organizations to coordinate efforts, develop emergency response plans, and deliver essential humanitarian aid.

The Kyrgyz Ministry of Emergency Situations has been actively engaging with international organizations to strengthen emergency prevention and response capabilities. In September, the Minister met with the UNDP Resident Representative and the Head of the OSCE Programme Office to discuss potential collaborations. Later, in November, the First Deputy Minister participated in a high-level meeting in Almaty, Kazakhstan, with representatives from the UN Office for Disaster Risk Reduction, the International Federation of Red Cross and Red Crescent Societies, and GIZ.

A meeting was held between the First Deputy Minister of Emergency Situations of Kyrgyzstan A. Mambetov and representatives of the Russian state corporation

¹¹¹ as part of implementation of Provisions on the Regional Emergency Response Coordination Mechanism approved by the decision of the Regional Forum-Meeting of the Heads of Emergency Departments of Central Asian countries on 05.11.2021 in Tashkent

"Rosatom". The parties discussed the jointly implemented intergovernmental target program "Reclamation of territories affected by uranium mining operations", focusing on reclamation of tailing dumps in Kadji-Say settlement of Issyk-Kul province and in Min-Kush settlement of Naryn province, and also plans for remediation of other sites. The parties signed an agreement on the joint plan of remediation activities in Kyrgyz territories affected by uranium extraction and mining operations (Bishkek, August 23).

Foreign Policy and International Cooperation

Working and official visits. In 2023, the Kyrgyz President paid state and working visits to Hungary (February, August), Turkey (March), Russia (May, December), China (May), Kazakhstan (June, November), Mongolia (July), Saudi Arabia (July, November), Tajikistan (September), USA (September), Germany (September), Uzbekistan (November), France (November), Japan (November), Belarus (November), Azerbaijan (November), and UAE (November).

Most significant events in the Kyrgyz foreign policy in 2023

The foreign policy of Kyrgyzstan focuses on strengthening and deepening cooperation with the countries of the Central Asian region, and also with Russia and China.

Kyrgyzstan hosted: (1) high-level summit in the "CA-EU" format (Cholpon-Ata, June 2); (2) CIS forum of creative and scientific intelligentsia (Bishkek, September 11-13); (3) meeting of the Eurasian Intergovernmental Council of the EAEU (Bishkek, October 26); (4) 13th meeting of the deputy foreign ministers of the Central Asian states (Bishkek, November 27-28).

Development of alliances and strategic partnerships. Kyrgyzstan has been actively working with its neighboring countries to resolve border disputes. As of December, approximately 90% of the disputed sections of the Kyrgyz-Tajik border have been defined. In January, Kyrgyzstan and Uzbekistan signed a protocol to exchange instruments of ratification for the Treaty on Certain Sections of the Uzbek-Kyrgyz State Border. This marked the completion of the border delimitation process between the two countries, paving the way for the demarcation process. See Cooperation between the Countries of Central Asia on Water and Other Matters.

Chairmanship in international organizations. In 2023, Kyrgyzstan assumed the chairmanship of the Commonwealth of Independent States (CIS). In parallel, Kyrgyzstan chaired¹¹² the Council of Heads of State, Council of Heads of Government, Council of CIS Foreign Ministers, CIS Economic Council, Council of Permanent Plenipotentiary Representatives, and Commission on Economic Affairs at the CIS Economic Council.

Within the framework of **CIS**, Kyrgyzstan participated in/held the meetings of: (1) the Council of CIS Heads of State (Bishkek, October 13); (2) the Council of Heads of Government (Sochi, Russia, June 8; Bishkek, October 26; Moscow, December 18); (3) the Council of CIS Foreign Ministers (Samarkand, Uzbekistan, April 14; Bishkek, October 12); (4) the CIS Economic Council (Moscow, March 17; video-conference, September 22; Moscow, December 8), (5) 56th plenary meeting of the CIS Inter-Parliamentary Assembly (Bishkek, November 17); (6) informal summit of the CIS Heads of State (Saint Petersburg, Russia, December 26).

Within the framework of **SCO**, Kyrgyzstan attended the meetings of: (1) the Council of Heads of SCO member states (video-conference, July 4); (2) the Council of Heads of Government of the SCO member states (Bishkek, October 26); (3) the Council of SCO Foreign Ministers (Panaji, India, May 4-5).

CSTO. The Kyrgyz delegation participated in the meeting of the heads of CSTO member states in Minsk, Belarus on 23 November; the session of the CSTO Collective Security Council, resulting in the Statement of Foreign Ministers of the CSTO member states on common approaches to ensuring the security of the Eurasian space and the Declaration (November 23).

Within the framework of the regional cooperation, the Kyrgyz delegation participated in: (1) expert meeting "Central Asia-2030: Images of the Future" (Astana, January 20); (2) 1st inter-parliamentary forum of Central Asian states (Turkistan, Kazakhstan, February 9-10); (3) 6th ministerial meeting in the "Central Asia-Russia" format (Samarkand, Uzbekistan, April 14); (4) 4th meeting of foreign ministers in the "Central Asia-China" format (Xi'an, China, April 27); (5) XIV International Economic Summit: Russia-Islamic World: Kazan Forum 2023 (Kazan, Russia, May 18-20); (6) meeting of foreign ministers of the Central Asian states (Dushanbe, September 13); (7) 5th consultative meeting of Heads of Central Asian states (Dushanbe, September 14); (8) meeting of the Council of Heads of the IFAS Founding States (Dushanbe, September 15).

Promotion of the national interests and reinforcement of the country's image in the global stage

UN. On March 24 the Cabinet of Ministers of the Kyrgyz Republic and the United Nations met under the auspices of the Joint Strategic Coordination Committee. The outcomes of the meeting were the endorsement of joint work plans worth \$223 million for 2023-2024. Cooperation will focus on: 1) quality social services; 2) green socio-economic development; 3) climate action and disaster risk management; 4) rule of law, human rights, gender equality and good governance under the Agenda 2030.

¹¹² according to the decision of the Council of CIS Heads of State adopted on October 14, 2022 in Astana

The Permanent Mission of the Kyrgyz Republic to the UN held a side event titled "Advocating for mountain women and girls' education through student-engaged learning" within the framework of the 67th session of the UN Commission on the Status of Women (New York, March 8); and a meeting "Climate Science in Action" (New York, July 6).

The Kyrgyz President during its speech at the General Debate of the 78th UNGA urged donors to revise their approaches towards a significant increase in climate financing for needy countries. He underlined that Kyrgyzstan supports the Bridgetown Initiative proposed at the last climate conference in Sharm el-Sheikh, and also the calls (voiced at the summit on global finance in Paris) to mobilize the necessary funding and structural reform of the international financial architecture. He also emphasized that Kyrgyzstan advocates the creation of a broad coalition of mountain countries, focusing on adaptation to climate change and transition to a green economy (New York, September 19).

The Kyrgyz President participated in the One Planet: Polar Summit and the 42rd session of the UNESCO General Conference in Paris on November 9-10 and also in the Summit of Heads of State and Government of the SPECA member states in Baku on November 24.

The Kyrgyz delegation attended: (1) meeting of foreign ministers of the Central Asian countries and the US in the "C5+1" format (Astana, February 28); (2) session of the Council of Foreign Ministers of the OIC (Nouakchott, Mauritania, March 16-17); (3) extraordinary session of the Council of Foreign Ministers of the OTS (Ankara, March 16); (4) summit "Central Asia – Cooperation Council for the Arab States of the Gulf" (Jeddah, Kingdom of Saudi Arabia, July 19); (5) first summit of Heads of State of "Central Asia and the US" (New York, September 19); (6) summit of Heads of State in the format "Central Asia + Germany" (Berlin, September 29); (7) 19th "Central Asia-European Union" ministerial meeting (Luxembourg, October 22-23); (8) meeting of foreign ministers of the Central Asian countries and the "G7" (videoconference, November 8); (9) 10th summit of Heads of the OTS member states (Astana, November 3); (10) 16th summit of Heads of the ECO member states (Tashkent, November 9); (11) 8th extraordinary summit of the OIC (Riyadh, November 11).

Sources:

Official sites of the:

President of the Kyrgyz Republic (https://www.president.kg);

Parliament (http://kenesh.kg);

Ministry of Foreign Affairs (https://mfa.gov.kg/ru);

Ministry of Justice (http://cbd.minjust.gov.kg);

Ministry of Water Resources, Agriculture and Processing Industry (https://agro.gov.kg/language/ru/main/);

Ministry of Finance (https://www.minfin.kg/index.php);

Ministry of Energy (https://minenergo.gov.kg/);

Ministry of Natural Resources, Environment and Technical Supervision (https://mnr.gov.kg/ru/);

Ministry of Emergency Situations (https://mchs.gov.kg/);

Water Resources Service (https://www.water.gov.kg/index.php?lang=ru);

Center for Emergency Situations and Disaster Risk Reduction (https://cesdrr.org/);

Permanent Mission of the KR to the UN (https://mfa.gov.kg/en/dm/postoyannoepredstavitelstvo-kyrgyzskoy-respubliki-pri-organizaciiobedinennyh-naciy-v-g-nyu-york/news/25543);

National Electric Grid of Kyrgyzstan (https://nesk.kg/ru/)

Information agencies:

https://knews.kg; https://kabar.kg/; https://www.akchabar.kg; https://www.aris.kg/#; https://24.kg/; https://economist.kg/

5.3. Tajikistan



Water sector

Water resources. In Tajikistan, the main water resources are glaciers, rivers, lakes, reservoirs and groundwater. There are 14,509 glaciers, with a total glacial area of 11,146 km² (approximately 8% of the country's territory) and a total ice volume of about 845 km³. The country is crisscrossed by 947 rivers, stretching over 28,500 km in total. The average annual river runoff is 64 km³/year (80% from the Amu Darya River and 1% from the Syr Darya River). This accounts for 55.4% of the long-term average annual runoff in the Aral Sea basin. Tajikistan boasts approximately 1,300 lakes, covering a total area of 705 km². These lakes hold over 46.3 km³

of water, including 20 km³ of fresh water. The country's 11 reservoirs cover a total surface area of 664 km² and hold a total capacity of 15,344 km³. Their usable capacity, amounting to 7.63 km³, represents 13% of the longterm average annual runoff in the Aral Sea Basin. The country's potential groundwater stock is 18.7 million km³ per year, with usable resources estimated at 2.8 km³ per year. Additionally, over 200 mineral springs and 100 geothermal water deposits have been identified.

The main water consumer in Tajikistan is irrigated agriculture, which accounts for 85% of total water use. Household and drinking water supplies account for 5%, industry -5%, fishing -2%, and other sectors -3%. Latest developments in legislation. The "Investment Program to Provide Pumping Stations of the Agency for Land Reclamation and Irrigation at the Government of Tajikistan with Modern Energy-Saving Equipment for 2023-2027" worth 889,670 thousand TJS has been adopted (PP RT No.296 of 30.06.2023). Modern energy-saving equipment will be installed at 36 pumping stations between 2023 and 2025, at 16 pumping stations in 2026, and at 7 pumping stations in 2027.

New appointments. Mr. Z. Davlatzoda was appointed as the Director of the Agency for Land Reclamation and Irrigation under the Government of the Republic of Tajikistan (PP RT No.7 of 05.01.2023) and Mr. Kh.Z. Zarifzoda and Mr. A. Safarzoda were appointed as First Deputy Directors of the Agency (PP RT No.105 and 106 of 16.03.2023). **State programs and projects.** Ongoing/completed projects: (1) 2016-2025 Water Sector Reform Program; (2) Irrigation Land Reclamation Program of the Republic of Tajikistan, 2019-2023¹¹³ (PP RT No.374 of 01.08.2018); (3) State Program for Development of New Irrigation Land and Rehabilitation of Withdrawn Agricultural Land¹¹⁴ (PP RT No.90 of 01.03.2022), according to which more than 11,000 ha of new irrigation land are to be developed by the end of 2027¹¹⁵ and more than 5,000 ha of land withdrawn from agricultural production will be reclaimed. 563 million TJS are allocated for these purposes. In 2023, out of 1,547 ha planned new irrigated land and 480 ha of re-introduced land, 3,082 ha (199%) and 1,092 ha (228%) were developed and reclaimed, respectively.

MEWR RT maintains and develops the National Water Information System.



Source: https://www.wis.tj/

Ongoing projects: Improvement of Water Resources Management in Khatlon Province (IsDB, \$53.5 million, 2020-2024); Water Resources Management in the Panj River Basin (ADB, \$46.610 million, 2017-2024); Climateand Disaster-Resilient Irrigation and Drainage Modernization in the Vakhsh River Basin (WB, \$35.2 million, 2022-2027).

New projects: (1) Strengthening Water and Irrigation Management in Tajikistan (WB, EU, \$47.34 million, 2022-2027) aims to enhance capacities in water resource planning and irrigation management in Tajikistan and improve efficiency of selected irrigation systems in the Vakhsh and Zerafshan River basin zones; (2) Enhancing economic independence and Improving the situation of women in Central Asia through access to irrigation water and infrastructure¹¹⁶ (Coca-Cola Foundation, more than \$500 thousand). The project will cover Bokhtar district in Khatlon province and Vakhdat district in Tajikistan.

Tajikistan signed an agreement with the EDB for a \$32 million loan for the project "Irrigation System Renovation to Increase the Capacity of Irrigation Systems in Zafarabad District in Sogd Province" (2024-2029) aimed to improve the efficiency and sustainability of the irrigation system in this region.

Events. Several events were organized in the course of the year, including: (1) 84th ICWC meeting (Dushanbe, May 10); (2) International Conference "Central Asia: Towards a Sustainable Future through a Strong

¹¹³ PP RT No.137 of 01.03.2024 approved the "Program for Reclamation of Irrigated Agricultural Land in the Republic of Tajikistan for 2024-2028" and the Action Plan 2024-2026 for its implementation

 $^{^{\}scriptscriptstyle 114}$ Coordinated by the Cabinet of Ministers of the Republic of Tajikistan

¹¹⁵ Currently, the total area of irrigable land is 1,570 million ha, of which about 763 million ha are irrigated. Of these, about 40% is under pumped irrigation, 15% is salinized land and 18% is stony land

¹¹⁶ https://carececo.org/en/main/news/upravlenie-vodnymi-resursami-v-tadzhikistane-snizit-defitsit-vody-/

Regional Institution" dedicated to the 30th Anniversary of IFAS (Dushanbe, June 6); (3) joint meeting of the Working Group on IWRM and the Coordination Working Group on Implementation of the Tajikistan Water Sector Reform Program, where ongoing reforms were discussed, including the finalized draft "National Water Strategy for Tajikistan until 2040", the institutional structure for coordinating the water sector in the Republic of Tajikistan, and the finalized draft Concept on Integrating Basin Water Resources Management Plans into Development Plans and Programs for Cities and Districts in Tajikistan (Dushanbe, November 23); (4) a special session¹¹⁷ on contribution of the Tajikistan Water Sector Reform Program to climate change adaptation and sustainable development of the water sector (Dubai, UAE, December 5).



The staff of the MEWR RT and Administration of Water Resource Management in the Republic of Tajikistan received training¹¹⁸ in GIS, information technologies, applications of the National Water Information System (NWIS), and other topics (August 21-26, November 20-25), glacio-hydrological modeling and water distribution in the Zerafshan River basin in Tajikistan (September 25-28, December 5-7), and a one-day training session with Dr. Sonu Kanal, a SPHY modelling trainer (December 19). They also attended a training course on sustainable groundwater management¹¹⁹ (Tashkent, March 14-15).

The Tajikistan's delegation participated in the UN Water Conference (New York, March 22-24) and World Water Week (Stockholm, Sweden, August 20-24).

Drinking Water Supply

Access to drinking water supply and tariffs. According to the State Unitary Enterprise (SUE) "Housing and Communal Services," 66% of the population now has access to centralized water supply, representing a 6.3% increase from the previous year. This improvement has resulted in 6.742 million people gaining access to clean drinking water, a substantial increase of 1.618 million individuals. Drinking water tariffs¹²⁰ are 1.09 TJS per 1 m³ for population, 2.02 TJS for budget organizations, and 3.48 TJS for commercial enterprises. For sewerage services, population pays 0.55 TJS, budget organizations – 1.09 TJS, and commercial enterprises – 1.88 TJS per 1 m³.

New appointments. Mr. A.A. Dostizoda was appointed as the First Deputy Director General of the SUE "Housing and Communal Services" (PP RT No.149 of 17.04.2023) and Mr. R.A. Rasulzoda, as the Deputy Director General (PP RT No.150 of 17.04.2023).

State programs and projects. As a result of implementation of the past program prior to 2021 and the current "Development Program of Housing and Communal Services in the Republic of Tajikistan, 2021-2024" (PP RT No.53 of 27.02.2021), thanks to cooperation with several international financial organizations, access to clean drinking water for the population increased from 43% to 65.8%. Thanks to several key projects, including the Rehabilitation of Water Supply System in Cities of Khatlon province (IsDB, Yavan and J. Balkhi districts), Reconstruction of Cities in Northern Tajikistan (Istiklol, Buston, Guliston, Khorog, Kanibadam, and Isfara cities, B. Gafurov district), and Reconstruction of Cities in Northern Tajikistan-2 (Istaravshan and Penjikent cities, Shahristan and Zafarabad districts), significant strides have been made in improving access to clean drinking water. Over 534,740 people now have access to clean drinking water, and more than 162,000 people have gained access to water in general. In B.Gafurov district, the first phase of the Rehabilitation and Construction of Drinking Water Supply Networks in Zarzamin Rural Council project was recently completed, benefiting 7,000 residents with clean drinking water. Additionally, a new water pipeline was inaugurated in Kahramon village, providing water to over 180 households.

The "Water Supply and Sewerage in Kulyab City" project (€16.25 million) has provided significant support to the State Enterprise of Water Supply and Se-

¹¹⁷ as part of COP28

¹¹⁸ as part of TRIGGERII project (See Subsection "Agriculture")

¹¹⁹ as part of CAWEP

¹²⁰ since January 1, 2024, tariffs for agricultural water were increased by 150% (from 2 dirams in 2023 to 5 dirams per m3, including VAT)

werage in Kulyab City. This includes the transfer of 9 units of special engineering equipment, 5 pieces of equipment, and 10,650 water meters. Additionally, the project has assisted with hydrogeological surveying to improve water resource management.

The "Rural Water Supply and Sewerage" project (WB, \$58 million, 2019-2025, Vose, Vakhsh, Kushoniyon, J. Balkhi, Levakant, Dusti, and Jaihun cities) is currently underway in 7 districts of Khatlon province. This project is providing consultation services for the development of the Drinking Water Supply and Wastewater Disposal State Program up to 2030 and building the capacity of local communities. Furthermore, the project is actively engaged in the construction and equipping of water supply facilities in these districts.

Other ongoing projects: (1) USAID Rural Water Supply Activity (2020-2025): a pumping station in the Zaynabobod village of Rudaki district and a drinking water supply system in Soycha village of B.Gafurov district were rehabilitated; (2) Investments in Water Supply and Sanitation in Tajikistan (IDA, \$45 million, 2022-2027) and others.

Agriculture

2023 Results. The gross agricultural product increased by 9.027 billion TJS, representing a 1.8% growth rate. Agriculture now contributes over 24.6% to the country's GDP. The total agricultural output surpassed 63 billion TJS, marking a 9% increase compared to the previous year. This growth can be attributed to both crop and livestock production. Crop production reached 43.37 billion TJS, a 6.8% increase, while livestock production surged to 19.66 billion TJS, a 14.1% increase.

85% of the cotton plan was fulfilled: 344,400 tons of cotton were harvested, slightly below the forecast of 429,600 tons. A grain harvest of 1.754 million tons was achieved, exceeding the forecast of 1.67 million tons by 5%.¹²¹ The area under crops increased by 1,800 hectares to over 392,000 hectares.

Approximately 178,000 tons of agricultural products were exported, a decrease of 13,000 tons compared to the previous year¹²². Despite a record fruit harvest of 665,000 tons (a 30% increase), Tajikistan imported over 44,000 tons of fruit, a 6.7% increase. Wheat imports increased by 48,000 tons to over 975,000 tons and rice imports increased by 5,500 tons to 33,000 tons.

Latest developments in legislation. The following documents were approved: (1) "Program of Agro-Food System Development and Sustainable Agriculture up to 2030" (PP RT No.54 of 01.03.2023); (2) a new procedure for issuing, replacement and canceling of land share certificates aimed at ensuring favorable conditions for exercising the right to land use, establishing farms, determining the size of a land plot and land share, and overcoming existing problems (Resolution of the Chairman of the State Committee for Land Management and Geodesy of RT, No.32 of 15.05.2023).

New appointments. Mr. K.Khakimzoda was appointed as the Minister of Agriculture of the Republic of Tajikistan (PP RT No.493 of 05.01.2023); Mr. D.Nosizoda was appointed as the First Deputy Minister (PP RT No.322 of 18.07.2023); and, Mr. M.F.Nazarzoda was appointed as the Deputy Minister (PP RT No.323 of 18.07.2023).

Programs and projects. Ongoing programs: "Pasture Development Program for the Republic of Tajikistan, 2023-2027" (PP RT No.579 of 29.11.2022)¹²³ aimed to increase natural pasture areas by applying modern technologies and improve pasture productivity; "Concept for Creation and Development of Agro-Industrial Clusters in the Republic of Tajikistan up to 2040" (PP RT No.566 of 28.10.2020) and the "Program of Agro-Food System Development and Sustainable Agriculture up to 2030" (see above) approved in 2023. Several investment projects make a significant contribution to these programs, including: Strengthening Resilience of Agriculture Sector (WB, 2021-2026) by increasing the availability of quality seeds, climateresilient seedlings, improving access to agro-logistic services for farmers and agribusinesses, and improving the public governance institutions; Community-Based Agricultural Support (IFAD, 2023-2030, 16 districts in Khatlon province, 3 districts of central subordination and 2 districts in Sogd province).

The Towards Rural Inclusive Growth and Economic Resilience/TRIGGERII project is underway (EU, BMZ, GIZ). The project aims to strengthen economic resilience of micro-, small- and medium-sized enterprises (MSMEs), including small farmers, young entrepreneurs and women entrepreneurs: farmers have got agricultural equipment in four rural communities (Lakhsh, Lakhshi Bolo, Surkhob, Sari Tal) in Lakhsh district; startup and entrepreneurship financing program has been launched in the Rasht and Zerafshan valleys; training for trainers on launching an incubation program for startups (July 3, Nurek) and a number of meetings (August 1-6, 15-21, and 21-26) were held; a Conference on the occasion of the International MSMEs Day (July 6), a meeting to present the results of the Rasht Valley project (July 18, Garm), and a meeting with start-up entrepreneurs (1 November, Khujand) were organized, etc.

USAID launched: (1) Market Driven Rural Development Project/MDRD¹²⁴ (\$19 million, 2022-2027). This is a Nationwide Activity that accelerates agricultural sector growth to enable inclusive access to economic opportunities in rural communities; (2) Tajikistan Food Security Net Activity (\$10 million, 2022-2027).

As part of the USAID Feed the Future Program, the following projects are implemented: (1) Tajikistan Eva-

¹²¹ PP RT No.370 of 29.07.2022 "On Prospects for Key Macroeconomic Indicators in the Republic of Tajikistan in 2023-2025"

 $^{^{\}scriptscriptstyle 122}$ one of the reasons is the loss of more than 60% of the grape due to winter frosts

 $^{^{\}scriptscriptstyle 123}\,$ MA RT monitors and evaluates the Program

¹²⁴ https://www.usaid.gov/tajikistan/press-releases/may-11-2023-usaid-launches-19-million-activity-focused-agriculture-led-inclusive-economicgrowth

luation and Analysis Activity/TEAA (\$3 million, 2022-2025)¹²⁵ aimed to raise incomes of the rural poor and improve food and nutrition security; (2) Agriculture and Land Governance Activity (more than \$36 million, 2020-2025, 12 districts in Khatlon province) to accelerate agriculture-led growth, deepen resilience among vulnerable populations, enhance the enabling environment for agriculture and land reform, and improve nutrition.

In Dushanbe, the final results were announced for the EU's Enhanced Competitiveness of Tajik Agribusiness Program (EBRD, Ioans for \$24.5 million, grants for €5.65 million, 2014-2023) (May 26) and the USAID Entrepreneurship and Business Environment Development Project (\$18.6 million, 2018-2023, Khatlon province) (May 30).

Events and international cooperation. Agricultural products of Tajikistan were presented at the 87th "International Green Week" exhibition (January 20, Berlin). The Bactria Food 2023 Export Forum brought together key players from the public and private sectors to discuss and address challenges in exporting agricultural products (Bokhtar, Khatlon province, May 25).

Within the framework of the state visit of Turkmen President to Tajikistan, 23 documents were signed, including the "Roadmap for Expanding Cooperation in Agriculture for 2023-2025" between the Tajik MA and the Turkmen MAEP¹²⁶ (Dushanbe, May 10).

Agricultural cooperation issues were discussed during the meeting with the head of the Turkish Cooperation and Coordination Agency (TIKA) in Tajikistan (Dushanbe, November 9) and on the margins of the 19th meeting of the Tajikistan-Russia Intergovernmental Commission on Economic Cooperation (Moscow, December 18). For more news, see https://moa.tj/news/.

Energy

Energy production and export. Tajikistan possesses hydropower resources estimated at 527 billion kWh per year. However, currently, only a small fraction (4-5%) of this potential is being harnessed. The country's hydropower infrastructure comprises 11 large and medium-sized hydropower plants (HPPs) and approximately 300 smaller ones, with a combined installed capacity of about 5,500 MW.

In 2023, Tajikistan generated 21.656 billion kWh of electricity, a 2.1% increase compared to the previous year. This increase was driven by a 453 million kWh boost in production. Tajikistan also increased its electricity exports by 4.9% to 2.6 billion kWh. The primary destinations for these exports were Afghanistan (1.6247 billion kWh), Uzbekistan (907.5 million kWh), and Kazakhstan (144.6 million kWh). Despite this, Tajikistan still imported 18.6 million kWh of electricity from Uzbekistan and Kyrgyzstan.

Latest developments in legislation. The "2023-2027 Renewable Energy Program" aimed at achieving energy independence and the Action Plan for 2023-2025 for its implementation were approved in March (PP RT No.51 of 01.03.2023)¹²⁷. It is anticipated that the implementation of the Program will increase the production capacity of the country's energy system by 32.2 MW through the utilization of Renewable Energy Sources (RES), including water, solar, and wind power.

By embracing a green economy, Tajikistan aims to become a global leader in renewable energy generation and a major exporter of electricity in the region. The "Strategy of Green Economy Development in the Republic of Tajikistan, 2023-2037" and its accompanying Action Plan for 2023-2025 outline the key steps to achieve this ambitious goal (PP RT No.482 of 30.09.2022).

Hydropower Construction and Modernization

Rogun HPP.¹²⁸ According to the MEWR RT, \$1 billion is allocated annually (on average) to finance the construction of the Rogun HPP. Construction is carried out exclusively at the expense of state funds. In 2023, 5 billion TJS (\$456 million) has been allocated. According to the latest estimates, \$6.2 billion will be needed to complete the plant¹²⁹. Funds from international financial institutions are expected to be raised. In particular, there are agreements to attract a soft loan from the Asian Infrastructure Investment Bank/ABII (PRC) in the amount of \$500 million; an agreement was signed



¹²⁵ implemented by the International Food Policy Research Institute/IFPRI in partnership with local public and private research institutions, including the Tajik Academy of Agricultural Sciences (TAAS) and Z-Analytics Group (Takhlil and Mashwarat LLC)

¹²⁶ by Presidential Decree No.240 of 14.07.2023, the Ministry of Agriculture and Environmental Protection of Turkmenistan was established on the base of the Ministry of Agriculture

 $^{^{\}scriptscriptstyle 127}\,$ MEWR and NAS monitors and evaluates the Program

¹²⁸ the Rogun HPP (3,600 MW, more than 17 billion kWh) on the Vakhsh River includes 6 units, each of 600 MW. The total water volume

in the reservoir will be 13.3 km³, and the usable volume will be 10.3 km³. According to the plan, the reservoir should be filled with water within 15-17 years

¹²⁹ since the beginning of reconstruction and construction work (since 2008), more than 35 billion TJS have been allocated from the state budget

with the Saudi Fund for Development to provide a \$100 million loan (Dushanbe, December 4); EDB plans to channel \$130 million in 2024; a grant agreement was signed with the IDA to implement the draft structure and business framework of the Rogun project to improve its environmental and social sustainability, transparency and support its implementation (\$15 million).

As of now, two units of the Rogun HPP are operational, generating approximately 7 billion kWh of electricity since their commissioning. The third unit is scheduled to become operational in 2025. The entire construction project is expected to be completed by the end of 2031.

Construction of Yavan HPP and Fandaryo HPP on the Zerafshan River. In June 2022, Tajikistan and Uzbekistan initiated the first phase of a joint hydroelectric power plant construction project, focusing on geological exploration and survey work. To oversee this project, a new operator company, "Tad-Uz Hydro", was established. The second phase will involve conducting a feasibility study to determine the project's final cost. The initial plan is to construct the 140 MW Yavan HPP, estimated to cost approximately \$282 million. Subsequently, the parties will proceed with the construction of the 135 MW Fandaryo HPP, projected to cost around \$270 million.

Following its reconstruction in April 2023, the **Sarband** HPP^{130} commenced full operations. The commissioning of the final 38 MW unit¹³¹ boosted the plant's generation capacity from 160 MW to 270 MW.

Kairakkum HPP¹³². In 2023, two units of the hydropower plant were repaired and recommissioned, generating a combined capacity of 58 MW. This is equivalent to the output of three previous units. Additionally, repairs were completed on units 6 and 5, and reconstruction work on unit 4 commenced. All repair and reconstruction efforts are expected to be finalized by 2025.

CASA-1000¹³³. At the COP28 climate summit in Dubai, Energy Ministers from Tajikistan, Pakistan, and Kyrgyzstan announced that the CASA-1000 project is nearing completion. They signed a statement reaffirming their commitment to accelerating the implementation of this crucial energy project. Furthermore, during the conference, the President of Tajikistan met with Ajay Banga, President of the World Bank Group, to discuss the importance of reviving the CASA-1000 power transmission line project. This project aims to connect the energy markets of Central and South Asia through Afghanistan.¹³⁴



Kairakkum HPP



CASA-1000 project



¹³⁰ construction of the Sarband HPP on the Vakhsh River (Khatlon province) started in 1956. The first unit commissioned in 1962. In 2013, the Government of Tajikistan and ADB signed a grant agreement (\$136 million) for the Sarband HPP reconstruction

¹³¹ the remaining units were refurbished and then alternately started up from November 2018 to March 2022

¹³² construction of the Kairakkum HPP on the Syrdarya River started in 1952. The first 21 MW turbine was put into operation in 1956. It consists of six power units totaling 126 MW. After reconstruction, it is planned to increase the capacity of the plant to 176 MW. The approximate cost of work is \$200 million

¹³³ the largest energy project in the region (\$1.2 billion), which will connect the energy systems of Tajikistan and Kyrgyzstan with Afghanistan and Pakistan to export electricity

¹³⁴ all CASA-1000 activities were terminated due to the political situation in Afghanistan in August 2021. According to the WB, the CASA-1000 project (\$1.2 billion) will be resumed in Afghanistan in 2024. Completion of the Afghan phase is critical, as it is a key connecting country for the CASA-1000 transmission line. Work in the other three countries is almost completed. Countries started repaying loans to the WB and other financial institutions

Tajikistan and the World Bank have signed grant agreements for additional funding to support the CASA-1000 project: (1) CASA-1000 Regional Power Transmission (\$11 million): This funding will be used to facilitate the transfer of surplus electricity from Tajikistan and Kyrgyzstan to Afghanistan and Pakistan during the summer months. Additionally, it will support the development of electricity trading mechanisms and the establishment of a regional electricity market in Central and South Asia; (2) CASA-1000 (\$10 million): This grant will be allocated to improve the quality and accessibility of electricity services, enhance socioeconomic infrastructure, and support capacity building for local governments in communities within the project area.

Alternative Energy

Tajikistan has set a goal of reaching 10 GW of RES capacity by 2030. The country possesses vast renewable hydropower resources, with the potential to generate more than 3.5 times the current electricity consumption of the entire Central Asia region. In addition to hydropower, Tajikistan is exploring other renewable energy sources like solar, wind, biomass, and thermal energy. These sources are projected to contribute approximately 10% of the country's total energy needs.

Small hydropower. Over 285 small HPPs have been registered in Tajikistan, with capacities ranging from 5 kW to 4,300 kW. Some of the largest among these include: Marzikh (4,300 kW) in Ayni district, Sangikar (1,000 kW) in Rasht district, Pitovkul-2 (1,100 kW) in Jirgital district, and Kukhiston (500 kW) in Gorno-Matcha district. Small Khatfat HPP has been put into operation in Savnab village, Rushan district.

Tajikistan has secured an additional €10 million grant from the KfW Development Bank to fund the construction of the **small Sebzor HPP**¹³⁶. The 110/35/6 kV Sebzor substation has been completed, and necessary equipment has been delivered and installed. Work is currently underway on the main building of the HPP, the dam area, and the construction of the main bridge. The first unit of the HPP is scheduled to commence operations in 2024.

Solar power. The government plans to construct several SPPs with a combined capacity of 730 MW in the coming years. In the initial phase, five SPPs with a total capacity of 430 MW are slated for development.

Construction of a 600 kW SPP has already commenced in Murghab, Gorno-Badakhshan Autonomous Oblast (GBAO). Additionally, plans are underway to build a 200 MW SPP in the Sogd province.

Climate Change, Glaciers and Environmental Protection

Latest developments in legislation. The "State Environmental Program of the Republic of Tajikistan for 2023-2028" and its accompanying Action Plan for 2023-2025 were approved by Presidential Decree No.53 on March 1, 2023. This program aligns with the National Development Strategy of the Republic of Tajikistan until 2030 and aims to boost socio-economic development by responsibly utilizing the country's abundant natural resources, including land, water, vegetation, forests, and minerals. Furthermore, the program prioritizes the development of a green economy.

The Republic of Tajikistan has enacted the Law "On Glaciers' Protection" (ZRT No.2026 of 03.01.2024). This law establishes a legal, economic, and organizational framework for safeguarding glaciers as vital environmental assets and strategic water resource sources. It regulates various aspects related to glaciers, including research, monitoring, conservation, and training. Furthermore, the law outlines the state's and international community's roles in glacier conservation.¹³⁷

Programs and projects. As part of the: (1) "State Program for the Study and Preservation of Glaciers in the Republic of Tajikistan, 2010-2030"138, specialists from the Tajik Committee for Environmental Protection conducted aerial surveys to assess snow cover in critical river basins, including the Kyzylsu, Yokhsu, Obihingob, Surkhab, Kamaroba, and Kanask region of the Kofirnigan River basin (April 2); The State Scientific Institution "Center for Glacier Research of the National Academy of Sciences of Tajikistan" has made substantial contributions to glacier research. They published the "Atlas-Catalog of the Fedchenko Glacier" and the "Consolidated Catalogue of Tajikistan's Glaciers," which represents the first comprehensive inventory of the country's glaciers using modern techniques; (2) "Comprehensive State Program on Development of Environmental Education and Public Awareness in the Republic of Tajikistan, 2021-2025"139 the following events were organized: Youth Ecological School (Dushanbe, August 19-23); environmental campaign dedicated to the Syr Darya River Day (Khujand, Octobe); meeting with students of the Tajik Technical University named after academician M.S. Osimi (Dushanbe, October); ecological workshop "Glaciers of Tajikistan - a source of fresh water" (Dushanbe, October); interview to the "My City" radio program (October); roundtable "Implementation of the Aarhus Convention principles, environmental education, and the community's role in environmental protection" (Bokhtar, November 14); contests

¹³⁶ construction of the 11 MW Sebzor HPP started in late 2020. It will provide green energy to more than 227 thousand people in Roshtkala district of GBAO and 468 thousand people in the border areas of neighboring Afghanistan. A total of \$84 million in grants was raised for the construction of the Sebzor HPP

¹³⁷ an international trust fund for glaciers' preservation will be established, and a high-level international conference will be held in Dushanbe in 2025

¹³⁸ approved by PP RT No.209 of 03.05.2010

 $^{^{\}scriptscriptstyle 139}$ approved by PP RT No.116 of 03.04.2021

among students on "Protection of glaciers of Tajikistan – a factor of ecologization in cities and villages of the country" and among media professionals "Glaciers of Tajikistan – a source of clean water and a basis for development of green economy", etc.

The Promoting Transboundary Climate Risk Management in Central Asia/CRM CA project (BMZ, GIZ, 2022-2026) organized: study tour along the Danube (Munich-Passau, Germany; Linz, Austria, November 6-10); study tour to Germany, including visits to the German Committee for Disaster Risk Reduction and the European Centre for Medium-Range Weather Forecasts (Bonn, December 3-8).

The WB approved a grant for the Tajikistan Preparedness and Resilience to Disasters project (IDA, \$50 million) aimed to strengthen the resilience of key infrastructure and enhance the national capacity.

Capacity building. The following activities were organized: seminars dedicated to the World Water Day and International Decade for Action "Water for Sustainable Development", 2018-2028 (Main Department of Environmental Protection in Sogd province, March), Earth Day (Sogd province, April 20); scientific-theoretical seminar "Internationalization of Glaciers' Protection" for students and teachers of the Statistical College (Vakhdat, April 6); consultative seminar "Ensuring an Effective National Adaptation Plan (NAP) Process for Tajikistan" (Dushanbe, August 29-30).

Events. Tajikistan hosted: (1) conferences on "Tajikistan's Global Initiatives on Water, Climate Change and Glacier Conservation" (Dushanbe, February 20), "Contribution of the Leader of the Nation to the Globalization of Glaciers' Preservation" (Dushanbe, March 29), "Glaciers - Main Source of Water Resources" (Levakant, April 10), "Glaciers' Preservation - Guarantee of Fresh Water Abundance" (Khorog, April 12), and the 5th Central Asia Climate Change Conference (CACCC-2023) (Dushanbe, May 16-17); (2) sub-regional workshop on tailings dump safety and prevention of accidental water pollution in CA¹⁴⁰ (May 25-26) and seminar "Action Plan for Implementation of the National Climate Change Adaptation Strategy of the Republic of Tajikistan up to 2030 and for 2024-2026" (October 30); (3) exhibition of paintings of Central Asian artists "Glacier Preservation as a Factor of the Aral Sea Conservation"¹⁴¹ (Dushanbe, September 14).

The Tajik delegation participated in a number of events, including: European Union-Central Asia High-Level Conference: Joining Efforts for Climate Action and Green Transition (Rome, Italy, February 22-24); UN Water Conference (New York, March 22-24); Nevsky International Ecological Congress (Saint-Petersburg, Russian Federation, May 25-26); 7th Assembly of the Global Environment Facility (Vancouver, Canada, August 24); International Conference on Combating Sand and Dust Storms (Tehran, IRI, September 9-10); 45th session of the UNESCO World Heritage Committee (Saudi Arabia, September 10-25); 22nd CAREC Ministerial Conference (Tbilisi, Georgia, November 30); COP28 (Dubai, UAE, November 30-December 12). At COP28, a detailed financing plan for the Nationally Determined Contributions/NDCs was presented at the National Pavilion of Tajikistan (December 5); a side event "Roadmap 2025: International Year of Glaciers' Protection" and "Climate Change and its Impact on the Cryosphere" was organized by the Agency for Hydrometeorology in cooperation with the WMO (December 11).

Tajik experts attended the workshop on Droughtmap ASB tool (Tashkent, May 3-5) and the 4th meeting of the Regional Working Group on a Regional Strategy for Adaptation to Climate Change in Central Asia (Almaty, July 4-5).

In 2023, the tugai forests of the Tigrovaya Balka Nature Reserve were inscribed on the UNESCO World Heritage List (September 20).



Regional and international cooperation. The Tajik delegation took part in the ICSD meeting (Astana, September 5). See ICSD of Central Asia.

The issues of cooperation on climate change and environmental protection were discussed with representatives of the Global Green Growth Institute/GGGI (Seoul, South Korea, November 16-17); Mr. Nik Nazmi Nik Ahmed, Minister of Natural Resources, Environment and Climate Change of Malaysia (Dubai, UAE, December 9); Sheikh Dr. Faleh bin Nasser, Minister of Environment and Climate Change of Qatar (Dubai, UAE, December 10).

As part of the Green Central Asia Initiative, a joint meeting was held between the heads of Central

¹⁴⁰ as part of the Green Central Asia Initiative by the German Federal Foreign Office

¹⁴¹ the exhibition was opened within the framework of the 5th Consultative Meeting of Heads of State of Central Asia and the regular meeting of the Council of Heads of Founder-States of the International Fund for Saving the Aral Sea (IFAS)

Asian institutions and the Regional Working Group on Glacier Monitoring and Modeling in Central Asia. This led to the signing of a Memorandum of Understanding and Cooperation aimed at developing and agreeing on a common regional methodology for monitoring, assessing, and forecasting glaciers to strengthen regional coordination and address deficiencies in precipitation, snow cover, and glacier behavior prediction. The goal is also to develop a unified approach for research and development of relevant models in the region (Tashkent, March 17). CA institutions that signed the Memorandum participated in a scientific expedition to Tuyuksu glacier located in Kazakhstan, where they learned how to conduct glaciological research and identify boundaries of open and buried glaciers to compile a catalog of glaciers (August 20-28).

SDGs in Tajikistan

Tajikistan's second¹⁴² Voluntary National Review "Green Development for a Bright, Sustainable and Inclusive Future" was presented at the High-Level Political Forum. The Review includes an assessment of the progress made in implementing SDGs in 2015-2022. It also contains conclusions and recommendations, which are published on the official website of the High-Level Political Forum (New York, July 19).

Tajikistan was ranked 85th out of 166 countries in the annual sustainable development rating published by the UN and Bertelsmann Fund.



Source: https://dashboards.sdgindex.org/profiles/tajikistan

Status of SDG targets for Tajikistan (% trend indicators)



Source: https://dashboards.sdgindex.org/profiles/tajikistan

Events. Dushanbe hosted: a roundtable on presentation of the Draft VNR of the Republic of Tajikistan (April 26); a workshop¹⁴³ to harmonize and validate SDG indicators and their interrelationships (November 15-17).

The Tajik delegation participated in: 10th Asia-Pacific Forum on Sustainable Development (Bangkok, Thailand, March 27-30); High-Level Political Forum (New York, July 10-20); SDG Summit (New York, September 19-20).

Emergencies and Natural Disasters

Latest developments in legislation. The "State Program for Bank Protection in the Republic of Tajikistan, 2023-2027" (PP RT No.186 of 29.04.2023) was adopted to organize bank protection, build dikes and other relevant structures, enhance other protection measures for the population and national economy, and increase public awareness and responsibility.

The implementation of the "Medium-term State Program for Protection of the Population and Territories against Emergency Situations, 2023-2028" is currently underway. This significant development was discussed at the extended meeting of the National Platform for Disaster Risk Reduction (September 22)¹⁴⁴.

Emergency situations. In 2023, Tajikistan experienced 557 natural disasters and emergencies, a decrease from the 697 recorded in 2022. Avalanches were the most frequent, accounting for 60.14% of all incidents. Other disasters included heavy rains, floods, mudsli-

¹⁴² First VNR was prepared by Tajikistan with the UN support in 2017

¹⁴³ as part of the project on development of a regional information platform on the SDGs for Central Asian countries, implemented by the UNDP in Kazakhstan and the Institute for Economic Research with the support of EU

established by Government Resolution No. 98 of March 2012

des (19.38%), landslides (3.95%), earthquakes (8.44%), and rockfalls (4.67%). These natural disasters resulted in material damage to the population and economy amounting to 76.7 million TJS.

Preventive measures. To mitigate the risks associated with the flood season and prevent potential natural disasters in hazardous areas, proactive measures were undertaken. These included strengthening riverbanks, clearing mudflats, and improving drainage systems by clearing drains, channels, flumes, and gutters.

Projects. As part of the: (1) National Disaster Risk Management project (ADB), dedicated and medical equipment was transferred to divisions of the Tajik Committee for Emergency Situations and State Defense¹⁴⁵ (CESSD) (Dushanbe, October 18), and medical equipment was also transferred to the medical center of Sanoat village of Zoli Zar rural council in J. Balkhi district (Khatlon province, December 6); (2) Preparedness and Resilience to Disasters project (WB, IDA), a Framework Document for Environmental and Social Measures was prepared; divisions of the CESSD were provided with modern equipment and technical facilities; work is underway to create a digital map for the CESSD on the territory of the Republic of Tajikistan; (3) Strengthening Critical Infrastructure against Natural Hazards project (IDA, 2017-2024), assistance was provided to construct the CESSD's National Crisis Management Center (Dushanbe, December 13), protect banks (27.5 km), and develop the "Strategy of Financial Protection against Natural Disasters in the Republic of Tajikistan until 2037".¹⁴⁶

Events. Dushanbe hosted: Asian Conference on Disaster Risk Reduction (October 20), 8th Regional Expert Group Meeting on "Building Disaster Resilience: Using Data, Technology and Policy for a Safer Future" (December 7-8).

Tajikistan organized a number of events dedicated to the International Day for Disaster Reduction in Bokhtar, Kulyab, Nurek, Khujand, Guliston, Buston, Khorog, Tursunzade cities and Rudaki district (October 10) and in Dushanbe (October 12, October 13 and October 14).

The Tajik delegation participated in the Asian Conference on Disaster Risk Reduction (Sendai, Japan, March 10-12) and the Regional Forum – Meeting of Heads of Emergency Agencies of CA countries (Almaty, November 10).

International cooperation. Tajikistan and Iran signed a Memorandum of Understanding on natural and manmade emergency management (November 8).

The issues of cooperation and implementation of projects on disaster risk management were discussed in Dushanbe by the CESSD with the delegations from: King Salman Humanitarian Aid and Relief Center (KSRelief) of the Kingdom of Saudi Arabia (February 23); USAID's Bureau for Humanitarian Assistance headed by Mr. B. Hemingway, USAID Regional Director for South and Central Asia (April 5); Directorate-General for European Civil Protection and Humanitarian Aid Operations (DG ECHO) for East, South-East Asia, Pacific and the Red Crescent Society of Tajikistan (September 25); ADB (October 31).

Foreign Policy and International Cooperation

Working and official visits. In 2023, President E. Rakhmon paid state, official and working visits to Kazakhstan, China, Russia, Kyrgyzstan, Saudi Arabia, the United States, Germany, Uzbekistan, Azerbaijan and the UAE.

Major significant events in Foreign Policy of the Republic of Tajikistan. Tajikistan adheres to an opendoor foreign policy, which involves the establishment and development of friendship, good-neighborly relations, partnership, and fruitful cooperation.

The 5th Consultative Meeting of Heads of State chaired by the President of Tajikistan E. Rakhmon was held in Dushanbe. The meeting led to the adoption of several documents, including a Joint Statement of the Heads of State, which noted, inter alia, that the Heads of State were in favor of strengthening regional cooperation on: (1) climate change mitigation and adaptation; (2) disaster risk reduction and elimination of the consequences of emergency situations; (3) desertification control; (4) rational and integrated use of water and energy resources; (5) provision of clean drinking water to the population; (6) environmental protection, ecology, and biodiversity conservation; (7) alaciers; (8) reclamation of uranium tailinas dumps. The meeting comprised a number of side events, including: EXPO Central Asia 2023, Economic Forum, regional meeting of members of the Dialogue of Women Leaders of Central Asia, Forum of Scientists, Forum of youth organizations, 1st meeting of Transport Ministers of the CA states (September 14-15).

Dushanbe also hosted: (1) 39th meeting of the Coordination Electricity Council of CA, where the heads of energy sectors from Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan and CDC "Energy" discussed the issues of cooperation in the field of integrated and rational use of fuel, energy and water resources (May 3-5); (2) 5th Central Asia Climate Change Conference (May 16-17); (3) meeting of foreign ministers of the CA countries (September 13); (4) Dushanbe 2023 International Investment Forum (September 29-30).

Development of alliances and strategic partnerships.

In May, E. Rakhmon paid a state visit to Kazakhstan, where a number of documents on bilateral cooperation were signed. These documents included the Declaration on Allied Cooperation between the Republic of Tajikistan and the Republic of Kazakhstan. The parties also discussed different aspects of bilateral cooperation, including water and energy (May 3-4).

¹⁴⁵ Committee for Emergency Situations and State Defense under the Government of the Republic of Tajikistan

¹⁴⁶ approved by PP RT No.504 of 25.10.2022

See Cooperation between the Countries of Central Asia on Water and Other Matters.

The President of Tajikistan participated in the 1st Trilateral Summit of the Presidents of Turkmenistan, Tajikistan and Uzbekistan, where rational use of water resources of the Amu Darya River, development of cooperation on energy, transportation, and logistics, etc. were discussed. A Joint Statement was adopted as a result of the Summit (Ashgabat, Turkmenistan, August 4). See Cooperation between the Countries of Central Asia on Water and Other Matters.

Within the **CIS**, Tajikistan attended the meetings of: (1) CIS Council of Heads of State (Bishkek, October 13), Council of Heads of Government (Sochi, Russia, June 8; Bishkek, October 26; Moscow, December 18); (3) Council of Foreign Ministers (Samarkand, Uzbekistan, April 14; Bishkek, October 12); (4) Economic Council (Moscow, March 17; September 22, online; Moscow, December 8), as well as the informal Summit of the Heads of CIS Member-States (Saint Petersburg, Russia, December 26).

Within the **SCO**, Tajikistan participated in the meetings of the SCO Council of Heads of State (July 4, online), the SCO Council of Heads of Government (Bishkek, October 26), and the SCO Council of Foreign Ministers (Panaji, India, May 4-5).

Within the framework of regional cooperation, the Tajik delegation participated in: (1) expert meeting "Central Asia-2030: Images of the Future" (Astana, January 20); (2) 1st Central Asian Interparliamentary Forum, which adopted the Turkistan Declaration (Turkistan, Kazakhstan, February 9-10); (3) 6th Central Asia-Russia Ministerial Meeting (Samarkand, Uzbekistan, April 14); (4) 4th Central Asia-China Ministerial Meeting (Xi'an, PRC, April 27); (5) 13th meeting of Deputy Foreign Ministers of the CA states (Bishkek, November 27-28).

Chairmanship in IFAS¹⁴⁷. IFAS celebrated its 30th anniversary in 2023. In the course of the year, the following events were held: (1) international conference "Central Asia: Towards Sustainable Future through a Strong Regional Institution" (Dushanbe, 5-7 June), ahead of which IFAS organizations organized national and regional events; (2) meeting of the IFAS Board, where topical issues were discussed on the Fund's activities and prospects for further interaction between the Founder-States within the Organization (Dushanbe, June 5); (3) meetings of the Working Group on Institutional and Legal Improvement of IFAS.

A regular meeting of the Council of Heads of IFAS Founder-States was held. It resulted in a number of documents, including the Dushanbe Statement of the Heads of IFAS Founder-States (Dushanbe, September 15). Chairmanship in IFAS passed from Tajikistan to Kazakhstan. The EC IFAS prepared IFAS Report for 2020-2023. See "International Fund for Saving the Aral Sea".

Promotion of the national interests and reinforcement of the country's image. Tajikistan leads the Dushanbe Water Process¹⁴⁸. The Republic of Tajikistan and the Kingdom of the Netherlands, as Co-Chairs¹⁴⁹ of the UN Water Conference¹⁵⁰, held several events, including: (1) multilateral thematic webinars for stakeholders "Preparing for the Water Conference and Water Agenda" (January 17-18, online); (2) panel discussion "Water, Economics and Trade: Exploring Commitments for the UN 2023 Water Conference" (Geneva, Switzerland, February 6); (3) briefings on the UN Water Conference (Beijing, February 8; Hague, the Netherlands, February 17; Paris, March 6; Kuwait, March 8; Islamabad, Pakistan, March 13; Astana, March 13; Tehran, IRI, March 15; Rabat, Morocco, March 16); (4) IWMI led conference "Transformative Future for Water Security" (Cape Town, SRA, February 15-1); (5) meeting on the forthcoming UN Water Conference (Seoul, March 2), etc.

In the run-up to the UN Water Conference and as part of the New York Water Week, the Water House started its work¹⁵¹ (March 20). The opening ceremony of the exhibition "History of Development of Tajikistan", where the President of Tajikistan delivered a welcoming speech, took place; "Water and Navruz– Two Sources of Human Life" and "Water Unites Us" (March 21) were organized as well.

The UN Water Conference¹⁵² was organized in conjunction with World Water Day (New York, March 22-24). The Conference agenda included: opening and closing ceremonies; 6 plenaries; 5 interactive dialogues; 2 leadership segments; 4 special and 500 additional interventions, including side-events on the International Year of Glaciers' Preservation-2025¹⁵³ (March 22) and "Transforming Global Economic Institutions for the Common Good: A Wake Up Call from the Global Commission on the Economics of Water'' (March 22); cultural events.

Ahead of the Conference, the RUN BLUE Global Water Marathon ended $^{\rm I54}\!\!\!\!$

¹⁴⁷ Tajikistan chaired the IFAS in 2019-2023

¹⁴⁸ Initiative to support the goals of the International Decade of Action "Water for Sustainable Development", 2018-2028, which is implemented through international conferences held once every two years by the Government of the Republic of Tajikistan in cooperation with the UN

 $^{^{149}}$ noted by the Resolution A/75/212 of 21.12.2020 at the 48 $^{\rm th}$ plenary meeting of the 75 $^{\rm th}$ UNGA Session

¹⁵⁰ UN Conference on the Midterm Comprehensive Review of the Implementation of the Objectives of the International Decade for Action, "Water for Sustainable Development", 2018-2028

¹⁵¹ a platform for carrying out and localizing water-related activities

¹⁵² UN Conference on the Midterm Comprehensive Review of the Implementation of the Objectives of the International Decade for Action, "Water for Sustainable Development", 2018-2028

 $^{^{153}}$ Pursuant to the Resolution A/77/158 of 14.12.2022 of the 53 $^{\rm rd}$ plenary meeting of the 77 $^{\rm th}$ UNGA Session

¹⁵⁴ started on March 22, 2022 on World Water Day in Australia at the initiative of Min Guli. 200 marathons were held around the world with the participation of more than 200 million people. The marathon aims to draw international attention to the growing water challenge, efforts to make a real difference on the Earth, and to promote the International Decade for Action "Water for Sustainable Development", 2018-2028 and the UN Water Conference in 2023


In 2023, the "Government of Tajikistan and United Nations Sustainable Development Cooperation Framework for the period 2023-2026" was launched; the Framework focuses on inclusive human development, sustainable, inclusive, and green economic growth, integrated management of climate and environmental risks, people-centered governance and rule of law.

The UN General Assembly, at its 99th plenary meeting during the 77th session, unanimously approved Resolution A/77/334,¹⁵⁵ focusing on the "Follow-up to the United Nations Conference on the Midterm Comprehensive Review of the Implementation of the Objectives of the International Decade for Action, "Water for Sustainable Development", 2018-2028." The Resolution outlines two key decisions: (1) the convening of a UN Water Conference in 2026. This conference will play a crucial role in accelerating the implementation of SDG 6, which aims to ensure the availability and sustainable management of water and sanitation for all; (2) in 2028, the UN Conference on the Final Comprehensive Review of the Implementation of the Objectives of the International Decade for Action, "Water for Sustainable Development", 2018-2028 to take stock of the progress.

Speaking at the general debate of the 78th UNGA session, E. Rakhmon: (1) noted that Tajikistan attached special importance to the Sendai Framework for Disaster Risk Reduction and was ready to work with the UN and its structures in this area; (2) expressed gratitude to all member-states for cooperation in adopting the UNGA resolution on declaring 2025 the "International Year of Glaciers' Preservation" and called for united efforts to implement it; noted that in 2024 Dushanbe will host the 3rd High-Level Conference on implementation of the International Decade of Action "Water for Sustainable Development", 2018-2028, and in 2025 – International Conference on the Preservation of Glaciers, etc. (New York, September 20).

A Memorandum of Understanding was signed between the Government of the Republic of Tajikistan and the **UN World Food Program**; it lays the foundation for the WFP's Country Strategic Plan for 2023-2026 (Dushanbe, December 12).

The President of Tajikistan, speaking at the Summit of the **United Nations Special Program for the Economies of Central Asia (SPECA)** in Baku, Azerbaijan on November 24, proposed leveraging SPECA's potential to drive economic development, promote green energy, foster regional integration, and mitigate the adverse impacts of climate change. He emphasized the importance of focusing on national economic growth and adapting to the challenges of climate change. Notably, Tajikistan is set to assume the chairmanship of SPECA in 2024.

Cooperation between Tajikistan and the **EU** was discussed at the meeting of the President of Tajikistan with the European Council President (June 2, Cholpon-Ata, Kyrgyzstan) and the 10th meeting of the Tajikistan-EU Cooperation Council (Luxembourg, June 26). On the margins of the Global Gateway Forum, Tajikistan's Foreign Minister and the EU Commissioner for International Partnerships signed a Declaration to allocate €30 million for development of vocational education in Tajikistan. The funds will be used to implement programs to ensure employment for youth and women in agriculture, energy, green and digital industries (Brussels, Belgium, October 25).

The Tajik delegation also took part in: 2nd Meeting of the Heads of the Central Asia States and the EU President (Cholpon-Ata, June 2); Gulf Cooperation Council and Central Asia Summit (Jeddah, Saudi Arabia, July 19); Economic Forum of the CA countries and Germany (Berlin, September 29); 16th Summit of the Council of Heads of ECO Countries (Tashkent, November 9).

Sources:

Official sites of:

President of the Republic of Tajikistan (www.president.tj);

Ministry of Foreign Affairs (https://mfa.tj);

Ministry of Economic Development and Trade (https://medt.tj);

Ministry of Justice (http://www.adlia.tj);

Ministry of Energy and Water Resources (https://www.mewr.tj);

Ministry of Agriculture (https://moa.tj);

Committee for Emergency Situations and Civil Defense (https://khf.tj);

Committee for Environmental Protection (http://tajnature.tj); Agency for Land Reclamation and Irrigation (https://www.alri.tj);

Agency for Hydrometeorology (http://www.meteo.tj/)

Executive Committee of IFAS (https://ecifas-tj.org);

"Center for Glacier Research of the National Academy of Sciences of Tajikistan" (https://cryosphere.tj);

Dushanbe Water Process (https://dushanbewaterprocess.org)

Information agencies and sites:

khovar.tj; dialog.tj; east-fruit.com; tajikta.tj; avesta.tj; tj.sputniknews.ru; sugdnews.com; eco.uz; spinform.ru

¹⁵⁵ Resolution was put forward by Tajikistan together with the Kingdom of the Netherlands and the Republic of Sinegal and adopted on 01.09.2023

5.4. Turkmenistan



Water sector

Water resources. The water resources of Turkmenistan are comprised of the surface runoff of the Amu Darya (88%), Murgab (6.5%), Tejen (3.5%), and Atrek, Sumbar and Chandyr (1.4%) rivers, as well as the small watercourses of the northeast slopes of Copetdag (0.6%), and the insignificant amounts of groundwater resources and collector-drainage waters. All large rivers of Turkmenistan are transboundary. This means that approximately 95% of surface water originates outside the country's borders.

Latest developments in legislation. The Law of Turkmenistan "On Amending and Supplementing the Water Code¹⁵⁶ of Turkmenistan", dated June 3, 2023: (1) prescribes to install modern water measurement facilities and devices at watercourses and water conduits at the expense of own funds to ensure accurate accounting of diverted water quantities (Article 41);

 $^{^{\}scriptscriptstyle 156}$ Water Code of Turkmenistan was approved in 2016

and (2) changes the title of Article 111 to "Water pricing and tariffs" and adds the following clause: "The rules for water pricing in Turkmenistan shall be approved by the Cabinet of Ministers of Turkmenistan".

National programs. The "Social and Economic Development Program for 2019-2025" is currently being implemented. This program prioritizes the integrated water resource management and collaboration amona riparian nations. It aims to conserve water, develop new water sources, prevent soil salinization, and enhance agricultural land reclamation efforts. As part of this program: (1) a dam has been commissioned in the Gyzylarbat Etrap of the Balkan region. This dam is designed to effectively regulate the water level of the 5^{th} aguifer at the 1,002 km of the Karakum Canal; (2) second construction phase of a 1.6 billion m³ reservoir is underway. The new reservoir is to replace the largest silted Zeyid ("15 Years of Turkmenistan's Independence") reservoir in the country. Additionally, the third phase is designed. The total reservoir system capacity will reach 3.8 billion m³; (3) in Mary province, the "Garagumderýagurluşyk" company extended the Karakum Canal's width by 173-456 km; (4) the Technology Center of Turkmenistan's Academy of Sciences developed an innovative drip irrigation injector, which saves water, and eco-granules to desalinate and improve microflora in soil; (5) production of high-tech drip irrigation systems has been launched by "Turkmen Senagat" entity.

Projects. As part of the demonstration project "Tuyamuyun Hydroelectric Complex,"¹⁵⁷ aimed at promoting regional water-energy cooperation at the facility level, focusing on sedimentation in the Channel Reservoir, training sessions for trainers on interactive Nexus Simulation were conducted in Turkmenistan (Ashgabat, Dashoguz, February 7 and 10). The project outcomes included the publication of Nexus Stories.

As part of the USAID Regional Water and Environment Activity, the following events were held: (1) 4th and 5th meetings of the National Intersectoral Committee (Ashgabat, February 28, September); (2) Amu Darya River Day: series of events were organized to celebrate this day and included a cleanup and tree planting campaigns and an award ceremony for a children's drawing contest "Amu Darya – a river of friendship" (Dashoguz, April 27); (3) a national robust decision-making support workshop on Amu Darya River basin (Ashgabat, August 29-30); (4) a workshop on basin planning and management (Ashgabat, November 2-3).

Representatives of Turkmenistan's water sector took part in the round table "Smart Agriculture: Technologies and Benefits for Central Asia" (September 5, online), 2nd regional robust decision-support workshop on the Amu Darya basin and the 5th Regional Coordination Committee meeting (Khiva, Uzbekistan, September 25-September 26). The FAO project "Enhancing Capacities for Climate-Resilient Water Management" was launched to study indigenous hydraulic methods, the country's irrigation and drainage system patterns, and the efficiency of applied innovative irrigation methods and their effectiveness. The project's field practices will be studied in a north-western region, where water sensors and a weather station will be installed, the interfarm irrigation networks will be improved, and practical training will be conducted.

Capacity building. A series of seminars and meetings on water diplomacy were held at the Training Center for Priority Areas of Diplomacy at the Turkmen MFA's Institute of International Relations (Ashgabat, March 16, 20, April 4, 13, 24-26, May 11, 24, June 22).

As part of the "Embassy Science Fellows" Program, USAID in Turkmenistan and the U.S. Department of State organized a series of lectures for students and faculty of agricultural universities, as well as researchers from the "Turkmensuvylymtaslama" Design Institute. Additionally, three-week online training sessions were conducted for specialists from the State Committee for Water Resources and the Technology Center of the Academy of Sciences of Turkmenistan, focusing on water use efficiency and water desalination (September, Ashgabat).

Regional and international cooperation. The next meeting of the Joint Uzbek-Turkmen Intergovernmental Water Commission was held on April 23 in Tashkent. The meeting addressed the issues of water sharing along the Amu Darya River, automation, information sharing, and other points of concern. See Cooperation between the Countries of Central Asia on Water and Other Matters.



The first trilateral Summit of the Heads of State of Turkmenistan, Tajikistan, and Uzbekistan was held on August 4 in Ashgabat. As a result, a Joint Statement was adopted. This statement outlined the parties' agreement to collaborate on: joint research and de-

¹⁵⁷ implemented by Turkmenistan and Uzbekistan under the "Central Asia Nexus Dialogue Project: Fostering Water, Energy and Food Security Nexus and Multi-Sector Investment" (Phase 2, CAREC)

velopment on effective water resource management, protection, and rational use; ensuring the safety of hydraulic structures, reclamation of irrigated lands; effective operation and modernization of water infrastructure; water conservation and reuse, including leveraging existing authorized regional water management organizations. See Cooperation between the Countries of Central Asia on Water and Other Matters.

The President of Turkmenistan, as part of his working visit to Tajikistan, attended the meeting of the Council of Heads of IFAS Founding States. In particular, he highlighted the need for stronger regional cooperation on environmental protection and sustainable development in Central Asia, emphasizing the Aral Sea crisis as a global priority. The President also proposed creating a Regional Center for Climate Technologies in Central Asia (Dushanbe, September 15). See International Fund for Saving the Aral Sea.

The Turkmen delegation actively participated in: (1) 84th (Dushanbe, May 10) and 85th (Tashkent, November 1-2) meetings of ICWC; (2) IFAS Board meeting (Dushanbe, June 5). Representatives of Turkmenistan also took part in meetings of the Working Group on improvement of institutional and legal framework of IFAS. For more details, see International Fund for Saving the Aral Sea.

Events. Ashgabat hosted three important events: (1) scientific conference "Water Resource Management in the Context of Climate Change" (April 22); (2) online forum titled "Creative Ideas for Water Management for the Resilient Water Development in Central Asia" (June 5); (3) international conference on "Financial and Investment Support for Initiatives Aimed at Rational Water Use" (June 20).

Turkmen delegation participated in a number of events, including: (1) regional workshop on monitoring, assessment and information exchange in Central Asian transboundary basins (Astana, February 1-2); (2) 2023 UN Water Conference and a high-level sideevent "Central Asia: Commitments to Water Action Agenda" (New York, March 22-24); (3) conference "Central Asia: Towards a Sustainable Future through Strong Regional Institution," commemorating IFAS's 30th anniversary (Dushanbe, June 5-7); (4) workshop "From Climate Modelling to River Flow: High-Resolution Scenarios and Hydrology in Central Asia's climate change context" (Tashkent, October 24-26); (5) extraordinary session of the Intergovernmental Council of the Hydrological Program (Paris, November); (6) Central Asian expert meeting on rational use of water in the context of climate change (Ashga-bat, December 7).

Drinking Water Supply

As part of the National Program "Village" and the "General Program for Clean Drinking Water Supply to Settlements," the construction of water treatment plants and desalination facilities are underway, existing water treatment and pipeline systems are reconstructed, and modern technologies are adopted to ensure water saving. A sewage pumping station and a water supply system connected to a 25,000 m³/day treatment plant are nearing completion in Lebap province.

In Balkan province, it is planned to modernize Jebel-Hazar pipeline, procure equipment for water supply and sanitation in Turkmenbashi and desalination units (50,000 and 70,000 m³/day) for the Avaza and Kiyanly touristic zones, and upgrade water treatment plants and water distribution station in Oglandy and Bereket settlements, respectively. In Ahal province, new "Govshut" (4.15 m³/sec) and "Yashyldep" (2.13 m³/sec) pumping stations are to be constructed in Kakkha and Ak Bugday districts.

Specialists from (1) Dashoguz Hydrogeological Field Office have studied the water quality in several settlements in Akdepe and Boldumsaz etrap; (2) Hydrogeological Field Office of the State Corporation "Turkmengeology" explore aquifers, estimate their stock, study quality and chemical composition, and assess conditions of operating wells.

Agriculture

In 2023, agricultural production growth rate showed 102.6%. Agricultural exports also rose by 10% (as compared to 2022), generating \$135 million in revenue.

Latest developments in legislation. Amendments to Turkmenistan's Land Code¹⁵⁸, addressing administrative setup, were enacted on June 3, 2023.

Agricultural reformation and modernization. As part of efforts to reform the agricultural sector and enhance its efficiency, a separate Ministry of Agriculture was established on the base of the existing Ministry of Agriculture and Environmental Protection (Presidential Decree 240 of July 14, 2023). Mr. Nazarmyrat Nazarmyradov was appointed as the Minister of Agriculture. The setup of the Ministry's Central Office and the Charter were approved in August. Subsequently, the State Commission on Land Resources has been established. This Commission is responsible for rational and efficient use of land resources and regulation of land-related matters. In line with the Resolution "On establishment of research institutes at the Ministry of Agriculture", the existing Agricultural Research and Production Center at the Turkmen Agricultural Institute will be restructured to establish the Grain Growing Research Institute, the Farming Research Institute, and the Cotton Growing Research Institute.

Implementation of national programs. Turkmenistan continues to implement: (1) the Xalq Maslahaty Resolution (of September 25, 2018) on further improvement of reforms in agricultural sector; (2) the Program of Socio-Economic Development in Turkmenistan for

 $^{^{\}scriptscriptstyle 158}$ The Land Code of Turkmenistan was approved in 2004

2019-2025 (of February 1, 2019); (3) the Program "Revival of a new era of a powerful state: National Program for Socio-Economic Development in Turkmenistan for 2022-2052 (of February 11, 2022).

Scientists are exploring hydroponics, biological methods to boost soil fertility, combat salinity, and improve seed preparation. The new fine-fiber cotton variety "Yoleten-58", yielding 33.2 centners per hectare – 2.1 centners more than standard – is being tested in Mary and Axal provinces.

The country is modernizing its agricultural sector. Agricultural clusters are established, new greenhouses are being built, while existing ones are expanded, creating jobs and providing fresh produce year-round. The recently developed Daragt app, available on Android and iOS, helps diagnose and treat plant, vegetable, and fruit diseases.

Projects. As part of the FAO/GEF project "Integrated Natural Resources Management in Drought-Prone and Salt-Affected Agricultural Production Landscapes in Central Asia and Turkey," the following activities were accomplished: a working group meeting (April); two 1-hectare nurseries were established in Baherden and Dashoguz, and a 3-hectare demonstration plot was created at the S.A. Niyazov Agricultural University (January); equipment for rapid analysis of soil, water, and plants was purchased. To supply livestock farms and population in desert communities, water infrastructure was built, including 6 wells and 6 sardobas (60 m³ each) in Baherden district, Akhal province and 2 wells and 2 sardobas in Dashoguz and Lebap provinces. Workshops were held on sustainable pasture management and preventing salinization in pilot regions (June-October).

In 2023, the Project "Conservation and Sustainable Management of Land Resources and Ecosystems in the Aral Sea Basin" (UNDP/GEF) organized in Turkmenistan: (1) roundtable discussion; (2) dialogue "The Role of Women and Girls in Combating Climate Change" (March 7); (3) practical horticulture training (March 14 and September 14); (4) workshop on water diplomacy (April 25); (5) information youth campaigns on climate for the World Day to Combat Desertification (June 17); (6) poster contest for #HerLand #Her Rights campaign (June 17-July 10); (7) capacitybuilding workshop on land degradation neutrality (July 27); (8) environmental quiz event for youth, coorganized by UNDP and USAID (December 2).

The FAO Project "Support for the Establishment of a Digital Land Cadastre" was launched with: (1) an inception workshop (June 6); (2) the online training on remote sensing to aid in the identification and mapping of crops (June 7-9); (3) trainings for project participants, which covered the basics of Global Navigation Satellite System technologies and their application in geodesy and cadastre, coordinate systems used in geodesy, and the main methods of condu-

cting satellite cadastre and geodetic work (November 28-29).

Regional and international cooperation. A Turkmen delegation visited Uzbekistan to explore early and fine-fiber cotton varieties for their further cultivation in Turkmenistan and discussed cooperation in horticulture and potato seed production (January 7-14).

During President S. Berdymuhamedov's visit to Tajikistan, a "Roadmap" for enhanced agricultural cooperation for 2023-2025 was signed between the Tajik Ministry of Agriculture and the Turkmen Ministry of Agriculture and Environmental Protection¹⁵⁹ (May 10-11). See Cooperation between the Countries of Central Asia on Water and Other Matters.

Meetings were held in Ashgabat between: (1) the *President of Turkmenistan* and the Deputy Chairman of the CIS Seed Production Council and the President of the "Seeds" Association (June 15), and the Chairman of CLAAS and the Eastern Committee of the German Economy (September 26); (2) farmers and Grimme Company's expert on potato and sugar beet cultivation (August 23-24); (3) the Halk Maslahaty Chairman and the heads of John Deere, CLAAS, and the Eastern Committee of the German Economy (September 26); (4) the Minister of Foreign Affairs and the FAO Subregional Coordinator for Central Asia (December 10).

Events. Ashgabat hosted: (1) roundtable discussion (January 20); (2) International conference "Partnership for Food Security in the context of Climate Change" (March 9-10).¹⁶⁰ The Conference communiqué was published in six UN languages as an official document of the 77th UN General Assembly; (3) Conference "Opportunities of using geospatial technologies in agriculture" (November); (4) International food technology exhibition "Agro-Pak Turkmenistan-2023" (November 28-30).

Turkmen delegation took part in: (1) online meeting of Central Asian agriculture ministers on financing agriculture to boost production (February 15); (2) "GreenTech Amsterdam" exhibition (Amsterdam, June 13-15); (3) Summit "Agribusiness in Central Asia: Integration, Modernization, Success" (Issyk-Kul, Kyrgyzstan, August 27-29); (4) 2nd Meeting of Agriculture Ministers of the Organization of Turkic States and Agribusiness Forum (Baku, September 26); (5) AGRITECHNICA-2023 exhibition (Hanover, Germany, November 12-18).

Energy

The Ministry of Energy operates 12 power plants with a total capacity of 6,511.2 MW. From January to November, power generation and related services reached 112.6%. Power generation growth rates were 102.7%.

¹⁵⁹ by Presidential Decree No.240 of July 14, 2023, the Ministry of Agriculture and Environmental Protection was reorganized into the Ministry of Agriculture

¹⁶⁰ organized in collaboration with FAO and supported by UNDP Turkmenistan

In 2023, the Gindukush Hydro Power Plant on the Murgab River celebrated its 110th anniversary¹⁶¹. This is one of twelve largest plants. The HPP has a total capacity of 1.2 MW with three 400 kW turbines and is considered a historical structure.

Latest developments in legislature. The Law "On Renewable Energy Sources" was amended on November 25, 2023, clarifying the roles of government agencies in regulating renewable energy, in particular "State regulation in the field of renewable energy sources is under authority the Cabinet of Ministers, the Ministry of Energy, the Ministry of Agriculture, the Ministry of Environmental Protection, and local executive bodies."

A Law "On Energy Efficiency and Energy Saving" has been drafted to create legal, economic and institutional framework for energy conservation and energy efficiency.

Mr. Annageldi Saparov was appointed as the Minister of Energy (Presidential Decree of July 14, 2023).

National strategies and programs. Turkmenistan is actively working under the "State Program on Energy Saving (2018-2024)," the "Program for Energy Diplomacy Development, 2021-2025," the "National Strategy for Renewable Energy Development until 2030," and the "Roadmap for Hydrogen Energy Cooperation, 2022-2023."

The construction of a 1,574 MW combined-cycle power plant was launched in Turkmenbashy district, Balkan province.¹⁶² New gas turbines were commissioned for electricity generation at the Turkmenbashy Oil Refinery. Additionally, the Mary-Ahal transmission line was launched, connecting to the national grid via digital communication systems (November 3).

A meeting of the Inter-departmental Working Group on hydrogen energy development in Turkmenistan was held on July 11 in Ashgabat. The meeting focused on the implementation of the Roadmap for development of international cooperation in hydrogen energy in 2022–2023 and the study of international best practices in this field. Scientists from the Hydrogen Energy Center at the International University of Oil and Gas of Turkmenistan are conducting research on hydrogen fuel production.

Projects. Under the "Sustainable Energy Connectivity in Central Asia (SECCA)" project, several events were held: (1) a Steering Committee meeting (Astana, April 4); (2) a regional workshop on end energy consumption statistics (Tashkent, July 11-13); (3) a lecture was delivered for senior students of the State Energy Institute of Turkmenistan on integrated energy and climate planning, RE project cycle, and climate financing (Mary, September 12); (4) EU-Turkmenistan Sustainable Energy Days 2023 campaign, featuring conferences "Sustainable energy in Turkmenistan: prospects and challenges" (December 14) and "Energy efficiency in Turkmenistan: successes and prospects" (December 14-15) in Mary, environmental activities for schoolchildren, and an awarding ceremony for the most energy-efficient school in Mary (December 15). Lectures were also held for university staff and students of the State Energy Institute (December 15).

On December 18, SECCA key experts delivered a presentation on "Sustainable Energy Development in the Context of Global Climate Change: SECCA Project Approaches" for the students of the Institute of International Relations (IIR) under the Ministry of Foreign Affairs of Turkmenistan. A student of IIR and winner of the regional contest #Reels4SustainableEnergy was awarded a certificate (Astana).

The "Sustainable Cities in Turkmenistan: Integrated Green Urban Development in Ashgabat and Awaza" project (UNDP/GEF) held workshops in Mary: (1) "Exploring the possibilities of developing renewable energy sources in the climatic conditions of Turkmenistan. Methods of conducting an energy survey of residential and public buildings" (March 28); (2) "Studying the features of the operation of energy-saving lamps in climatic conditions of Turkmenistan. Possibility of using waste as an alternative source of eneray" (May 16); (3) "Studying international experience in the development of legal framework with respect to energy conservation and energy efficiency, as well as on the solid waste management as a renewable energy resource" (September 13). Additionally, a meeting on energy-efficient practices in the hotel sector took place on October 20 in Avaza.

Capacity building. The OSCE Center in Ashgabat held online workshops on integrating renewable energy into the power grid (April 25-26) and "Energy Diplomacy Tools: OSCE Best Practices" (May 22-23).

A seminar series on "Energy Diplomacy" was ended at the Training Center of the Institute of International Relations on July 7 (Ashgabat). The Technology Center of the Academy of Sciences of Turkmenistan hosted a workshop themed "The Role of Energy in National Economy of Turkmenistan" on September 5 (Ashgabat). The State Energy Institute of Turkmenistan organized a workshop in Mary titled "Joint Efforts of UAE and Turkmenistan in Renewable Energy" on September 20.

Regional and international cooperation. National energy companies of Turkmenistan "Turkmenenergo" and Afghanistan Da Afghanistan Breshna Sherkat (DABS) have signed: (1) an agreement to extend the contract for supplies of Turkmen electricity at preferential prices in 2023 (Ashgabat, January); and (2) a protocol on the project of electricity transmission to the Nur-al-Jihad substation in Herat province (Kabul, August).

¹⁶¹ construction started in 1909 in Bairamali town, commissioned in 1913

 $^{^{\}scriptscriptstyle 162}$ four gas and two steam turbines will be installed at the combined cycle power plant

A Memorandum of Understanding on energy cooperation was signed between the State Concern "Turkmengaz" and the Abu Dhabi National Oil Company (ADNOC), along with an agreement to open and manage a correspondent account between the State Bank for Foreign Economic Affairs of Turkmenistan and First Abu Dhabi Bank (Abu Dhabi, UAE, February 12).

The Turkish company Çalık Enerji is building a modern eco-village featuring a hybrid power plant with a 7 MW solar system, two 1.5 MW wind turbines, and related facilities at Lake Altyn Asyr.



Screenshot of a slide from the Çalık Enerji presentation, source: https://www.newscentralasia.net/2023/04/26/ eko-selo-na-poberezhye-ozera-altyn-asyr-v-turkmenistanestroit-turetskaya-kompaniya-calik-enerji/

Events. Turkmenistan initiated a resolution adopted at the 49th plenary meeting of the 78th UN General Assembly titled "The pivotal role of reliable and stable energy connectivity in driving sustainable development". The resolution calls for "...continued international cooperation in promoting reliable and stable energy connectivity at the national, regional and global levels, ... efforts for resilient and secure crossborder energy infrastructure and energy connectivity ..." The document also proposes to hold an international meeting of experts early in 2024 in Turkmenistan to discuss strategies and foster collaboration on enhancing energy connectivity and the Sustainable Energy for All Forum in 2026 (New York, December 19).

In the course of the year, several events were held, including: (1) international scientific-practical conference "Scientific and Technical Opportunities for Producing Hydrogen Energy from Natural Gas" (Ashgabat, February 24); (2) international forum "Turkmenistan's Role in the Future of Global Energy" (Dubai, April 26-27); (3) scientific-practical conference "Energy Prospects and New Technologies for Hydrocarbon Field Development" (Ashgabat, June 15); (4) 28th International Conference and Exhibition "Oil and Gas of Turkmenistan-2023" (Ashgabat, October 24-27). The Turkmen delegation participated in several international events, including: (1) 15th Caspian Energy Forum (Moscow, April 20); (2) conference on energy security and sustainable development in Central Asia (Brussels, July 4); (3) first meeting of the ministerial economic and energy dialogue under the "Central Asia + Japan" framework (September 26, online); (4) ADIPEC 2023 exhibition, during which discussions were held with Pakistan's Acting Federal Minister for Energy, focusing on implementation of the TAPI project (Abu Dhabi, October 2-5).

Environment and Climate Change

Government reform. On July 14, 2023, the Ministry of Environmental Protection was established on the base of the Ministry of Agriculture and Environmental Protection (Presidential Decree No.240 of 14.07.2023). Mr. Charygeldi Babanyazov was appointed as Minister. The new Ministry's setup and charter were approved on August 1, 2023.

National strategies and programs. Turkmenistan is implementing its National Strategy on Climate Change, with some actions set in the Strategy included in sectoral programs and socio-economic plans. Several programs are underway: (1) National Forestry Program, 2021-2025 (approved in 2021). A resolution provided for planting deciduous, coniferous, fruit trees and grapes in 2023; afforestation campaigns were undertaken, and a roundtable¹⁶³, which launched a guidelines on growing orchards and forests in Turkmenistan, was held; (2) National Program on the Aral Sea for 2021-2025. It is planned to build a 90 million m³ reservoir on the Turkmenderýa Canal and coat over 100 km of the Sasenem Canal; (3) Concept for development of the Lake Altin Asyr area in 2019-2025 (approved in on April 12, 2019) focuses on building a modern eco-village in the region.¹⁶



Screenshot of a slide from the Çalık Enerji presentation, source: https://www.newscentralasia.net/2023/04/26/ eko-selo-na-poberezhye-ozera-altyn-asyr-v-turkmenistanestroit-turetskaya-kompaniya-calik-enerji/

¹⁶³ USAID in partnership with the National Institute of Deserts, Flora, and Fauna of Turkmenistan

¹⁶⁴ Turkish company Calık Enerji, currently building a state-of-the-art eco-village at Lake Altyn Asyr, presented the project at the International Forum on April 26-27 in Dubai, UAE

Projects. As part of the project "Developing a National Adaptation Planning Process in Turkmenistan" (UNDP/ GCF), multiple events were organized, including: (1) a series of trainings on climate adaptation and water, transboundary cooperation (June 13-14, July 11-12, September 12-14, September 19-21, November 13-15, and November 16-17); (2) roundtables in Ashgabat on establishment of a coordination mechanism for intersectoral adaptation planning (April 14) and on approaches for the development of the monitoring and evaluation system for assessing the climate change adaptation efforts (November 23); (3) meetings with experts from the Austrian company Hydrophil GmbH to discuss challenges related to climate change (Ashgabat and Dashoguz province, November 27-December 6); (4) trainings¹⁶⁵ review institutional and practical aspects of climate change adaptation at different levels of management and their integration into the national adaptation planning process (Ashgabat, February 21-22, May 30-31).

The "Sustainable Cities in Turkmenistan: Integrated Green Urban Development in Ashgabat and Awaza" Project (GEF/UNDP) organized: (1) a dialogue on the role of women and girls in climate actions (Ashgabat, March 7); (2) a working meeting (Ashgabat, April 12); (3) series of events on occasion of the World Environment Day (Balkan region, June 5).

As part of the "Regional Climate Action Transparency Hub for Central Asia" Project (ReCATH/ICAT), Turkmenistan's representatives joined: (1) regional training sessions on greenhouse gas inventory tools (Tashkent, February 27-March 3) and improvement of data collection and analytical tools for forecasting greenhouse gas emissions in Central Asian countries¹⁶⁶ (Dushanbe, May 18-19); (2) first meeting of the Technical Working Group on Transparency in Adaptation to Climate Change in Central Asia (Bishkek, July 13-14); (3) regional training on climate action transparency (Ashgabat, October 9-12); (4) side event at COP28 (Dubai, December 3).

Capacity building. The Ministry of Education and the National Institute of Education of Turkmenistan, in partnership with UNICEF, developed and distributed new methodological manuals on climate adaptation¹⁶⁷ for secondary school teachers.

In 2023, the Turkmen State Pedagogical Institute named after S. Seydi established a UNESCO Chair on "Environmental Education for Sustainable Development." The Turkmen Agricultural Institute in Dashoguz also launched a UNESCO Club titled "Environmental Protection-Key Concept of Sustainable Development."

The Innovative Scientific and Educational Center of the International University of Oil and Gas has got a

license for environmental activities, including development of ecological passports, technology regulations, technical specifications, and state standards for new products.

Regional and international cooperation. The Turkmen delegation participated in the 3rd Meeting of the ICSD Advisory Council (Astana, September 4-5). See ICSD of Central Asia.

As part of German Green Central Asia Initiative,¹⁶⁸ experts from Turkmenistan took part in: (1) a workshop on the Droughtmap ASB tool (Tashkent, May 3-5); (2) a subregional workshop on mine tailings safety and the prevention of accidental water pollution in Central Asia (Dushanbe, May 25-26); (3) 4th regional intergovernmental working group meeting on the Regional Climate Change Adaptation Strategy in Central Asia (Almaty, July 4-5).

UNDP and the British Embassy in Turkmenistan hosted the 6th Coordination Meeting of the Climate Development Partners Group in Ashgabat on September 15. Discussions covered preparations for COP28, progress on Turkmenistan's 4th National Communication (NC4¹⁶⁹) on Climate Change to the UNFCCC, and the development of a National Greenhouse Gas Inventory System, as part of the country's Nationally Determined Contribution submitted in 2022.

The Ministry of Environmental Protection signed Memoranda of Understanding with: (1) International Union for Conservation of Nature (IUCN), to enhance cooperation in policy management, biodiversity protection, and related areas (November 10); (2) UNEP, outlining activities for exchanging information on innovative climate technologies and solutions (November 13).

Several important meetings took place between: (1) the President of Turkmenistan and the U.S. Special Presidential Envoy for Climate (New York, September 19); (2) the Foreign Minister and the UNEP Executive Director Inger Andersen (January 16), GGGI Director-General Frank Rijsberman, who proposed signing a "Host Country Agreement" and establishing a GGGI office in Turkmenistan (February 23), Head of Iran's Environmental Protection Organization Ali Salajegheh (March 10); (3) the Turkmenistan's Permanent Representative to the UN, Aksoltan Ataeva and the UN Deputy Secretary-General and ESCAP Executive Secretary Armida Salsiah Alisjahbana (July 12).

The OSCE Center in Ashgabat organized seminars on the procedures and protocols under the Espoo Convention¹⁷⁰ (April 27-28, online) and on monitoring and scientific research on the reduction of methane emissions (Ashgabat, November 6-7). Additionally, a

¹⁶⁸ aimed to improve access to information and risk analyses to enable participating countries to assess the impact of climate change more

¹⁴⁵ jointly with the IOM project "Mainstreaming the Migration, Environment and Climate Change Nexus into Climate-Related National Planning Processes"

¹⁶⁶ within the framework of CACCC 2023

¹⁶⁷ to incorporate climate change adaptation into the 5 environment-related subjects of primary and secondary education

accurately and to take preventive measures

¹⁶⁹ to fulfil its commitments under UNFCCC, Turkmenistan launched its NC1 in 2000, NC2 in 2010 and NC3 in 2015

¹⁷⁰ Convention on Environmental Impact Assessment in a Transboundary Context, adopted in Espoo, Finland in 1991, in force since 1997

training course on the production of TV programmes covering environmental issues for media professionals was held on October 10-13 in Ashgabat.

Youth delegates from Turkmenistan participated in the Central Asian Youth Environmental Camp held from October 1-5 in Samarkand, Uzbekistan.

Events. Many important events were organized in Turkmenistan, including: (1) roundtable for government institutions, civil society, and private companies to discuss and draft regulations to the 2019 Law on Environmental Audit (January 18); (2) tree-planting campaign (March 18); (3) eco-festival in honor of Earth Day (April 22); (4) scientific-practical conference on environmental achievements and international cooperation (May 5 and June 5); (5) roundtable on "green" economy and digital transformation (May 11); (6) competition on "Environmental Protection and Culture" for 10th- and 11th-grade students (May 17); (7) international conference titled "Arkadag City - An Environmentally Friendly Land of Beautiful Nature" (July 3); (8) youth conference on climate change (October 3); (9) regional conference on the role of youth in addressing climate issues (November 21); (10) roundtable on approaches to combating desertification and land degradation, featuring expertise from the National Institute of Deserts, Flora, and Fauna (NIDFF, Turkmenistan) and the Kostyakov All-Russian Research Institute of Hydraulic Engineering and Melioration (November).

Turkmen delegation took part in key international events, including, among many others: (1) 7th High-Level Conference "EU-Central Asia" on Environment and Water Resources (Rome, February 23-24); (2) UNGA High-Level Meeting on the transition to zero waste (New York, March 29-31); (3) 9th Meeting of Foreign Ministers and Parliamentarians of Central Asian Countries on Climate Change (Tashkent, April 19); (4) 79th ESCAP session (Bangkok, May 15-19); (5) 5th Central Asian Climate Change Conference (Dushanbe, May 16-17); (6) 10th Nevsky International Ecological Congress (St. Petersburg, May 26); (7) International Conference "Central Asia: Towards Sustainable Future through Strong Regional Institution" (Dushanbe, June 5-7); (8) 7th Ministerial Conference on Environment and Health (Budapest, July 5-7); (9) OSCE High-level Conference on Climate Change (Vienna, July 7); (10) 1st International Conference on Enhancing Expert Services for Environmental Issues in Central Asia (Almaty, September 25-26).

At Turkmenistan's initiative, 79th ESCAP session unanimously adopted a resolution on "Consideration of the modalities for the establishment of the United Nations special programme for the Aral Sea basin". The resolution highlights the need for regional and international cooperation to address and minimize disasters in the basin and proposes to carry out a study on the necessity, viability and modalities of establishing the United Nations special programme for the Aral Sea basin (Bangkok, May 15-19). The desert ecosystems of Turkmenistan – Bereketli Garagum, Gaplangyr, Repetek, and Yerajy – were formally inscribed on the UNESCO World Heritage List as components of the transnational serial nomination "Cold Winter Deserts of Turan" during the 45th session of the World Heritage Committee (Riyadh, September 20).

During his speech at COP28, the President of Turkmenistan: (1) announced the country's accession to the Global Methane Pledge; (2) highlighted the importance of the recently signed Memorandum of Understanding between the Ministry of Environmental Protection of Turkmenistan and UNEP; (3) welcomed the proposed Declaration on Climate and Health; (4) expressed full support for the Emirates Declaration on Sustainable Agriculture, Resilient Food Systems, and Climate Action and stated Turkmenistan's readiness to back the initiative for establishing the COP28 Coalition for High Ambition Multilevel Partnerships for Climate Actions. he President emphasized Turkmenistan's commitment to fostering regional and global cooperation in areas such as agriculture, ecology, energy, finance, and health, aligning with the objectives of the Emirati Declaration while safeguarding national interests (December 1-2).

Emergencies

Turkmenistan is making progress in strengthening its capacity for disaster risk management and fulfilling its obligations under the Sendai Framework for Disaster Risk Reduction 2015-2030. Speaking at the recent Meeting of the Heads of Emergency Agencies of Central Asia, the head of Turkmenistan's delegation noted that the Regional Forum is an effective mechanism for strengthening international and regional cooperation in disaster risk reduction and contributes to the emergence of regional initiatives in the field of climate change adaptation, prevention, and response to emergencies (Almaty, November 10).

Breach of the Karakum Canal.¹⁷² In January, ice jams caused by unusually severe frosts, combined with the unique features of the terrain, led to a breach in the Karakum Canal. As a result, a significant portion of water was diverted into the desert. This caused flooding in some settlements, while leaving others, conversely, without water.

For more than 15 days, a substantial amount of water from the Karakum Canal flowed into the desert, spreading over 35 kilometers into the sands. At the breach site, the water split into smaller streams, creating thousands of small lakes among the dunes and larger lakes on flat areas such as takyrs and salt marshes. By February 11, the largest of these lakes covered approximately 10 square kilometers. The image shows that the dam has been fully repaired, the breach sealed, and the flow of water into the desert halted.

 $^{^{\}scriptscriptstyle 171}$ in co-authorship with Azerbaijan, Armenia, China, Singapore, Turkey and Philippines

¹⁷² based on https://meteojurnal.ru/



Source: https://meteojurnal.ru/eshhyo-raz-o-vozmozhnokrupnejshem-proryve-karakumskogo-kanala/

Drought. Since late 2022, a lack of rainfall in parts of the Dashoguz, Balkan, and Ahal provinces, coupled with unusually warm weather in March and April, has led to drought conditions across much of the country.



Hauzhan Reservoir (Source: https://meteojurnal.ru/vodohranilishha-turkmenistana-rekordno-obmeleli/)

By May, water levels in reservoirs along the Karakum Canal, including the Hauzhan and Kopetdag reservoirs, had dropped significantly. As of May 25, 2023, the Hauzhan Reservoir covered an area of 75.4 km², nearly half its size during the same period in the dry year of 2021, when it measured 135.5 km².

The water surface area of the Kopetdag Reservoir decreased from 25.5 km² to 17.7 km² between April 26 and May 25, 2023, a reduction of 7.8 km² or 30.6%. Along with the previously mentioned factors, the breach in the Karakum Canal is likely another contributing cause of the reservoir's depletion.



Kopetdag Reservoir (Source: https://meteojurnal.ru/ vodohranilishha-turkmenistana-rekordno-obmeleli/)

Low water levels were also observed in the reservoirs of the transboundary Tuyamuyun hydroscheme. By the second half of May, the water volume had dropped to 2.3 km³.



Reservoirs of the Tuyamuyun Hydrocomplex (Source: https://meteojurnal.ru/vodohranilishhaturkmenistana-rekordno-obmeleli/)

Projects. As part of the program¹⁷³ "Strengthening Local and National Capacities for Emergency Preparedness and Response in High Earthquake and Natural hazard prone Countries of Central Asia" (USAID), the following events were held: (1) series of capacity-building events on emergency preparedness, involving 10 target schools and over 300 staff members and volunteers from the National Red Crescent Society of Turkmenistan in Ashgabat, Ahal, Lebap, and Dashoguz regions; (2) regional training on disaster preparedness (Almaty, July 19-21).

¹⁷³ financed by USAID and implemented in five CA countries

 $^{\rm 174}\,$ first VNR was launched in 2019

The regional project "Climate Risk Management in Central Asia" (GIZ) has been launched. Specialists from Turkmenistan took part in the kick-off meeting of the Steering Committee (Tashkent, June 13-14) and a study tour to Germany (Bonn, December 3-8).

Capacity building. The UNDP office in Turkmenistan organized a national training on post-disaster recovery planning and needs assessment (Ashgabat, April 11-12). Experts from Turkmenistan also participated in an online CIS emergency notification drill for natural and man-made disasters, conducted by the Ministry of Emergency Situations of Belarus (July 31).

SDGs in Turkmenistan

Turkmenistan continued working on the Sustainable Development Cooperation Framework between United Nations and the Government of Turkmenistan, 2021-2025. Meetings of the Joint Steering Committee focused on safety, environmental protection, and food security (Ashgabat, April 20 and December 14).

The Government of Turkmenistan and the UN held the 7th meeting of the Joint expert group on SDGs financing. The participants outlined a roadmap on the basis of the Development Finance Assessment report, reviewed a step-by-step guidance on the development of financial strategies of the Integrated National Financing Framework, possible SDG accelerators (Ashgabat, May 8).

At the High-Level Political Forum on Sustainable Development, Turkmenistan presented its second¹⁷⁴ Voluntary National Review (VNR). It covered progress on SDGs set before the country by 2030, COVID-19 response, strategic policy documents, and six extra goals for Turkmenistan (healthcare, inclusive education, food security, gender equality, improved wellbeing, and environmental protection) (New York, July 10-19).



Status of SDG targets for Turkmenistan (% trend indicators)



Progress on the SDGs in Turkmenistan was discussed at a roundtable of the National Working Group on the Implementation of the SDGs (Ashgabat, August 25).

Turkmenistan ranked 91st out of 166 countries in the annual Sustainable Development Goals Index published by the UN and the Bertelsmann Foundation.

Projects. As part of the project "Partnering for SDG acceleration, phase II" (UNDP): (1) technical assistance was provided in the preparation of the second Voluntary National Review (VNR) and to the State Committee of Turkmenistan on Statistics in the development of an online national SDG reporting platform¹⁷⁵; (2) a webinar on "Formation of indicators of the State budget with reference to the SDGs" (May 31, online) and a workshop on establishing a Regional Sustainable Development Goals (SDGs) Information Platform for Central Asian countries (November 6-10, Ashgabat) were held.



Source: SDG Main Page on the State Committee on Statistics, https://sdg.stat.gov.tm/en/

As part of "Young SDG Ambassadors" project¹⁷⁶ (UNDP), the Ambassadors took part in: (1) a meeting on the SDGs (Ashgabat, January 25); (2) 2nd International Conference and Exhibition "International Transport and Transit Corridors: Interconnection and Development-2023" (Ashgabat, May 3); (3) panel discussion "Affordable and Clean Energy from a Youth Perspective"¹⁷⁷ (Ashgabat, June 14); (4) youth conference on climate change (Dashoguz, October 3). A tree-planting campaign was also held (April 20, Ashgabat).

 $^{^{\}scriptscriptstyle 175}\,$ a set of indicators to measure progress on each of SDGs

¹⁷⁶ young SDG Ambassadors were selected from April 4 to May 30 2022 to raise awareness on SDGs (3rd cohort of Ambassadors)

¹⁷⁷ within the framework of the International scientific and practical conference "Energy prospects, new technologies for the development of hydrocarbon deposits"

Capacity building. To raise awareness among youth about SDGs, the following events were held: (1) meetings by UNDP specialists with students of various universities in the country, where such issues as the role of the younger generation in combating the climate crisis, Turkmenistan's international climate initiatives, etc. were discussed (Ashgabat, May, June); (2) an introductory workshop on the assessment and strategic planning of the SDG process (Ashgabat, November).

Events. Ashgabat hosted: (1) international scientificpractical conference "Sustainable Development Goals: Youth Policy and Innovative Technologies" (February 15); (2) roundtable on SDG implementation at the Institute of International Relations (March 20); (3) youth conference at the UNDP office (April 4-5), (4) training on SDGs (April 17).

Turkmen delegation attended the 10th Asia-Pacific Forum on Sustainable Development (Bangkok, March 27-30), the High-Level Political Forum on Sustainable Development (New York, July 10-20), and the SDG Summit (New York, September 19-20).

Cooperation on the Caspian Sea

Throughout the year, the Inter-ministerial Commission of Turkmenistan on the Caspian Sea had meetings to review its activities in 2022 and set plans for 2023, discuss outcomes of the 6^{th} Caspian Summit, and

evaluate progress on decisions and agreements made during the meeting of the heads of the Caspian states. Other topics included preparations for events marking the Day of the Caspian Sea and other related activities (Ashgabat, February 1, July 29, August 30).

The Ministry of Foreign Affairs of Turkmenistan hosted the sixth meeting of the High-Level Working Group on Caspian Sea Issues. Discussions continued on a draft agreement regarding the method for establishing baselines in the Caspian Sea, with several provisions agreed upon. The meeting concluded with the adoption of a communiqué (September 11-13, Ashgabat).

The International Seaport in Turkmenbashi has been awarded the EcoPorts¹⁷⁸ certificate, granting it the status of a green port integrated into Europe's transport system. The port features carbon protection measures, uses electric cranes, adheres to waste management regulations, and implements innovative technologies to minimize environmental impact.

Fluctuations of the sea level. The Caspian Sea's water level continues to decline, significantly impacting biodiversity and other environmental factors. The primary causes are climate change, reduced river inflows, and increased evaporation rates. As of January 2023, the sea level was approximately 30 cm lower than it was in January 2022.



Images of the coastline near the city of Turkmenbashi in 2004 and 2023 (*Source:* https://meteojurnal.ru/kaspkom-2023-godu-iz-za-malovodya-na-volge-tretij-god-podryad-uroven-kaspijskogo-morya-prodolzhit-ponizhatsya/)



Images of Dag-Ada Island in 2009 and 2023 (Source: https://meteojurnal.ru/dag-ada-ostrov-kotorogo-net/)

¹⁷⁸ this certificate was issued as part of the OSCE Project "Promoting green ports and connectivity in the Caspian Sea region" and provides for establishment of a digital platform for easier data sharing between the ports of Turkmenistan, Azerbaijan and Kazakhstan. This system, in turn, will be connected to larger modern ports in Europe

As a result of the declining sea level, the northeastern part of Turkmenbashi Bay has completely vanished. Over the past six years, the shoreline has receded by 12 kilometers, with the sea level dropping by 71 cm since 2017 and 145 cm since 2011.



Northeastern part of Turkmenbashi Bay (Source: https://www.hronikatm.com/2023/10/caspianshoreline-moved-12-km/)

Events. Turkmenistan hosted: (1) a scientific-practical conference "Caspian Sea – the sea of peace and friendship"¹⁷⁹ and an exhibition (August 12); (2) 9th training course "Caspian Sea – Sustainable Development and Management," during which a Memorandum of Understanding and Cooperation was signed between the Caspian Sea Institute and the International Ocean Institute (September 11-20); (3) online five-party expert consultations on finalizing the draft intergovernmental agreement on research cooperation on the Caspian Sea (October 30).

At the 78th session of the UN General Assembly, the President of Turkmenistan proposed creating the "Caspian Environmental Initiative" as an international platform to address the protection of the Caspian Sea, its biological resources, and key environmental issues (New York, September 19).

Turkmen delegation participated in multiple events, including: (1) 15th Caspian Energy Forum (Moscow, April 20); (2) international forum "Transport Logistics of the Caspian Sea Region 2023" (Astrakhan, Russia, April 26-27); (3) 1st Caspian Scientific and Educational Congress (Astrakhan, Russia, May 29); (4) Forum "Caspian Sea 2023: Paths to Sustainable Development" (Astrakhan, Russia, May 30-31); (5) 32nd session of the UNESCO's Intergovernmental Oceanographic Commission (Paris, June 21-30); (6) Caspian Media Forum (Astrakhan, Russia, September 18-19); (7) Ministerial consultations under the Framework Convention for the Protection of the Marine Environment of the Caspian Sea (Geneva, Switzerland, September 21-22); (8) 9th conference "Preserving the Caspian Ecosystem amid Oil and Gas Development" (Astrakhan, Russia, November 10); (9) Meeting of Foreign Ministers of the five Caspian states (Moscow, December 5); (10) meeting of the Ad Hoc Expert Group on the organization of the Secretariat of the Framework Convention (Baku, December 18-19).

Regional and international cooperation. A Memorandum of Understanding was signed between Russia's Federal Fisheries Agency and Turkmenistan's Ministry of Finance and Economy, establishing a foundation for bilateral cooperation in fisheries. The focus is on managing shared marine biological resources in the Caspian Sea (Ashgabat, January 20). A regular meeting of the Joint Working Group on the delimitation of the bottom of the Caspian Sea between the Republic of Azerbaijan and Turkmenistan was held. Discussions on the provisions of the draft agreement between the two countries were continued (Ashgabat, January 24-25).

Foreign Policy and International Cooperation

During 2023, the President of Turkmenistan paid state, official, and working visits to a number of countries, including China (January, May), Bahrain (February), Azerbaijan (March), Qatar (March), Russia (May), Tajikistan (May, September), the United Kingdom (May), Turkey (June, October), Saudi Arabia (July), Hungary (August), the United States (September), Kyrgyzstan (October), Uzbekistan (November), and the United Arab Emirates (December).

Key developments in the foreign policy of Turkmenistan

Turkmenistan continues to pursue its foreign policy strategy as outlined in the Concept of Turkmenistan's Foreign Policy for 2022-2028¹⁸⁰. This strategy focuses on ensuring peace and security at both the regional and global levels, maintaining the country's permanent neutrality, and enhancing cooperation in areas such as diplomacy, trade, culture, energy, transport, and environmen.

Turkmenistan initiated a UNGA resolution¹⁸¹ to declare 2023 the **International Year of Dialogue as a Guarantee of Peace**. The Strategy for International Cooperation of the Youth of Turkmenistan, 2023-2030 has been adopted.

Related events hosted in Turkmenistan included: (1) international conference "The Role of Neutral States in Strengthening Security, Stability and Dialogue in the OSCE Region", bringing together parliamentarians of CA countries, Eastern and Western Europe,

¹⁷⁹ on occasion of the Day of the Caspian Sea, which is celebrated since the Framework Convention for the protection of marine environment of the Caspian Sea (Tehran Convention) entered into force in 2006

¹⁸⁰ approved by Presidential Decree of 12.07.2022

¹⁸¹ A/77/L.10, the resolution adopted by consensus on 6 December 2022 during the 45th plenary meeting of the 77th UNGA. The resolution was co-authored by 68 Member States

diplomatic missions, academia and media (Ashgabat, May 16); (2) international youth forum "Dialogue as a Guarantee of Peace"¹⁸², which discussed topics like climate change, digital diplomacy, and youth initiatives, along with the first meeting "Dialogue of Youth from the Central Asian Countries" (Arkadag, October 2); (3) Cooperation Forum "Central Asia – Republic of Korea", focusing on regional issues, youth policies, and joint initiatives for international cooperation and achieving SDGs (Ashgabat, November 1).

Development of alliances and strategic partnerships.

Ties are expanding and comprehensive cooperation between Turkmenistan and the countries of Central Asia and the CIS is strengthening.

During the official visit of the President S. Berdymukhamedov to Tajikistan, 23 documents on bilateral cooperation were signed, and a wide range of current regional and international issues were discussed (May 10-11). In the run-up to the visit to Dushanbe, a joint Turkmen-Tajik business forum (May 8) and a round table "Development of scientific and technical cooperation between research institutions of Tajikistan and Turkmenistan: challenges and prospects" (May 8) were held. See Cooperation between the Countries of Central Asia on Water and Other Matters.

The matters related to rational use of water resources of the Amu Darya River, development of cooperation in the area of energy, transport, logistics, etc. were discussed at the first trilateral Summit of the Presidents of Turkmenistan, Tajikistan, and Uzbekistan. A Joint Statement was adopted following the summit (Ashgabat, August 4). See Cooperation between the Countries of Central Asia on Water and Other Matters.

Turkmenistan, as an associate member of the CIS, participated in the following CIS meetings: (1) Council of Heads of State (Bishkek, October 13); (2) Council of Heads of Government (Sochi, Russia, June 8; Bishkek, October 26; Moscow, December 18); (3) Council of Foreign Ministers (Samarkand, Uzbekistan, April 14; Bishkek, October 12); (4) Economic Council (Moscow, March 17; June 23, online; September 22, online; Moscow, December 8), as well as in the informal Summit of Heads of State (Saint Petersburg, Russia, December 26).

In the capacity of an honorary guest of the Shanghai Cooperation Organization (SCO), the President of Turkmenistan participated in the meeting of the Council of SCO Heads of States (July 4, online). Turkmen delegation attended also the 22nd Meeting of the Council of SCO Heads of Governments (Bishkek, October 26).

As part of its regional cooperation efforts, the delegation of Turkmenistan participated in important events, including: (1) Expert Meeting "Central Asia-2030: Visions of the Future" (Astana, January 20); (2) First InterParliamentary Forum of Central Asian States, resulting in the adoption of the Turkistan Declaration (Turkistan, February 9-10); (3) 6th Ministerial Meeting in the "Central Asia – Russia" format (Samarkand, Uzbekistan April 14); (4) 4th Meeting of Foreign Ministers in the "Central Asia -China" format (Xi'an, China, April 27); (5) XIV Kazan International Economic Forum "Russia – Islamic World: Kazan Forum 2023" (Kazan, Russia, May 18-20); (6) XVI Forum of Creative and Scientific Intelligentsia of CIS Countries (Bishkek, September 12-13); (7) First Meeting of Transport Ministers of Central Asian states (Dushanbe, September 13); (8) Meeting of Foreign Ministers of Central Asian countries (Dushanbe, September 13); (9) 5th Consultative Meeting of the Heads of Central Asian States (Dushanbe, September 14); (10) Meeting of the Council of Heads of IFAS Founding States (Dushanbe, September 15); (11) Economic Forum of Central Asian States "Digital Economy, E-Commerce, and Innovation" (Dushanbe, September 14); (12) 13th Meeting of Deputy Ministers of Central Asian States (Bishkek, November 27-28).

Turkmenistan has joined to the Basic Multilateral Agreement¹⁸³ on International Transport for the development of the Europe-Caucasus-Asia corridor (November 14).

Promotion of the national interests and reinforcement of the country's image

Turkmenistan actively cooperates with the UN, EU, OSCE, OIC, ECO, and other organizations.

United Nations. At Turkmenistan's initiative, the UN adopted the following resolutions in 2023: (1) A/77/L.53 "Role of the United Nations Regional Centre for Preventive Diplomacy for Central Asia" (February 17); (2) A/RES/78/148 "Strengthening the links between all modes of transport to achieve the Sustainable Development Goals" (December 19); (3) A/RES/78/149 "The pivotal role of reliable and stable energy connectivity in driving sustainable development" (December 21).

The following final documents of international conferences held in Ashgabat were published as official documents of the 77th session of the UN General Assembly: (1) Final declaration of the first ministerial meeting of the Group of Friends of Neutrality for Peace, Security and Sustainable Development, A/77/778 (December 10, 2022); (2) Communiqué of the international conference on cooperation on food security in the context of climate change, A/77/837 (March 9-10); (3) Summary statement of the participants of the international conference on international transport and transit corridors: interconnectedness and development 2023, A/77/899 (May 3-4); (4) Outcome statement of the Central Asian regional conference on the role of neutral States in strengthening security, stability and dialogue in the Organization for Security and Cooperation in Europe region, A/77/909 (May 16).

 ¹⁸² organized by the Parliament of Turkmenistan jointly with the OSCE Parliamentary Assembly under the "Call for action – Helsinki +50" Initiative
¹⁸³ Agreement was adopted in 1998 in Baku, Azerbaijan. The document aims to develop economic relations, trade and transport communication in Europe, Black and Caspian Seas and Asia

UNGA at the initiative of Turkmenistan, resolution A/77/L.67, declared November 26 as the World Sustainable Transport Day (May 16). The head of state addressed the 78th session of the UN General Assembly, where he emphasized the importance of tackling climate and environmental challenges (September 19).

Turkmenistan works actively with the UN specialized agencies. On February 27, the ceremony of signing documents between the ministries, state agencies, public organizations of Turkmenistan and the representative offices of the structural divisions of the UN in Turkmenistan – UNDP, UNFPA, UNICEF was held in Ashgabat. In 2023, Turkmenistan was elected to the Executive Board of UNICEF¹⁸⁴ for 2024-2026 (April 5) and to the ECOSOC Commission on Population and Development for 2024-2028 (December 5). Some of events that took place in 2023 included: (1) a meeting with UNESCO Cluster Office Director, Golda El-Khoury, to discuss including Turkmen cultural heritage in the UNESCO World Heritage List (May 15); (2) the ceremony of signing a Roadmap for cooperation between the Ministry of Education of Turkmenistan and the UNESCO's Institute for Information Technologies in Education for 2024-2025 (November 9); (3) a conference "Turkmenistan – UNESCO: Cooperation for Prosperity" (August 17).

Turkmenistan took part in: Ministerial Meeting of SPECA Member States (Geneva, Switzerland, April 17); 70th Session of the UN Economic Commission for Europe (UNECE) dedicated to digital and "green" transformation (Geneva, Switzerland, April 18-19); First Summit of Heads of State and Government of SPECA Member Countries (Baku, November 24).

As part of work within the **Economic Cooperation Organization (ECO)**, the Minister of Foreign Affairs participated in the 26th Meeting of the Council of Foreign Ministers of ECO Member States. The parties addressed such issues as enhancing regional cooperation in the area of investments, green economy, energy, food security, environment, agriculture, digitalization, and transport (Tashkent, January 24). The President of Turkmenistan attended the **16th ECO Summit** (Tashkent, November 9).

European Union. The 22nd annual meeting of the joint Turkmenistan-EU committee was held and focused on bilateral agenda issues and the implementation of the EU Strategy for Central Asia (Brussels, December 19). Key meetings included: (1) discussion with a delegation led by the EU Special Representative for CA, Ambassador Terhi Hakala (April 20); (2) meeting of Special Representatives for Afghanistan in the "EU-Central Asia" format, which concluded with a Joint Statement (May 26); (3) meeting between the President of Turkmenistan and the President of the European Council (New York, September 18). A press conference marking the 30th anniversary of the Turkmenistan-EU partnership was organized in Ashgabat (November 22).

OSCE. A new office of OSCE Center was opened in Ashgabat (June 1). Meetings were held with the

President of the OSCE Parliamentary Assembly, Margareta Cederfelt (May 16) and with the OSCE Secretary General, Helga Schmid (June 1). The discussions focused on the current state and future development of Turkmenistan's cooperation with the OSCE, particularly in political and economic spheres, energy and environmental security, and the promotion of parliamentary diplomacy. A meeting between the foreign ministers of CA countries and the OSCE Secretary General took place on October 31.

Turkmen delegation took part in multiple international events, including: (1) meeting of the heads of foreign ministries of the countries of CA and the US in the "C5+1" format (Astana, February 28); (2) meeting of the Council of Foreign Ministers of the Organization of Islamic Cooperation (OIC) (Nouakchott, Mauritania, March 16-17); (3) First CA-China Summit (Xi'an, China, May 18-19); (4) High-Level Summit in the CA-EU format (Cholpon-Ata, Kyrgyzstan, June 2); (5) first High-Level Meeting of CA-US ("C5+1") (New York, September 19); (6) first meeting of Speakers of Parliaments of CA and the Republic of Korea "Development of mutually beneficial relations focused on the future" (Seoul, September 19); (7) meeting of heads of delegations in the "Central Asia + Germany" format (Berlin, September 29); (8) Belt and Road Forum (Beijing, October 17-18); (9) 19th ministerial meeting "Central Asia-European Union" (Luxembourg, October 22-23); (10) meeting of foreign ministers of CA and G7 (November 8, online).

Sources:

The official web-sites of:

Ministry of Foreign Affairs of Turkmenistan: www.mfa.gov.tm/; Permanent Mission of Turkmenistan to the UN: https://un.mission.gov.tm/;

Ministry of Justice of Turkmenistan: http://minjust.gov.tm/; Ministry of Energy of Turkmenistan:

https://www.minenergo.gov.tm/;

Ministry of Economy and Finance of Turkmenistan: https://fineconomic.gov.tm/;

State Committee for Water Management of Turkmenistan: http://turkmenwater.gov.tm/ru/glavnaya/;

State Committee of Turkmenistan on Statistics: https://www.stat.gov.tm/;

Academy of Sciences of Turkmenistan: https://science.gov.tm/

Information agencies:

https://turkmenistan.gov.tm/ru/; http://tdh.gov.tm/ru/; https://turkmenportal.com/; https://www.oilgas.gov.tm/ru/; https://orient.tm/ru; https://arzuw.news/; https://arzuw.news/; https://ashgabat.info/; https://ashgabat.in/?lang=ru

¹⁸⁴ earlier Turkmenistan was elected and served as a member of the UNICEF Executive Board in 2018-2020

5.5. Uzbekistan



Water Sector

Water resources. The average annual quantity of water used in Uzbekistan is 51-53 billion m³, of which 80% (approx. 41 km³/year) is got from transboundary rivers. The estimated natural fresh and brackish groundwater deposits potentially yield 27.6 km³/year; however, they are unevenly distributed throughout the country. The water demand is met through a combination of surface water (50.9 km³/year), usable

groundwater (0.5 km³/year), and the reused collector and drainage water (1.6 km³/year). The average water use by sector is as follows: 90-91% – agriculture; 4.5% – municipal sector; 1.4% – industry; 1.2% – fisheries; 0.5% – thermal power; 1% – other sectors¹⁸⁵.

Latest developments in legislation.

The Strategy "Uzbekistan-2030" (UP-158 of 09.11.2023) outlines the following key areas for water-saving reforms: (1) fostering a culture of rational water use and

¹⁸⁵ UP-6024 of 10.07.2020 "On approval of the concept of water sector development in the Republic of Uzbekistan for 2020-2030"

enhancing water use efficiency across the nation; (2) guaranteeing the responsible utilization of water resources in the agricultural sector; (3) developing irrigation systems and water-saving technologies, actively promoting their adoption by the private sector and encouraging public-private partnerships; (4) reducing electricity consumption by pumping stations through the widespread implementation of green energy technologies;

• "The State Program for the implementation of the Development Strategy of New Uzbekistan for 2022-2026 in the Year of Human Care and Quality Education"¹⁸⁶ (UP-27 of 28.02.2023). To ensure stable agricultural water supply in 2023, the document outlines the following objectives: (1) reduce natural water losses in the water supply system by 10% through the establishment of a well-coordinated system and the implementation of water-saving digital technologies; (2) save at least 7 billion cubic meters of water and utilize it for irrigating secondary crops on 300,000 hectares of land through widespread adoption of digital technologies, employing water-saving technologies, timely implementation of necessary irrigation and land reclamation measures.

Several decrees and laws have been adopted: (1) Decree "On urgent measures to improve the water use efficiency" (PP-107 of 04.01.2023) outlines the primary objectives for enhancing water use in 2023. Following this decree, a Resolution "On Measures to Digitalize the Water Accounting System in Agriculture of the Kasbinsky district, Kashkadarya province" (PKM No.371 of 14.08.2023) was issued; (2) Decree "On Measures for the Effective Organization of Public Water Management within the Framework of Administrative Reforms" (UP-101 of 20.06.2023) established the Ministry of Water Management's priority areas, institutional setup, and a "Roadmap" for advancing water management reforms. In accordance with this decree, a Resolution "On Approval of Some Regulatory Documents Governing the Activities of the Inspectorate for Control over the Safety of Water Management Facilities and Water Use under the Ministry of Water Management of the Republic of Uzbekistan" (PKM No.500 of 27.09.2023) was adopted; (3) Law on the safety of hydraulic structures (ZRU-865 of 30.08.2023); (4) Decree "On measures for the organization of work on flood protection by coastal protective dams and structures on the Amu Darya River crossing Khorezm province" (PKM No.365 of 08.11.2023).

Water management system. In the course of implementation of the "Strategy for water management and irrigation development in the Republic of Uzbekistan for 2021-2023"¹⁸⁷, control of 58 large waterworks facilities have been fully automated, including installation of about 9 thousand Smart water devices and more than 6 thousand Diver devices. 1.5 thousand pumping stations were equipped with online water quantity monitoring. In 2023, a total of 959.9 billion UZS was used for the regular repair and restoration of the water management system. This investment was primarily used for irrigation facilities (711.6 billion UZS or 99% of the total) and land reclamation (248.3 billion UZS or 103% of the total). Key accomplishments under a State Program included infrastructure rehabilitation: reconstructed 392.9 km of canals, 57.7 km of flumes, 230.3 km of surface and 156.0 km of subsurface drainage system, 60 irrigation wells and 6 vertical drainage wells, 58 observation wells, 78 hydraulic structures, and 2 bridges. Additionally, 9.1 km of shorelines were strengthened.

Water-saving technologies. Uzbekistan ranks seventh in the world and first in Central Asia in terms of adoption of water-saving technologies against the total irrigated area. In 2023, water-saving technologies were implemented on 413.1 thousand ha of irrigated area, including drip irrigation – 77.3 thousand ha, sprinkling – 25.4 thousand ha, discrete irrigation – 13 thousand ha. Laser land planning was carried out on 222.8 thousand ha.

Projects. For development of the water sector, \$116.0 million were spent as part of a number of international projects, including: \$17.0 million – "Amu Bukhara irrigation system rehabilitation" (ADB), \$12.3 million – "Fergana Valley water resource management – Phase II" (WB), \$13.1 million – "Karshi pumping cascade rehabilitation-Phase-III" (SFD), \$42.5 million – "Modernization of 95 pumping stations in Bukhara, Navoi, Kashkadarya, Samarkand and Surkhandarya regions" (VEB.RF), \$20.1 million – "South Karakalpakstan water resource management improvement" (WB), \$4.8 million – "Modernization of 118 pumping stations in Andijan, Namangan and Ferghana provinces" (EBRD), \$6.2 million "Climate Adaptive Water Resources Management in the Aral Sea Basin" (ADB).

Other ongoing projects: (1) "Ferghana Valley water resource management - Phase II" (WB), modern equipment was purchased and transferred to water management organizations and training was conducted on its use; a 35 kW solar panel was installed; the Avval-Logon pumping station was built; work was completed on concreting the Akbura canal, reconstruction of the Robdon-1 and Savai-Akburasai canals; training programs were conducted for 1.8 thousand people, and more than 3 thousand farmers and water workers took part in various trainings and seminars (March, November); a delegation of women farmers had a study tour to agricultural and water facilities in Spain (July); (2) "National Water Resources Management Project in Uzbekistan" (NPWRM), Phase II" (SDC), special equipment, textbooks and laboratory equipment were transferred to colleges; a training seminar for women in water management was organized (February 17, March 14, August 31), as well as five-day trainings on the use of modern water measuring devices (April 10-14, May 1-5, May 8-13). A workshop on planning the 3rd phase of the project

¹⁸⁶ in accordance with the tasks defined in the "Development Strategy of New Uzbekistan for 2022-2026" (UP-60 of 28.01.2022 "On the development strategy of new Uzbekistan for 2022-2026")

¹⁸⁷ PP-5005 of 24.02.2021

was held (June 15); (3) "South Karakalpakstan water resource management improvement" (WB), the ceremonial commissioning of the southern part of the Bustan Canal took place (March 7), a seminar on laser land planning was held (June 14); (4) USAID Regional Water and Vulnerable Environment Activity organized the national celebration of the Amu Darya River Day (April 25-26, September 27), a week-long training course for hydrometers on the topic "IWRM, hydrometry and metrology" (August, October). For other projects, see http://www.uzaifsa.uz/en/con tent/ongoing-projects.

According to the results of the tender for the project "Karshi pumping cascade rehabilitation-Phase-III"¹⁸⁸, a total of \$34.6 million¹⁸⁹ was saved. According to the Resolution of the President of Uzbekistan (No.PP-382of 30.11.2023), at the expense of the saved funds, a proposal was approved for the modernization of additional 9 pumping units, the purchase of 7 brands of special equipment and 4 dredgers.

Capacity building. The following training events were held among many others: (1) seminars for water professionals on water-saving irrigation technologies (January 20; March 17; July 27); on the use of the CROPAGRO program (July 4), on ensuring the safety of GTS (July 22), on saving electricity in the national grid (August 1), on development of digital technologies in the water sector (September 12); (2) for hydrometers and dispatchers (February 4); (3) for women water workers on the topic "Gender and climate change" (March 9); (4) for employees of the Specialized Water Management Service (March 29); (5) for hydrometers on the topic "On-field use of modern water measuring devices" (April 10-July 14); (6) for heads of ministries and departments of the Republic of Uzbekistan on the basics of water use development strategy (September 29-October 1).

For the effective agricultural water use, Suvchilar Maktabi/School of Water Workers was launched¹⁹⁰ (May 29).

Events. Several events were organized in the course of the year, including: (1) international conference "A close look at water in Central Asia" (Tashkent, May 18); (2) roundtable dedicated to the 30th anniversary of IFAS (Tashkent, May 23); (3) seminar "Improving the efficiency of water resources management and water use in the Lower Amu Darya basin" (Nukus, August 16); (4) roundtable "Solving environmental and water issues in Uzbekistan: strengthening cooperation between the UN and the government to advance the SDG agenda" (September 29).

Representatives of Uzbekistan took part in the 25^{th} ICID Congress and the 74^{th} IEC meeting (India, November 5-8).

Regional and international cooperation. Uzbekistan has joined the Protocol on Water and Health of the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes, signed on June 17, 1999 in London (Decree No.PP-362 of 19.11.2023).

The Republic of Uzbekistan and the Kyrgyz Republic: (1) signed the Roadmap for the Kambarata HPP-1 construction project on the Naryn River, (Bishkek, January 6) and the declaration on comprehensive strategic partnership, within which the parties advocated the integrated use of water and energy resources (Bishkek, January 27); (2) conducted the second meeting of the joint Water Management Commission (Tashkent, April 11).

The Adviser to the President of the Republic of Uzbekistan took part in: (1) the third meeting of the joint Uzbek-Turkmen intergovernmental water commission (Tashkent, April 23); (2) the fourth meeting of the IFAS Board (Dushanbe, June 5).

The first meeting on the establishing basin dialogues in the basins of the Amu Darya and the Syr Darya¹⁹¹ took place in Tashkent (November 30).

ICWC member from Uzbekistan Sh.R.Khamraev participated in the 84th (Dushanbe, May 10) and 85th (Tashkent, November 1-2) meetings of the ICWC. See IFAS and Other Regional Organizations in Central Asia.

Drinking Water Supply

According to the Central Public Utility Organization (AO Uzsuvta'minot), the coverage by centralized drinking water supply expanded from 74.4% to 77.2%.

Latest developments in legislation. The Resolution "On additional measures for the improvement of drinking water supply and sewerage system" (PP-343 of 24.10.2023) defines the following priority tasks for the phased reform of the drinking water supply and wastewater disposal sector: (1) implement the effective drinking water supply system to the end user, record keeping of drinking water, digitalization of the sector, ensure the provision of uninterrupted, high-quality and secure services; (2) fundamentally improve the corporate governance system, providing for the independent performance of financial and economic functions by organizations of the system; (3) implement widely PPPs in the processes of drinking water distribution and mobilize private investment by creating an attractive investment environment; (4) establish full control of water volumes by installing water meters on existing facilities, networks and end users and reducing the net cost of production and supply costs through

¹⁸⁸ the project is implemented on the basis of PP-2977 and PP-4170

¹⁸⁹ \$19.82 million – borrowed funds of the SFD and \$14.78 million – loans from the Fund for Reconstruction and Development

¹⁹⁰ the project is implemented by Agrobank together with the Ministry of Agriculture of the Republic of Uzbekistan and "Tashkent Institute of Irrigation and Agricultural Mechanization Engineers" National Research University

¹⁹¹ the program was developed within the framework of the Green Central Asia initiative, in accordance with the regional action plan agreed by the Central Asian countries in November 2021

widespread application of energy-saving technologies and renewable sources; (5) improve the financial status of drinking water supply enterprises by establishing a systemic approach to enhance operational efficiency, reduce accounts receivable, and minimize accounts payable; (6) enhance tariff policy by incorporating best practices from international experiences, aligning capital investments and asset management with strategic objectives, and facilitating a gradual transition towards self-financing within the sector; (7) implement public awareness campaigns to promote responsible consumer behavior, including disciplined payment practices, the efficient use of water resources, and foster collaboration with media outlets. Simultaneously, update relevant regulations and standards to align with contemporary requirements.

The Cabinet of Ministers adopted a Resolution "On approval of the Regulations on the implementation of the Obod Kishlok and Obod Mahalla programs through proactive budgeting processes based on public opinion" (PKM No.183 of 03.05.2023) to set a number of measures for the improvement of drinking water supply and sanitation system.

Programs. 5.5 trillion UZS from the state budget and \$225 million (\$185.5 million in 2022) of foreign direct investment were allocated for provision of drinking water supply to the population.

Within the framework of: (1) targeted state programs, 11,207 km of water supply and 593 km of sewer network were laid, 1,740 drinking water supply and sanitation facilities were built and reconstructed; (2) an investment program, 425 km of water supply and 100 km of sewer network were laid under 22 projects.

Projects. As part of the projects: (1) "Improvement of drinking water supply through the Tupalang reservoir", 1.4 trillion UZS were used for laying 147 km of the network, improvement of water supply quality for 1.1 million (40% of the population) living in 273 communities of the Sariasi, Denau, Shurchinsky, Kumkurgan districts; (2) "Improvement of drinking water supply in Jizzakh province through the use of waters from the Zarafshan River", residents of Dustlik, Pakhtakor, Mirzachul districts and the city of Jizzakh have got better drinking water supply.

In 2023, as a result of implementation of all projects, 1.1 million residents in over 2,000 local communities gained access to centralized drinking water supply and 2.5 million residents got improved drinking water supply. In 1,134 settlements lacking centralized drinking water supply, water is provided by 214 specialized vehicles operated by water supply companies and 1,112 specialized vehicles owned by other individuals and legal entities. Resolution "On measures for the implementation of the project 'Development and modernization of water supply and sewerage systems of Bukhara province (phase 2)' with the participation of the Asian Infrastructure Investment Bank" (PP-266 of 07.08.2023) approved the allocation of a loan in the amount of \$248.40 million. Another Resolution "On measures for the implementation of the project 'Program of comprehensive urban development in the Republic of Uzbekistan' with the participation of the Asian Development Bank"¹⁹² (PP-124 of 19.04.2023) set a preliminary agreement on signature of a loan agreement worth \$59.0 million.

An agreement was signed with the French company "Suez" on the project "Modernization of the drinking water supply system in Surkhandarya province".

Capacity building. Seminars/trainings were held: (1) for specialists of the Central Public Utility Organization (AO Uzsuvta'minot)¹⁹³; (2) for employees of the compliance control service of territorial water supply enterprises; (3) on the topics "Improvement of hydraulic component and applying geoinformation systems in the drinking water supply system of cities of republican and regional subordination" (February 24) and "Construction and operation of local structures" (March 15). The meeting of the Korea Green Growth Trust Fund and the "K-Water" company on the online training program "Uzbekistan: Water Academy and capacity building" took place on May 10-23.



The AO Uzsuvta'minot training center saw significant participation in advanced training courses, with 4,298 employees taking part. To enhance personnel capabilities and gain international insights, 117 specialists undertook training programs in South Korea, Austria, Brazil, and Iran. Notably, at the South Korean academy "K-Water," these specialists focused on "Capacity building in the field of drinking

¹⁹² implementation period is 2023-2027

¹⁹³ within the framework of the project "Raising awareness of journalists and bloggers of Uzbekistan on covering issues of water use and water conservation", implemented since October 2022 by the Center for Journalist Retraining in cooperation with the Canadian Foundation for Support of Local Initiatives

water supply and sanitation in Uzbekistan" (March 6-19) and "The process of water purification and water quality" (April 17-30).

20 laboratories have received certification for fulfilling national quality standards (O'zDst 3410:2019). The number of water quality analyses conducted has increased by 18%, indicating a greater focus on monitoring water safety.

In order to improve the quality and transparency of services provided to consumers, an automated unified billing system for accounting and control of drinking water supply and sanitation services "Uzwater" has been launched. The SuvniAsra system has been implemented. The opening of the "Suvta'minot" | Water supply" Telegram chat and bot provides convenient channels for customer communication and service inquiries. Map-a-thon¹⁹⁴ was held in Uzbekistan for the first time (November 24-26).

International cooperation. In the course of the year, the national public utilities company had meetings with several international organizations and companies, including: AFD, Abu Dhabi Sewerage Services, ADB, EBRD, French company "EIFFAGE", China Agency for International Cooperation and Development, WB, Deokmoon Engineering, German company NETZSCH, Ernst & Young Advisory LLC.

During the visit of the Chairman of the Board of AO Uzsuvta'minot to Germany, the following agreements were signed: (1) agreements on implementation of a number of projects aimed at further expanding international cooperation; (2) memorandum of understanding with KfW Bank to raise €200 million to improve drinking water supply and sanitation services in Surkhandarya and Ferghana provinces; (3) the "Road map"; (4) a grant agreement; (5) memorandum of understanding with Aqua Consult Ingenieur GmbH, providing for the joint implementation of the project "Construction of sewage systems in 6 district centers and towns of Samarkand province"; (6) memorandum of understanding with German Water Partnership. Agreements have been established with the German Federal Agency for Environmental Protection (UBA) to provide Uzbek environmental specialists with annual access to medium-term refresher courses and internships in Germany.

AO Uzsuvta'minot signed memoranda with: (1) the Spanish company "IDOM CONSULTING, ENGINEERING, ARCHITECTURE SAU" on cooperation in developing a master plan for a project to improve drinking water supply and sanitation systems in Ferghana province (March 1); (2) the South Korean corporation "K-Water" "On strategic cooperation and technical assistance in the field of water resources" (October 5); (3) the German company "Bioworks" on mutual understanding and cooperation (October 27).

Agriculture

At year-end, agricultural production amounted to 404,648.6 billion UZS, including crop production – 202,679.1 billion UZS, livestock – 201,969.5 billion UZS. The growth rate in crop production was 104.2%, in animal husbandry – 103.7%. The total volume of produce (services) of agriculture, forestry and fisheries amounted to 426.3 trillion UZS (+4.1% by 2022). The volume of agricultural produce was as follows: grain – 8.4 million tons, potatoes – 3.6 million tons, regetables – 11.6 million tons, grapes – 1.7 million tons; meat – 2.83 million tons (+3.9% by 2022), milk – 11.97 million tons (+2.9%), and eggs – 8.49 million (+4.4%).

Uzbekistan ranked 73rd out of 113 countries in the annual ranking of the Global Food Security Index "Global Food Security Index 2022" (GFSI) (78th in 2021).

Latest developments in legislation. In the context of the "Agricultural Development Strategy in the Republic of Uzbekistan for 2020-2030"¹⁹⁵, a number of resolutions were adopted, including: (1) "On measures to establish the International Institute of Food Technology and Engineering" (PP-22 of 26.01.2023); (2) "On additional measures to expand and support agricultural production and processing in 2023" (PP-113 of 05.04.2023), which included sub-resolutions "On measures for the introduction of advanced digital technologies in agriculture" (PP-257 of 02.08.2023) and "On measures to improve the system of subsidies to agroindustry and increase its efficiency" (PKM 331 of 03.08.2023); (3) "On additional measures to improve quality and efficiency through the integration of science, education and production in the agricultural sector" (PP-216 of 07.07.2023).

Other adopted governmental decrees and resolutions were focused on: protection and rational use of pastures (UP-24 of 16.02.2023); further development of the silk industry (PP-73 of 24.02.2023); modernization of agricultural facilities (PP-103 of 29.03.2023); development of viticulture in 2023-2026 (PP-260 of 03.08.2023); improvement of cotton production (PP-391 of 15.12.2023); combatting land degradation (PKM 50 of 02.02.2023); the National Program for the development of seed and seedling production in the Republic of Uzbekistan for 2023-2026 (PKM 51 of 02.02.2023); supporting bee-keeping network (PKM 239 of 12.06.2023) and greenhouses and enterprises exporting fruits and vegetables (PKM 567 of 27.10.2023).

New appointments. Mr. I. Abdurakhmonov was appointed as the Minister of Agriculture.

Strategies and programs. As part of implementing the "Agricultural Development Strategy in the Republic of Uzbekistan for 2020-2030," a pilot program was launched on April 15. This program introduces a new sys-

¹⁹⁴ Map-a-thon is a cartographic event and a kind of marathon to determine the actual coverage of the drinking water supply system, as well as filling the database of AO Uzsuvtaminot by visiting mahallas/local communities and conducting a survey of households on the ground ¹⁹⁵ UP-5853 of 23.10.2019

tem of project financing for initiators through the State Unitary Enterprise "Agroservice Operator," utilizing funds from International Financial Institutions.

To enhance transparency and streamline the process of allocating preferential loans for cotton, cereals, vegetables, and fruits, the Agroplatform information system has been integrated into the "Digital Agriculture" Unified Integration Platform since September 1st.

Agroclusters. As of today, over 800 agricultural clusters operate in Uzbekistan, responsible for 100% of cotton and cereal production and more than 60% of fruit and vegetable production. To support this sector, the Presidential Decree "On measures to support the activities of cotton and textile clusters, fundamentally reform the textile and clothing and knitwear industries, as well as further increase the export potential of the sphere" (UP-2 of 10.01.2023) was adopted.

To foster mutually beneficial relationships between cotton and textile clusters and farms and enhance the efficiency of raw cotton production, the Presidential Decree "On additional measures to further support the activities of producers of raw cotton" (PP-23 of 26.01.2023) was issued. Furthermore, to advance free market principles in agriculture, strengthen collaboration between cotton and textile clusters and agricultural producers, and foster a competitive market environment, the Presidential Decree "On additional measures for the further development of free market relations in agriculture" (UP-205 of 12.12.2023) was adopted. Finally, the Presidential Decree "On additional measures to improve quality and efficiency through the integration of science, education, and production in the agricultural sector" (PP-216 of 07.07.2023) introduces a support system for agricultural clusters actively engaged in collaboration with scientific and educational institutions.

Projects. As part of the "Sustainable management of forests in mountain and valley areas in Uzbekistan" project (FAO/GEF), significant progress has been made in improving forest and pastureland conditions: drainage facilities have been established on over 2,000 hectares to enhance water management; degraded pastures have been restored across 20,000 hectares; 180 cultivated areas have been established, and technical work has been conducted on natural reforestation across 4,200 hectares; sustainable forest management practices have been implemented over 78,000 hectares. Trainings on forest and pastureland inventory utilizing innovative GIS technologies have been organized for forestry workers, farmers, and entrepreneurs.

Continued projects: (1) "Smart farming for the next generation" (FAO), which presented to small farmers modern and optimized agricultural production systems and transferred advanced technologies; (2) "Sustainable development and increased added value in the cotton industry" (GIZ): a training seminar was organized in November 23; (3) "Diversification and modernization of agriculture" (IFAD). Two veterinary clinics equipped with modern surgical and treatment facilities for pets have been established; projects for the construction of 25 irrigation wells have been developed; training seminar for women in the agricultural sector was held in February; (4) "Integrated natural resources management in droughtprone and salt-affected agricultural production landscapes in Central Asia and Turkey" (CACILM-2, FAO/GEF): a new GIS laboratory was opened at the Bukhara Institute of Natural Resource Management at TIIAME; a side event dedicated to combating soil salinization on irrigated lands of Central Asia was organized; a seminar on planning integrated drought management in Central Asia was held; (5) "Support for an inclusive transition to a green economy in the agri-food sector and the development of a climateoptimized system of knowledge and innovation in agriculture in Uzbekistan (EU-AGRIN) (EU/UNDP)": a training seminar for specialists of relevant organizations, departments, representatives of science, education and farmers was held on January 30-February 4; a competition "Zamin yulduzlari" was initiated by the association "Women of the Agricultural sector of Uzbekistan" (March 3); laboratory and agricultural equipment was provided to five farms of the Akhangaran district, Tashkent province; (6) "Preparing the grounds for digital transformation of agriculture" (FAO). Workshops were organized on: transformation of agriculture in Uzbekistan through knowledge, innovation and digitalization" (March 1-2); digital agriculture (October 23-26); adoption of drip irrigation technology for crops grown in household plots using alternative energy in the context of water scarcity" (November 28).

The total number of joint projects between Uzbekistan and FAO reached 66 and amounted to \$70.05 million. To date, 33 projects worth \$15.03 million have been completed; work is underway on other 33 projects (\$55.14 million); 4 projects (\$41.3 million) are in the process of development.

Within the framework of cooperation between the Global Soil Partnership (GSP), the SubRegional Eurasian Soil Partnership (EAPP), the FAO Country Office in Uzbekistan and the Ministry of Agriculture of Uzbekistan, the project "Support for the promotion of sustainable soil management in the framework of the FAO Global Soil Partnership – Phase III" was signed.

The Ministry of Agriculture of Uzbekistan, in collaboration with the EU's ASK Facility project, has established a project management office. The initial phase involves systematizing agricultural activities.

Capacity building. Relevent Resolutions were adopted to (1) establish the Faculty of "Sericulture and Mulberry Farming" at the Andijan Institute of Agriculture and Agrotechnologies (PP-73 of 24.02.2023); (2) PPRUz No.approve the "Roadmap" for the integration of science, education and production in the agricultural sector (PP-216 of 07.07.2023); a specialized international school¹⁹⁶ will be established at the

 $^{^{196}\,}$ for 1st to 5th grade school students

International Agricultural University on the basis of the UK education system, as well as the Samarkand Institute of Agricultural Innovations and Research, the interdepartmental center for basic research in Agriculture and the directorate of the national research complex of field crops seed production.

The geographic information system of the Ministry of Agriculture of Uzbekistan was awarded for achievements within the framework of the ESRI¹⁹⁷ User Conference (San Diego, USA).

The Agricultural Product Quality Assessment Center has inaugurated a new laboratory complex, equipped with state-of-the-art testing devices.¹⁹⁸ This complex enables, for the first time in Uzbekistan, the determination of the 'Gluten Index' according to the international standard ISO 21415.

The Global Soil Laboratory Network – GLOSOLAN, FAO and the Ministry of Agriculture of Uzbekistan conducted trainings on the analysis of saline soil for specialists from more than 30 countries.

Series of trainings were focused on: information systems in agro-industry (February 1); training of facilitators in agriculture (February); fruit and vegetable production (February 20), concept of food safety and healthy nutrition (April 7), mechanisms for creating intensive gardens and small agrologistic centers (April 8), high-quality corn cultivation (July 27), food safety (August 10-11); farmers of Mirishkor district (February 26); laboratory assistants of the testing laboratory of the State Unitary Enterprise "Soil Quality Analysis" (April); operation of the AKIS agricultural knowledge and innovation system (June 15); smart greenhouses (September 13); operation of control and measuring machine (CMM) (September 18); farmers and clusters (December).

Events. The Ministry of Agriculture of Uzbekistan organized a number of events jointly with partners, including, among others: (1) seminar "Support for the inclusive transition of the agro-food sector to a "green economy" and the development of a climate-oriented system of agricultural knowledge and innovation" (UNDP, January 31); (2) seminar "Fruit gardening: Water resources management and business" (Ministry of Agriculture, Nature and Food Quality of the Netherlands, March 16); second international conference "AgroInsurance 2023" (Swiss Re and Europa Re companies, March 25); (3) seminar "Diversification of aquaculture aimed at small farmers and workers of agricultural extension services" (FAO, March 28-29); regional seminars on the implementation of country projects in Europe and Central Asia (May 2-3), the development of "green" methods of growing certain types of agricultural products¹⁹⁹ (May 2-3), which resulted in the adoption of a decision on the establishment of the regional Central Asian working group of the Global Action Program "OSOPP"; five-day camp "Digital Valley" (July 22-26); international conference on food security (September 7-8); (4) UNDP, FAO and GIZ International Forum "Combating Land Degradation in Central Asia: Challenges and Solutions" (April 27); (5) FAO and ICARDA Scientific and practical conference "The importance and scientific foundations of innovative agrotechnologies in the development of rain-fed agriculture" (May 19); (6) GSP²⁰⁰, EASP²⁰¹ and FAO second meeting of the International Network on Saline Soils (INSAS) (May 22-26); (7) international conference "Sustainable Development Goals: Food security and water supply" (July 7).

International exhibitions in 2023 included: AGROPRO EXPO-2023 (February 21-23, Samarkand); "AGRO-WOLRD UZBEKISTAN-2023" (March 15-17) and "UzFood 2023" (March 28-30).

Regional and international cooperation. The Uzbek delegation participated in the XV "World Forum on Agriculture and Food" and the Berlin Conference of Agricultural Ministers within the framework of the 84th exhibition "Green week -2023". On the sidelines of the exhibition, the delegation had meetings with agricultural ministers of Germany, France, Georgia, Turkey, Latvia, Canada, Mongolia, the Netherlands, Poland, Hungary, Kazakhstan, as well as with the heads of the World Bank, FAO and IFAD. Agreements have been reached on implementation of 12 projects worth \$575.6 million, trade contracts worth \$154.3 million (Berlin, January 19-21).

The Government of Uzbekistan has signed: (1) a Roadmap with the Kyrgyz Republic for the implementation of joint agro-industrial investment projects and the increase of turnover of agricultural products in 2023-2025 (Bishkek, January 26) and a memorandum on cooperation and implementation of joint horticultural projects (Tashkent, March 14); (2) 6 agreements (\$118 million) with Germany. These are aimed at developing of new technologies, education, and exchange in agriculture (May 2); (3) a cooperation agreement with China CAMC Engineering Co Ltd (May 17); (4) 16 cooperation agreements with Italy (June 6); (5) MoU with South Korea (June 16); (6) MoU with Israel on application of innovative technologies in agriculture (September 8).

The Samarkand Declaration on Global Food Security adopted during the International Conference on food security had several focus areas, including: (1) agricultural development in the most environmentally friendly way, supporting biodiversity, with opti-

¹⁹⁷ Environmental Systems Research Institute (ESRI) was founded in 1969 and is a leader in the global market of geoinformation systems, software for geolocation and cartography. The company has 49 offices, 11 research centers and more than 300 thousand users worldwide

¹⁹⁸ WB grant of \$4 million

 $^{^{199}}$ within the framework of the Global Action Program "One country – one priority product"/OSOPP

²⁰⁰ GSP-Global Soil Partnership

²⁰¹ EASP-Sub-Regional Eurasian Soil Partnership

mal use of water resources; (2) promotion of healthy nutrition of the population, especially children and adolescents, comprehensive school nutrition programs; (3) empowerment of rural women to increase their contribution to the transformation of agro-food systems; (4) state support of small and family farms, expanding their access to inputs, natural and financial resources.

A number of meetings were held, including: (1) meetings on cooperation between the Ministry of Agriculture of Uzbekistan and FAO (January 10) and representatives of the American company Crown Iron Works (January 13); (2) 6th meeting of agricultural ministers of Central Asian countries (February 15); (3) meeting of the joint Uzbek-Hungarian working group on agriculture (March 2); (4) 2nd meeting of the Uzbek-Kazakh working group on monitoring the implementation of cooperative projects and import substitution for systematic supply of products (March 3); (5) 1st meeting of the Uzbek-Kyrgyz working group on agriculture (March 7); (6) 8th meeting of agricultural ministers of SCO member states (May 17); (7) 6th plenary meeting of the Sub-Regional Eurasian Soil Partnership (May 31); (8) 2nd Agribusiness Forum of the Turkic States (September 27).

Energy

The current power generation capacity in Uzbekistan stands at 12,900 MW, primarily sourced from: thermal power plants (TPP): 11,000 MW (84.7%); hydro power plants (HPP): 1,850 MW (14.3%); other sources: 133 MW (1%).²⁰² By 2025, the total capacity is projected to reach 25,600 MW, with the following breakdown: TPP: 18,800 MW; HPP: 2,500 MW; Solar and Wind Power: 4,300 MW. Further, by 2030, the total capacity is expected to increase to 29,200 MW, with a significant portion (40.4%) coming from renewable energy sources, including hydro, solar, and wind power.

In 2023, Uzbekistan generated 77.9 billion kWh of electricity, a 4.8% increase from the previous year. This included 69.6 billion kWh generated by TPPs.



Source: https://minenergy.uz/ru/news/view/3617



Source: https://minenergy.uz/ru/news/view/3619

While the country exported 1.9 billion kWh of electricity in 2023, it also imported 4.9 billion kWh to meet domestic demand. A total of 71.2 billion kWh of electricity was transported through the main electric grid.

By the end of 2026, Uzbekistan is set to commission 25 new power plants, totaling 11,954 MW. These include 9 thermal power plants, 9 solar power plants, and 7 wind power plants. Looking ahead to 2030, the projected electricity consumption in Uzbekistan is estimated to reach 120.8 billion kWh.

Latest developments in legislation. Several decrees were adopted, including: on enhanced State Control mechanisms and implementation of the Digital Energy Control system in the fuel and energy industry" (UP-77 of 24.05.2023) and on the next stage of reforming the energy sector (UP-166 of 28.09.2023).

The decree "On measures to improve the effectiveness of State control in the use of fuel and energy resources" (PP-54 of 13.02.2023) instructs the Ministry of Energy to ensure implementation of SCADA system, as well as automated control and metering systems for electric energy (ASKUE) in all processes, starting from generation to delivery to end users.

Events. A number of events were organized, with the largest of them including: (1) conference "Energy Market of Uzbekistan" (March 30-31); (2) 2nd International Energy Forum of Uzbekistan (May 18-20); (3) 3rd international industrial exhibition "Innoprom. Central Asia" (April 24-26); (4) "International Forum of Women Power Engineers" (August 16-18); (5) 17th International exhibition "UzEnergyExpo-2023" (October 25-27).

Regional and international cooperation. The Minister of Energy of the Republic of Uzbekistan was elected²⁰³ Vice-President of the CIS Electric Power Council.

Memos and agreements signed in 2023 included, among others: (1) a memorandum between LONGi and KIUT University (Uzbekistan), which provides for

²⁰² "Concept of Electricity Provision in Uzbekistan for 2020-2030"

 $^{^{\}scriptscriptstyle 203}$ by the decision of the $\rm 63^{\rm rd}$ meeting of the CIS Electric Power Council

the support of students and grants for the university, student exchange programs, and the partial establishment of solar panel production in Uzbekistan; (2) a memorandum between JSC AzerEnergy and JSC National Electric Networks of Uzbekistan; (3) a contract for the supply of basic electrical equipment worth \$9.5 million as part of the investment project "Modernization and reconstruction of substations of main power grids with the participation of the World Bank"; (4) an agreement²⁰⁴ on the provision of financial and consulting services for an electricity distribution project in Tashkent in the amount of \$300 million between the Ministry of Investment, Industry and Trade and the International Finance Corporation.



Representatives of the energy sector took part in: (1) the 3rd meeting of the Energy Ministers of the SCO member states (March 14, online); (2) trilateral meetings of the Ministries of Energy of the Republic of Uzbekistan, Kazakhstan and the Kyrgyz Republic (Tashkent, March 15; Astana, August 25); (3) 39th (Dushanbe, May 3-5) and 40th (Samarkand, October 26) meetings of the Central Asian Coordinating Electric Power Council; (4) 41st (Dushanbe, May 3) and 42nd (Samarkand, October 25-26) meetings of the Coordination Commission; (5) 62nd (Bishkek, August 22) and 63rd (December 1, online) meetings of the CIS Electric Power Council.

Hydropower

In Uzbekistan, the hydropower sector has 58 HPPs with an installed capacity of 2,233 MW, particularly 17 large HPPs and 41 small and micro HPPs.

AO Uzbekgidroenergo is investing \$1.363 billion in 13 hydropower projects, adding 749 MW of capacity and generating 2.1 billion kWh annually. In 2023, \$148 million was invested, and seven projects worth \$1.4 billion are underway. This includes seven new hydroelectric power plants costing \$124 million, generating 552 million kWh yearly and adding 200 MW of capacity.

Latest developments in legislation. Decree²⁰⁵ "On measures for further reformation of the hydropower sector" (PP-104 of 30.03.2023) sets the following: (1) bring the total capacity of hydropower to 4,999 MW by 2030; (2) construct Yukoripskem, Korongitugai, Toldiksoy HPPs, the cascade of Oygain HPPs and the Yukoripskem HPP with a total capacity of 876 MW in the Bostanlyk district, Tashkent province; the cascade of Naryn HPPs with a total capacity of 225 MW on the Naryn River in Namangan province and the cascade of Yukoritupalang HPPs with a total capacity of 264 MW in the Saryasi district, Surkhandarya province; (3) implement a program of additional measures for further hydropower development in 2023-2030.

AO Uzbekgidroenergo's HPPs have started issuing green energy certificates since July 1, 2023, as per PPRUz 156. The first certificate was issued by I-REC.

Hydropower construction and modernization. In 2023, Uzbekistan commissioned eight hydro power plants, including three large and five micro-hydroelectric plants, in Tashkent, Andijan, Samarkand, and Surkhandarya provinces. These new plants have a combined annual capacity of 190 MW.

The following hydropower projects are planned for implementation: Tashkent province: Muloloik, Yukori Pskem, Korongi Tugai, Okbulok, Oigan HPP cascade, Huzhakent HPP (total capacity: 1734 MW); Namangan province: Naryn HPP cascade (total capacity: 229 MW); Surkhandarya province: Mizot HPP cascade, Kuchluk (total capacity: 75 MW).

Four pumped storage projects, totaling 1,600 MW and costing \$2.1 billion, are planned as well.

Small hydropower. Recent water shortages in Uzbekistan have led the country to prioritize micro-hydropower plants. AO Uzbekgidroenergo has initiated 23 projects to construct micro-hydropower plants with a combined capacity of 27 MW. Two of these plants, Ispaisoy in Tashkent and Zavrok in Andijan, have already been commissioned, contributing 0.4 MW to the nation's power grid.

Capacity building. AO Uzbekgidroenergo held trainings on: PPP in the energy sector (July 24-27), modernization of the Tupalang HPP (August 17-19), safety of reservoir operation (September 13-14), innovative approaches in the field of renewable energy sources (November 15), transition to a green economy and ensuring green growth (November 28-29), network protection and automation and automatic process control (December 7).

Uzbekistan is pioneering a new approach to hydropower development with its first PPP-based hydroelectric power plant project. The project involves the

²⁰⁴ within the framework of the 32nd annual meeting of the EBRD Board of Governors

²⁰⁵ in fulfilment of Presidential Decree UP-101 of April 8, 2022

construction of five new hydroelectric power plants: Dukentsai, Kamchik, Kizildarya, Kuyi Koksu, and Suvlisai, with a combined capacity of approximately 46.6 MW. Synergy Consulting has been appointed as the financial consultant, Dolsar Engineering as the technical consultant, and Unicase as the legal consultant.

Regional and international cooperation. The Ministries of Energy of Uzbekistan, Kyrgyzstan, and Kazakhstan have signed a roadmap to construct the 1,860 MW Kambarata HPP-1 (Bishkek, January 6).

AO Uzbekgidroenergo signed several agreements and MoU, including: (1) for the supply of floating hydroelectric units with a capacity of 50 MW with "MACLEC technical project laboratory pvt. LTD" (India) (February 8); (2) on the production of hydraulic units with a total capacity of 2-15 MW under the national brand "Made in Uzbekistan" with "Zhejiang Jinlun Electromechanical Co., Ltd." (February 21); (3) with "China Southern Power Grid International" JDA²⁰⁶ (November 18).

The delegation of AO Uzbekgidroenergo had meetings with representatives of: (1) MACLEC technical project laboratory pvt. LTD (January 23), Elsewedy Electric (Egypt) (February 13), CAMCE (China) (February 15); Zhejiang Jinlun Electromechanical Co. Ltd (China) (May 25); (2) Regional Center of Small Hydropower of the People's Republic of China (April 13); (5) China National Technical Import and Export Corporation (CNTIC) and China Machinery Engineering Corporation (CMEC) (May 17); (6) (7) Power Machines OJSC (September 8); (8) China Southern Power Grid International (October 17-18); (9) the World Bank within the framework of the CAWEP program (November 29).

Within the framework of the Uzbek-Chinese business forum²⁰⁷, AO Uzbekgidroenergo has signed agreements and MoU for production of 15 MW hydrounits, design and construction of hydropower projects and supplies of equipment for HPPs.

Thermal power

AO Thermal Power Plants is the primary electricity producer in Uzbekistan, generating over 70% of the country's power. The company operates five thermal power plants, three combined heat and power plants, three service companies, and the Tashkent heat center.

In 2023, AO Thermal Power Plants generated 54.2 billion kWh of electricity and 5.1 million Gcal of thermal energy. The company aims to increase its total capacity to 14.7 thousand MW by 2030²⁰⁸. In 2023, AO Thermal Power Plants disbursed \$622.63 million in various projects and localized the production of products through 35 projects, amounting to 48.1 billion UZS.

New appointments. Mr. B. Juraev was appointed as the Chairman of the Board of AO Thermal Power Plants.

Thermal power construction and modernization. AO Talimardjan TPP has launched the construction of a 1065 MW combined-cycle energy-efficient installation. AO Thermal Power Plants is implementing several projects to boost its power generation capacity: (1) Tashkent CHP: Constructing two new gas turbine units (32 MW) to generate 515.6 million kWh of electricity and 690.3 thousand tons of thermal energy annually (JICA); (2) Talimarjan TPP: Expanding with a new combined-cycle gas plant (900 MW) to generate 7.2 billion kWh per year (ADB/EBRD); (3) Navoi TPP: Constructing the third and fourth combinedcycle gas plants (650 MW each) to generate 4.9 billion kWh of electricity and 931.4 thousand tons of thermal energy annually per plant (JICA).

Several projects have been launched to connect a 1,500 MW combined-cycle gas power plant to the grid in Syrdarya province; construct a pilot production of "green hydrogen" in Tashkent province jointly with ACWA Power²⁰⁹. 9.6 MW of solar and wind energy capacity was added in 2023 to offset internal power consumption.

International cooperation. AO TPP and Siemens Energy signed contracts totaling \in 72 million for the installation of energy-efficient gas turbines in Bukhara and at the Mubarek Thermal Power Plant (May 2). Agreements have been also signed: (1) with TAQA energy company on the implementation of a 1,600 MW combined cycle gas turbine plant worth \$1.2 billion (May 17); (2) the Italian credit agency SACE for the implementation of 4 major projects totaling more than \leq 2.26 billion (June 9).

Alternative energy sources

Latest developments in legislation. Several resolutions were approved on: (1) accelerated adoption of RES and energy-saving technologies in 2023 (PP-57 of 16.02.2023); (2) implementation of the Clean Energy for Buildings in Uzbekistan project, with the WB's participation (PP-106 of 30.03.2023); (3) implementation of the project "Application of innovative carbon resources for energy reforms", with the WB's participation (PP-271 of 08.08.2023); (4) production of alternative energy from landfills (PP-335 of 16.10.2023).

A number of documents were adopted in fulfilment of resolution "On measures to improve the effectiveness of reforms aimed at the transition of the Republic of Uzbekistan to a "green" economy by 2023" (PP-436

²⁰⁶ JDA-joint development agreement

 $^{^{\}scriptscriptstyle 207}\,$ the forum was held on May 17 in Xi'an, China

²⁰⁸ "Concept of Electricity Provision in Uzbekistan for 2020-2030"

²⁰⁹ Currently, ACWA Power builds 5 power plants totaling 4,100 MW in Uzbekistan, including 4 wind farms with a capacity of 2,600 MW and a 1,500 MW modern thermal power plant. The total volume of investments by ACWA Power currently amounts to \$7.5 billion

of 22.12.2022), including: (1) on adoption of green energy certification system (PP-156 of 12.05.2023); (2) on extended implementation of "Green Energy Certificates" and improvement of "Green Financing" mechanisms of (PKM 515 of 29.09.2023).

A new dispatch center, "Green Energy," has been established to manage alternative energy sources (November 3).

Carbon neutrality action plan for the energy sector of Uzbekistan. Uzbekistan aims to achieve carbon neutrality by 2050, focusing on decarbonizing its electricity sector. Strategic documents outline the roadmap for this transition, including mechanisms and targets for economic transformation and CO_2 emissions reduction.

The Government of the Republic of Uzbekistan and the World Bank signed an agreement to allocate \$46.25 million for financing the Innovative Carbon Resource Application for Energy Transition Project (iCRAFT).

Solar power. In 2023, solar power generation reached 253 MW. Uzbekistan aims to increase solar power's contribution to its electricity mix to 30% by 2030.

Two new solar power projects have been approved: a 250 MW plant in Bukhara and a 100 MW plant in Khorezm, both to be implemented as public-private partnerships.

The Ministry of Energy has signed agreements with several companies for solar power projects: 2,000 MW with CEEC ENERGY CHINA in Kashkadarya, Bukhara, and Samarkand; 2,000 MW with Huaneng Renewables and Poly Technologies in Jizzakh and Tashkent; 1,400 MW and 1,200 MW energy storage systems with ACWA Power in Tashkent, Samarkand, and Bukhara; 500 MW each in Kashkadarya and Bukhara with China Gezhouba Group; 400 MW with PowerChina International Group in Andijan.

MASDAR has signed contracts totaling \$396 million to build and operate SPPs in Surkhandarya, Samarkand, and Jizzakh provinces. Additionally, TrinaTracker will supply solar trackers for 510 MW of solar projects in Uzbekistan. Once operational, these projects will generate 1.1 TWh of renewable energy annually and reduce CO_2 emissions by 110,000 MT²¹⁰ per year.

Wind power. Resolutions were adopted in support of wind power project: a 500 MW wind power plant, a 100 MW storage system and overhead power lines in Kungrad district, Republic of Karakalpakstan (Kungrad Wind 1, 2 and 3) (PPs 325-327 of 05.10.2023).

A new 500 kV power transmission network will be constructed to connect three 500 MW wind farms in Bukhara to the national grid. 7 projects for the construction of wind farms with a total capacity of 3,100 MW are being implemented: (1) a 500 MW in the Tomdinsky district, Navoi province; (2) two 500 MW²¹¹ each in the Peshkun and Gijduvan districts, Bukhara province. As part of the projects²¹², 158 wind turbines with a total capacity of 1.0 GW will be installed with an annual output of 3.6 billion kWh; (3) a 100 MW in Karauzyak district; (4) three 500 MW each in the Kungirat district, Republic of Karakalpakstan. By the end of 2027, 10 wind farms with a total capacity of 4,400 MW will be launched.

MoU was signed with Chinese companies for a 1,000 MW wind farm in Jizzakh province. EBRD will provide loan of \$19 million for a 100 MW wind farm in Nukus. An agreement was signed with MASDAR on the joint development of 2,150 MW solar and 500 MW wind power projects totaling \$2.6 billion.

Environment and climate change

Latest developments in legislation. Laws, decrees and resolutions were adopted to: (1) amend certain legislative acts in the field of ecology (ZRU-854 of 11.07.2023); (2) transform the sphere of ecology and environmental protection and govern activities of the authorized state body (UP-81 of 31.05.2023) and ensure environmental sustainability by further increasing the level of afforestation in the Republic and the consistent implementation of the national project "Yashil Makon" (UP-199 of 23.11.2023); (3) fulfill obligations under international treaties and membership of the Republic of Uzbekistan in international organizations in the field of environmental protection" (PP-172 of 31.05.2023); (4) reclaim damaged land, preserve fertile soil layer and organize its rational use" (PKM-169 of 29.04.2023); reduce the negative impact of wastes on the environment and public health and effectively use alternative energy sources (PKM-300 of 20.07.2023).

Strategies and programs. The "Uzbekistan 2030 Strategy" (UP-158 of 11.09.2023) outlines key environmental reforms, including: (1) drastic improvement of the ecological situation and elimination of environmental problems affecting human life; (2) expansion of the national "Yashil Makon" project aimed to stabilize the ecological situation; (3) increase in forest areas; (4) stabilization of the ecological situation of the negative environmental impact from the drying up of the Aral Sea; (5) prevention of climate change impacts; (6) sustainable conservation of biodiversity; (7) improvement of waste management services; (8) prevention of air pollution and implementation of measures to preserve air quality.

In line with New Uzbekistan's Development Strategy (2022-2026), Resolution PKM No.362 of August 11, 2023 approved the National Climate Action Plan and

 $^{^{\}scriptscriptstyle 210}\,$ metric ton

²¹¹ the project of the largest wind power plant in Central Asia, worth \$600 million, is being implemented with the participation of the UAE company Masdar

 $^{^{\}scriptscriptstyle 212}$ the projects are implemented in accordance with the PPs 5001 and 5003 of 23.02.2021

Disaster Risk Reduction Strategy for 2023-2030, including its implementation roadmap.

The Aral Sea region. During the UN Water Conference, a high-level plenary session featured S. Mirziyoyeva, who highlighted Uzbekistan's significant efforts to address the Aral Sea crisis and its role in galvanizing international cooperation on this issue (March 23).



A number of initiatives are ongoing in this area, including: (1) Environmental Restoration of the Aral Sea II Activity (ERAS-II) (USAID): two expeditions were organized for young government employees along the Syr Darya and Amu Darya rivers, a round table "Aral Sea region - zone of environmental innovations and technologies" (June 23) and a meeting of the Uzbek-Kazakh working group on the development of a bilateral "Roadmap" outlining the main strategic areas and potential actions on the topic "Combating drought and sandstorms on the coast islands" (October 19) were held; the program "Business incubator for "green" startups Climate Smart" is underway; (2) Ecologically oriented regional development in the Aral Sea Region (ECO ARAL) (GIZ): a steering committee meeting (March 10) and a trilateral meeting of the Ministry of Ecology, Environmental Protection and Climate Change of the Republic of Uzbekistan, the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan and the Ministry of Agriculture and Nature Conservation of Turkmenistan met to discuss cooperation on the Ustyurt Plateau (May 18); the GIS laboratory at the Karakalpak Institute of Agriculture and Agrotechnologies was opened (June 22); training in usage of Geographic Information System (GIS) and Geo Spatial and Remote Sensing Data Applications (June 26-27), seminars on growing sesame (June 11) and rosehip as income source (August 11), on hydroponics and growing feed for livestock using this method (November 20-21), and a workshop to exchange experience on cultivation of early maturing sort of mung bean "Durdona" in the Aral Sea region (December 5) were

held; the Strategy for the sustainable growth of tourism in the Republic of Karakalpakstan 2023-2026 was developed; and a memorandum of understanding in the field of tourism was signed between Karakalpakstan and Mangystau (September 28); (3) My Garden in the Aral Sea: Siberian Health LLC, ERIELL Oilfield Services Middle East DMCC, NESTLE, and the French Association of International Solidarity and Education/ASIE invested in planting 500 ornamental trees and 16,500 saxaul seedlings; (4) Green Rehabilitation Investment Project for Karakalpakstan Republic to Address Impacts of the Aral Sea Crisis (KOICA/GGGI): the Insight Brief "Capital Expenditure for Infrastructural Adaptation Measures for Agriculture, Republic of Karakalpakstan" has been issued; the first training course on the module "Greenhouses and drip irrigation adapted to climate change" (November), training "Crop quality and yield increase through resource efficiency, climatefriendly water management, and input-saving technologies in winter-wheat and fruit production" (November 28-December 1) and "Karatal training: Economic, environmental, and social benefits" (December 2) were completed in 2023; (5) Green Space Project/Yashil Makon: 217 million tree seedlings were planted, including 1.73 million ones planted around 189 industrial enterprises having a high environmental impact, and "green belts" comprising 135 thousand seedlings were arranged.

The UNDP/GEF Global Biodiversity Framework Early Action Support initiative was launched on April 12. On June 1, the Ministry of Ecology and KOICA signed a memorandum for the Smart Greening Project²¹³ in Tashkent province.

MPHSTF for the Aral Sea Region. In 2023, Germany contributed €700 thousand to the development of the Aral Sea region. The United Nations Office for Project Services (UNOPS) has joined the Trust Fund for the Aral Sea Region as the eighth participating UN Organization (UNO) of the Fund.

MPHSTF financed 2 projects worth \$4.4 million in such areas as youth employment, innovation, healthcare and "green" growth (March 2-3, Nukus).

For more information about the activities of the MPHSTF for the Aral Sea region, see United Nations and its Specialized Agencies.

Capacity building. The Central Asian University for Environmental and Climate Change Studies (Green University) has been established in 2023. A national strategy and roadmap have been adopted to foster a culture of sustainable development and engage Uzbekistan's youth in climate action.

In the course of the year, training workshops/courses were delivered for employees of the environmental sector and sanitary engineering enterprises, managers and experts of atmospheric air protection branches, and environmental protection workers on envi-

²¹³ the total project cost is \$7.7 million

ronmental audit. The training topics included: law enforcement and management of natural resources (January 25-27) and role of rivers and lakes in ecosystem stability (February 2); enhanced regional cooperation on climate change and security in Central Asia (June 20-21) and development of the Green City Master Plan (November 6).

In 2023, Sudochie Lake has been included in the list of Ramsar wetlands of international importance²¹⁴.

Events. The following events were held: (1) seminars and roundtables: on development of the National Report on the Environment (February 1), Aarhus Convention (June 2), Aral Sea - Zone of Environmental Innovation and Technology (June 23); (2) meetings and dialogues: third meeting of the Regional Committee of the transnational UNESCO World Heritage Site "Western Tien Shan" (May 1); expert group of the Committee on the Development of the Aral Sea Region and Ecology (May 1); Regional Dialogue on Transboundary Nature Protection in Central Asia (November 28-30); regional dialogue "Expanding the practice of nature-oriented solutions to ensure the sustainability of landscapes in Central Asia" (June 15-16); (3) international conferences: Environmental protection and Ecological zoning: problems and solutions (June 8), Green Development: experience of New Uzbekistan and global trends" (July 6), on sustainable conservation and management of protected areas (OPT) (December 5); (4) other events: Environmental Remediation Account (ERA) Assembly for Central Asia (September 7); Central Asian Youth Environmental Camp and international dialogue "Strategy for Environmental Education of Central Asian Youth" (October 1-5); international eco-festival of landscape art "Green Art" (April 27-29).

In the course of the year, the delegation of the Ministry of Ecology participated in a number of important international events, including, among many others: (1) 7th high-level Conference "European Union-Central Asia" on environment and water resources (Rome, February 23-24); (2) 18th session of the UN Forum on Forests (New York, May 11); (3) OSCE High-level Conference on Climate Change in Europe (Vienna, July 7); (4) 61st session of the working group on the "Strategy on Transboundary Air Pollution" Program (Geneva, September 5); (5) 18th World Water Congress (Beijing, September 14-15); (6) Forum "Green and Low-carbon Development in the Asia-Pacific Region" (Changsha, China, October 20-23); (15) COP28 (Dubai, November 30-December 13).

For the first time, Uzbekistan took part in the international photo contest "Wiki loves Earth".²¹⁵ **Regional and International Cooperation.** The following bilateral agreements were approved: (1) agreement²¹⁶ between the governments of Uzbekistan and Kazakhstan on environmental cooperation (PP-97 of 17.03.2023); (2) framework agreement²¹⁷ between Uzbekistan and South Korea on climate change cooperation (PP-339 of 19.10.2023).

The Ministry of Ecology signed memoranda and agreements with: (1) South Korea's Ministry of Environment (January 25); (2) Sejin G&E Co., Ltd. (South Korea) for a \$55 million agreement (April 28); (3) KEITI for a \$6.6 million grant project (May 24); (4) Executive Secretary of the UN Convention on Migratory Species (CMS) (June 20); (5) Industrial Innovation Group for the creation of a National Carbon Credit System (December 2); (6) Tadweer²¹⁸ for the implementation of modern, eco-friendly waste management technologies (December 4).

In the course of the year, the Ministry of Ecology held meetings with international organizations and national high-level officials, including: (1) UNECE, UNEP, FAO, UNECE, KfW, UN Economic and Social Council (ECOSOC), IUCN, EBRD, Environmental Remediation Account Assembly for Central Asia, International Center for Biosaline Agriculture (ICBA), GGGI; (2) Kazakhstan's Minister of Ecology and Natural Resources, Chairman of the Environment and Labor Committee, National Assembly of South Korea, Minister of Environment of South Korea.

Tashkent hosted: (1) 4th meeting of the heads of environmental ministries of SCO member states (April 18); (2) online meeting of "C5+1" (Central Asia + USA) on environmental and climate change issues (August 16).

SDG in Uzbekistan

The country continued implementing the UN Sustainable Development Cooperation Framework 2021-2025²¹⁹. The statistical collection "Sustainable Development Goals in the Republic of Uzbekistan-2023"²²⁰ was launched. Uzbekistan ranked 69th out of 166 countries in the annual ranking of sustainable development.

In the annual Open Data Inventory (ODIN), Uzbekistan ranked 30^{th} out of 195 countries in the world (40^{th} in 2022) and 1^{st} among Central Asian countries.

Uzbekistan launched its second Voluntary National Review (VNR) on SDG implementation, highlighting progress in market reforms, agriculture, infrastructure, education, health, green economy, social protection, poverty reduction, gender equality, and international cooperation.

 $^{^{\}rm 214}$ Sudochie became the $4^{\rm th}$ object of Uzbekistan included in the Ramsar Convention

²¹⁵ the competition is dedicated to natural heritage sites and has been held worldwide since 2013

²¹⁶ signed on 22.12.2022 in Tashkent

²¹⁷ signed on 01.06.2023 in Tashkent

²¹⁸ Abu Dhabi Waste Management Company

²¹⁹ Approved by the Government of the Republic of Uzbekistan and the UN agencies in Uzbekistan on 24.10.2020

²²⁰ https://online.pubhtml5.com/wscvz/lfhh/



Source: https://dashboards.sdgindex.org/profiles/uzbekistan





Source: https://dashboards.sdgindex.org/profiles/uzbekistan

In the context of SDGs, the following events were held: (1) international conferences "Sustainable Development Goals and the Constitution: SCO countries experience" (April 5) and "Expanding the participation of civil society institutions and persons with disabilities in the achievement of the Sustainable Development Goals" (November 24); (2) international forums "Experience of Central Asian countries in achieving Sustainable Development Goals: the role and significance of referendums and national constitutions" and "Ensuring dignity and human rights - the highest goal of constitutional reforms" (April 25-26); (3) international round table "National Sustainable Development Goals of Uzbekistan: progress and challenges in achieving the SDGs" (September 26); (4) II Global forum on interparliamentary cooperation in achieving the SDGs (November 30); (5) over 20 events dedicated to each of the SDGs adopted in Uzbekistan, within the framework of the "Sustainable Development Goals Month."

Uzbek delegations participated in: (1) the 10th Asia-Pacific Forum on Sustainable Development (Bangkok, Thailand, March 27-30); (2) UNECE Regional Forum on Sustainable Development 2023 (March 29-30, online); (3) UNGA High-level Meeting "The Role of zero waste as a transformative solution in achieving Sustainable Development Goals" (New York, March 30); (4) international conference "Innovative Financial Methods and Action Programs for Unlocking Human Potential", organized by SDSN²²¹ (July 13, online); (5) briefing on "Achieving the goals of sustainable development and strengthening regional security and stability: Uzbekistan's view" (New York, December 4).

Emergencies

In 2023, Uzbekistan faced 87 emergency incidents, a 34% decrease from 2022. Of these, 60 were manmade incidents (down from 76 in 2022) and 27 were natural disasters (down from 55 in 2022).

Latest developments in legislation. Resolutions were adopted to: (1) further improve the system for ensuring seismic safety of the population and territory of the Republic of Uzbekistan (PP-158 of 16.05.2023); (2) approve the Roadmap for the implementation in 2023 of the public safety system development strategy in Uzbekistan for 2022-2025 (PKM 121 of 23.03.2023); (3) organize performance of the State system for prevention and response in emergency situations in Uzbekistan" (PKM 171 of 29.04.2023); (4) develop an automated emergency warning system (PKM 361 of 11.08.2023).

Strategies and programs. The Strategy for the Development of Cooperation between Central Asian countries in disaster risk reduction (2022-2030) continued to be implemented.²²² Uzbekistan participated in a meeting of the Working Group (experts) of the Regional Forum – Meeting of the Heads of Emergency Authorities of Central Asian countries (Almaty, October 4). Subsequently, Uzbekistan and Kazakhstan signed a cooperation plan for emergency prevention and response (2024-2025).

Preventive measures. Improved emergency response: 211 tactical exercises were conducted to prevent mudflows, 105 km of ditches and channels were cleared, and 16 new fire and rescue units were commissioned (12 built, 4 repaired).

Events. Seminars/trainings were held on: prevention of mudslides in the water sector (February 10), emergency prevention in hydropower (February 22), the use of unmanned aircraft for emergency tasks (May 14-18); the procedure for training on the specialized platform "Online school of unmanned aviation" (May 26); the use of GIS technologies and emergency mapping (June 5-9).

The University of California San Diego (UCSD) and the Republican Center for Seismic Forecasting Monitoring

at the Ministry of Emergency Situations of Uzbekistan jointly installed a new modern seismic station²²³.

Regional cooperation. Uzbekistan and Kyrgyzstan signed a cooperation agreement²²⁴ on emergency prevention and response (PP-136, April 26, 2023), followed by a specific action plan for 2023-2024.

The Ministry of Emergency Situations of Uzbekistan took part in: (1) 2nd meeting of the Emergency Ministers of the Organization of Turkic States (Baku, September 6-8); (2) 14th meeting of the Council of the Center for Emergency Situations and Disaster Risk Reduction (November 9); (3) regional consultative seminar on international disaster response law (December 5).

Foreign Policy and International Cooperation

In 2023, the President of Uzbekistan made official and working visits to Singapore, the Kyrgyz Republic, Egypt, Azerbaijan, Turkey, Germany, the Russian Federation, China, Italy, Iran, Kingdom of Saudi Arabia, Turkmenistan, Hungary, Tajikistan, USA, Qatar, Kazakhstan, UAE.

In turn, the country was visited by presidents of foreign countries (Singapore, France, Qatar, the Kyrgyz Republic, Turkey, Iran, Tajikistan, Turkmenistan, Azerbaijan, Italy), country delegations (Iran, Azerbaijan, USA, China, UAE, Turkey, Russia, Czech Republic, France, Korea, Pakistan, Kingdom of Saudi Arabia, Qatar), and heads and delegations of international organizations (Economic Cooperation Organization, OTS, UN, World Bank, AIIB, EU, OSCE/ODIHR, IDB, CIS, EBRD, SCO, UNWTO, FAO.

Most significant events in the foreign policy of Uzbekistan. Uzbekistan pursues an independent foreign policy focused on national interests, aiming to strengthen sovereignty, enhance international standing, secure the region, and promote economic interests.

The Strategy "Uzbekistan-2030",²²⁵ approved in 2023, outlines the following foreign policy goals: implementing a people-centered foreign policy; elevating Central Asian cooperation to a new level; developing mutually beneficial ties, expanding international cooperation, and joining the WTO; supporting compatriots abroad and fostering dialogue.

For the statements made by the President of Uzbekistan during summits and meetings, see https://presi dent.uz/en/lists/category/5?menu_id=12.

Development of alliances and strategic partnerships. Within the **CIS**, Uzbekistan participated in: (1) meetings of the: Council of the Heads of States (Bishkek, Octo-

²²¹ the Sustainable Development Solutions Network (SDSN) was launched in 2012 to mobilize global scientific and technical knowledge for the practical solution and implementation of the SDGs

²²² according to the "Strategy for achieving the goals of the Sendai Framework Program for Disaster Risk Reduction for 2015-2030 in the Republic of Uzbekistan (PKM 299 of 04/12/2019)

²²³ funded by the U.S. Government

²²⁴ signed on 27.01.2023 in Bishkek

²²⁵ approved by Decree UP-158 of 11.09.2023

ber 13), Council of Heads of Government (Bishkek, October 26; Sochi, June 8), Council of Foreign Ministers (Bishkek, October 12; Samarkand, April 14), Economic Council (December 8, September 22, June 23, March 17); (2) informal Summit of the CIS Heads of State (St. Petersburg, December 26). **Chairmanship in international organizations.** In 2023, Uzbekistan chaired the ECO, within the framework of which the 16th ECO Summit was held under the motto "Together towards economic stability and development". The participants adopted the Tashkent Communique (Tashkent, November 8-9).



Promotion of the national interests and reinforcement of the country's image

The UN. Speaking at the 78th session of the UN General Assembly, Sh.M.Mirziyoyev noted that the priority goal of Uzbekistan's foreign policy remains the transformation of Central Asia into a peaceful and prosperous region. He also raised the need to unite countries based on the fact that common interests are above existing contradictions and put forward a number of initiatives aimed at solving the most pressing issues on the global and regional agenda (New York, September 19).

The Uzbek delegation took part in the UN Water Conference, during which a joint statement of the Central Asian states was adopted (New York, March 22-24).

SCO. The President of Uzbekistan took part in a meeting of the Council of Heads of SCO Member States, during which the matters related to multilateral cooperation across the entire spectrum of SCO activities were discussed. Following the meeting, 14 joint documents were signed or approved, including the New Delhi Declaration, a Statement on Countering Radicalization Leading to Terrorism, Separatism and Extremism, a Statement on cooperation in the area of digital transformation (July 4, online).

OTS. The President of Uzbekistan took part in: 2nd extraordinary summit of the OTS, during which the prospects of multilateral cooperation in the field of emergency management and humanitarian assistance, as well as coordination of efforts in preventing and overcoming the consequences of natural disasters were discussed (Ankara, March 16); 10th meeting of the Council of Heads of OTS States, during which an exchange of views took place on the state and prospects of multifaceted relations within the framework of OTS and a number of agreements and decisions were adopted on priority areas (November 3, Astana). ZRU-875 of 01.11.2023 ratified the agreement on the establishment of the Turkic Investment Fund (Ankara, March 16).



For his outstanding contribution to strengthening the unity of the Turkic family, actively promoting the interests and views of the Turkic countries in the international arena Mirziyoyev was awarded the "Highest Order of the Turkic World".

The second meeting of the Security Council Secretaries of the OTS member countries was held in October in Tashkent.

Events. Uzbekistan hosted also several events in the area of tourism (International Travel Bazaar 2023 Tourism Forum, 25th session of the General Assembly of the United Nations World Tourism Organization), investment (2nd Tashkent International Investment Forum), innovations and ICT (InnoWeek.Uz-2023, ICT Week Uzbekistan-2023), as well as the 32nd annual meeting of the EBRD Board of Governors and the 21st session of the Committee for the Review of the Implementation of the UN Convention (CRIC 21).

Sources:

Official sites of the:

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Ministry of Water Management (https://suvchi.gov.uz/ru);

Ministry of Energy (http://minenergy.uz/ru);

Ministries of Ecology, Environmental Protection and Climate Change (http://eco.gov.uz/ru);

Ministry of Agriculture (http://www.agro/uz/ru);

Ministry of Construction and Housing and Communal Services (https://kommunal.uz/ru);

Ministries of Emergency Situations (https://fvv.uz);

The National Database of Legislation (http://www.lex.uz); Institute of Strategic and Interregional Studies under the President of the Republic of Uzbekistan (http://isrs.uz/ru); ICWC of Central Asia (http://www.icwc-aral.uz);

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