Section 5

Key Water Developments in the Countries of Central Asia

5.1. Kazakhstan



Water Sector

Water resources. There are 85 thousand rivers, with the largest of them the Irtysh, Ishim, Ural, Syr Darya, Ile, Chu, Tobol, and 48 thousand large and small lakes in Kazakhstan. The largest lakes are the Caspian Sea and the Aral Sea, followed by Balkhash, Zaisan and Alakol lakes. The rivers are fed mainly by glaciers. The total quantity of water in rivers is 101 km³, of which 57 km³ are formed within the republican boundaries. The remaining quantity the country gets from neighboring countries: Russia – 8 km³; China – 19 km³; Uzbekistan – 15 km³; Kyrgyzstan – 3 km³. The available water supply in Kazakhstan is 37 thousand m³/km² or 6 thousand m³ per inhabitant a year.

Water management. The Committee for Water Resources at the Ministry of Ecology, Geology and Natural Resources (MEGNR) is responsible for water management in Kazakhstan.

Latest developments in legislation. Orders of the Prime Minister of RK "On the establishment of a working group for drafting a State Water Management Program 2020-2030" (66-p of 11.05.2020) and "On amending the Prime Minister's Order of 15 March 2019 concerning the Special Representative of the Prime Minister for transboundary water and water-energy cooperation" (123-p of 23.09.2020); orders of the Minister of EGNR: "On approval of the Rules for allocating water for individual or joint use on a competitive basis"

(178 of 30.07.2020), "On amending the Agricultural Minister's order of 31 March 2015 on the approval of the list of particularly important group and local water supply systems classified as sources having no alternative" (20 of 22.01.2020), "On approval of the Rules for public geology and water services" (117 of 22.05.2020), "On amending the order (1 September 2016) on the Rules for getting approval for location of enterprises and other structures, as well as the conditions of construction and other actions in watercourses, water protection zones and strips" (148 of 18.06.2020), "On approving the rules for public services related to regulation of water uses" (216 of 11.09.2020); and, order of the Minister of Agriculture "On amending the order (30 June 2015) on approval of the rules for subsidizing the cost of water supply services for agricultural producers" (185 of 26.05.2020).

New appointments. Mr. Nurlan Aldamjarov was appointed Chairman of the Committee for Water Resources by the Minister of EGNR on 19 June.

National programs. A Concept of the Water Management Program of the Republic of Kazakhstan for 2020-2030 was approved. The Program includes ten main areas: international cooperation, revision of the regulatory framework, institutional reform, modernization and reconstruction of water infrastructure, water market development, water digitalization, Smart Water, environmentally optimal use of water resources, water training, and implementation of important national water projects. The Program aims to maintain water budget at 100 km³ by 2030 through additional surface water resources, including: new reservoirs - 5-7 km³; water saving - up to 5 km³; and, groundwater-up to 15 km³. By the indicated period, it is planned to reduce water consumption from 91.2 to 73.0 m³ per \$1,000, build 26 new hydraulic structures, and reconstruct 182 republican and 300 municipal hydraulic structures. The Program sets to construct new irrigation systems to expand irrigated area from 1.7 to 3 Mha, and extend lined main and distribution canals from 3,423 to 19,000 km. The logistical base of basin inspections is to be equipped by 100%, and the forest cover of catchment areas is to be extended from 1 to 200 thousand ha.

The sixth meeting of the Inter-agency Coordination Council of the National water policy dialogue was held on 20 November in Nur-Sultan. Particular attention was paid to a mechanism of cooperation between state agencies in prevention of pollution from industrial accidents and to measures implemented under the Protocol on Water and Health.

Results of the growing season 2020. In Kazakhstan the actual water withdrawal was 13.3 km³ in 2020. In Almaty province the snow cover was 35% less compared to previous years. In Zhambyl province, available water supply was 15-20% lower than the average annual data. In Turkestan province the inflow from the Syr Darya River was lower by 15% due to the fact that water volume in the Toktogul reservoir was 2 billion m³ less than in 2019. Whereas in Kyzylorda province the irrigation water deficit was exacerbated by an

increase in the area under rice. Despite the challenges, the irrigation water supply plan was fulfilled.

Water infrastructure. In 2020, 813 km out of 11 thousand km of main and inter-farm canals were repaired. This helped to reduce transportation losses by 166 million m³. The rehabilitated irrigation infrastructure allowed putting 53.5 thousand ha into production. Three water pipelines were put into operation. This has improved water supply for 124,500 people in 15 rural settlements and one city.

Projects. The first pilot project on digitalization of 12-km long main canal K-19 was implemented in Makhtaaral district, Turkestan province. The installed water measurement and monitoring system allowed detecting up to 45% of irrigation water over-use. The automated water control and measurement system was implemented jointly with the Australian Rubicon company on the 3-km long inter-farm canal K-32. The canal delivers irrigation water to large agricultural producers on an area of 2,300 ha. In the light of this experience, a 5-year Plan for automation of irrigation network (2021-2025) was drafted for the automation of 119 key canals (total water diversion – approx. 6 km³) in Almaty, Zhambyl, Turkestan and Kyzylorda provinces.

More information on "Irrigation and drainage in South Kazakhstan, capacity building and awareness raising" (2017-2021) and other projects can be found in the United Nations Development Program and the Executive Directorate of IFAS in Kazakhstan, respectively.

Inter-state cooperation. In 2020, all scheduled meetings of joint water commissions between Kazakhstan and riparian states were held. An exception is a commission with China, which proposed to postpone the commission's meeting to the first quarter 2021 due to the pandemic. Activities were continued with China at the expert level on implementation of the Work Plan on water allocation and assessment in the transboundary river basins of the Yertis, lle and Yemel.

A meeting of the Kazakhstan-Russian Commission on the Joint Use and Protection of Transboundary Waters resulted in the adoption of a common road map for strengthening research cooperation in the Zhayik, Yertis and other river basins (29 October, Novosibirsk).

A Memorandum of Understanding on water cooperation between the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan and the Ministry of Environment of the Slovak Republic was signed. Cooperation activities under the Memorandum will be implemented in the form of joint projects, information exchange and research (12 December, Bratislava).

Bilateral water cooperation with the Central Asian countries. As part of the Comprehensive Program of cooperation between the Republic of Kazakhstan and the Kyrgyz Republic for 2020-2022, the Kazakh Vice-Minister of Ecology S. Gromov held negotiations with representatives of water and energy agencies of the Kyrgyz Republic (14 February, Bishkek). See Kazakhstan-Uzbekistan for details on the meetings of the Minister of Ecology, Geology and Natural Resources of Kazakhstan M.Mirzagaliyev and the Minister of Water Management of Uzbekistan Sh.R. Khamraev and achieved results.

As a whole, 11 meetings of a working group for enhanced water cooperation between the countries were organized in 2020. In addition to regular agenda, the issues related to the breach of the Sardoba dam were addressed as well.

The 78th ICWC meeting was held under the chairmanship of Kazakhstan (10 April, online) – ICWC meetings. See also Bilateral water cooperation between the countries of Central Asia and ICWC meetings for details on the agreements reached between the Republic of Kazakhstan, the Kyrgyz Republic and the Republic of Uzbekistan on additional water releases from reservoirs in the Syr Darya River basin during the growing season.

Agriculture

New appointments. Mr. R. Manatayev was appointed Vice-minister of Agriculture by a Governmental Decree on 17 August.

The Ministry of Agriculture of Kazakhstan developed and submitted to local executive bodies an **algorithm for movement of agricultural producers during the COVID-19 pandemic**, which was approved at a meeting of the State Emergency Regime Commission under the President of Kazakhstan (15 April). Amendments were made to the resolution of the Chief State Sanitary Doctor of the Republic of Kazakhstan to ensure free movement of persons involved in spring field work. Thanks to the above measures, the total crop acreage amounted to 22.7 Mha or 0.5 Mha more than in 2019. In 2020, agricultural workers harvested more than 20.8 Mt of grain in initial weight.

Programs in support of Kazakh agricultural producers during the state of emergency. The following support measures were taken: exemption of agricultural producers from the agricultural land tax until 31 December 2020; suspension of tax penalties until 15 August 2020 and shifting tax reporting to the third quarter 2020; setting of VAT on socially essential foodstuff at 8% until 1 October 2020; tax payment deferrals for all SMEs until 1 June 2020; from 1 January 2020 to 1 January 2023 persons using special tax regimes and recognized as microenterprises or small business, including payers of single land tax were exempt from taxes on income.

A comprehensive plan for economic recovery until the end of 2021 was approved on 20 May 2020 and included measures in support and development of agroindustry, such as: guaranteed purchase of agricultural produce; deferral on and restructuring of loans and leasing for farmers. In order to support agricultural producers, 12.3 billion tenge were allocated from government reserve funds and 92.4 billion tenge were allocated from the local budget for development of livestock breeding and improvement of productivity and quality of livestock products.

The proposal was supported to finance forward purchase of agricultural produce in order to ensure appropriate and timely implementation of spring field work and achieve a stable harvest. As a result, 483.8 thousand t were supplied against the plan of 365 thousand t. As a whole, under the subsidy program (1) 6,803 farmers received state support for seeds; (2) agricultural producers were able to purchase 533 thousand t of mineral fertilizers, which is 131.3 more than in 2019; (3) 3,602.5 Mm³ were delivered to 828 agricultural producers for 1.86 billion tenge; (4) agricultural equipment became more affordable.

In 2020, the agroindustrial sector showed positive growth dynamics as a result of implementation of the State Program for Agroindustry Development in 2017-2021. The Ministry of Agriculture started developing a new National Program for the development of agroindustry until 2026.

Activities have been launched to **bring irrigated** area to 3 Mha by 2030.







By 2023, the country will be 100% self-sufficient in meat, fish and dairy products.



Projects. KazNAU jointly with the Michigan State University, the Humanitarian University of Mongolia and the Mongolian Academy of Sciences launched a research project. The project has several objectives, among which: quantifying the interdependent changes of food production, evapotranspiration and radiation balance for Kazakhstan and Mongolia during 1981-2020; quantifying the direct consequences of land use/cover change on evapotranspiration (ET) and albedo through RS-studies; exploring the indirect influences of infrastructure, farmer demography, policy, and climate within three selected provinces in each country.

KazHydromet has developed a specialized Internet-based application "AgroData", which offers agrometeorological services to farmers and other stakeholders in Kazakhstan.

The Committee of Science at the Ministry of Education has developed highly-sensible virus detection systems for fruit and berry crops for diagnostics of seeding material and use by the phyto-sanitary control service.

As part of the FAO/GEF Regional Project "Integrated natural resources management in droughtphone and salt-affected agricultural production landscapes in Central Asia and Turkey" (CACILM-2) aimed at disseminating IWRM practices in the countries whose landscapes are prone to drought and salinity, the following events were held: (1) an online FAO meeting with the staff of the Kazakh Ministry of Agriculture and the heads of Akhal and Dashoguz province authorities. The issues related to effective management of natural resources for drought prevention were discussed during the meeting (16 September); (2) an international training webinar "Sustainable management of pasture resources in Kazakhstan" (2 October). More details on implementation of other FAO projects are available in Food and Agriculture Organization.

Energy

2020 results. Thermal power plants still dominate in the structure of electricity production: their share is 88% (including gas turbine power plants), the share of hydroelectric power plants is 9%, and renewable energy sources account for 3%. There are two stable trends – an increase in generation from renewable energy sources and a reduced generation at hydroelectric power plants, while coal and gas thermal power plants continue to increase production. In 2020, thermal power plants generated 0.4% more electricity than last year, and hydroelectric power plants - 4.3% less. Oil and condensate production amounted to 85.7 million t, oil export - 68.5 million t, oil refining – 15.8 million t, and production of oil products - 11.5 million t. Gas production was 55.1 billion m³, marketable gas production was 30.5 billion m³, and the export was 10.7 billion m³.

Latest developments in legislation. In 2020, the Kazakh Ministry of Energy initiated the adoption of 104 regulatory acts, including three laws, one Presidential Decree, 28 Governmental Decrees, etc. The adopted laws in particular were about: the ratification of the Agreement between Kazakhstan and the Russian Federation on gas supply to Baikonur (305-VI of 26.03.20); amendments to regulatory documents in part of responsibility in the area of nuclear energy use (329-VI of 14.05.2020); amendments to regulatory documents regarding expansion of renewable energy (380-VI of 07.12.2020). The latter creates conditions for the construction of new maneuvering capacities, introduces a mechanism for the centralized purchase and sale of flood power, increases the period of purchase of RES and provides for the obligation to sell hydropower generated in the period of environmental water releases at centralized auctions.

New appointments. Mr. A. Shangitbaev was appointed Chairman of the Committee for Atomic and Energy Supervision and Control at the Ministry of Energy.

RES. As part of the national green economy concept, in 2020 the share of renewables in the total energy budget of the country was increased to 3%. By the end of the year, 115 RES facilities with the total capacity of 1,634.7 MW (29 wind stations – 486.3 MW; 43 solar stations – 911.6 MW; 38 HPPs – 229.04 MW; 5 biofuel power plants – 7.82 MW) were operational. The output from RES was 3.2 billion kWh or 32.2% more than in 2019.

The most dynamic growth is recorded in the solar energy segment, the generation of which increased by 140% (up to 1,350 million kWh) in one year and 15 times in five years. Production of wind energy increased fourfold for a five-year period and amounted to 1,077 million kWh (+50% for the year) by the end of 2020. Small hydropower produced 812 million kWh or 27% less power than in 2019.

In 2020, 16 companies won tenders for RES construction with the total installed capacity of 148 MW: three wind stations for 65 MW; four solar stations for 60 MW; and, nine small hydropower for 23 MW. Most of approved RES capacity is located in energy deficient south zone of the national energy system.

In 2020, solar power stations were commissioned in: (1) Akmola province – "Nura" (100 MW) – the largest one in the CIS space with a projected annual output of 150 million kWh; (2) Turkestan province – Yuxes-50 for 50 MW; (3) Karaganda province, for 26 MW, with an annual output of 34 million kWh; (4) Zhetysai district, Turkestan province – "Zhetysai" (4.8 MW) with a projected annual output of 7.2 million kWh; (5) Almaty province – "Sarybulak" (4.95 MW) and "Kapshagai" (3 MW) with a projected annual output of 14.1 million kWh at the both stations.

Environment and Climate Change

Latest developments in legislation. The new draft Environmental Code was approved on 19 November. The following regulatory documents were adopted also: (1) the law on amending and supplementing the Code on administrative offenses in environmental sector (403-VI of 02.01.2021) and on amending and supplementing legislative acts on designated conservation areas (362-VI of 30.09.2020); (2) Governmental decrees on the draft law on fauna (921 of 30.12.2020) and the draft law on ratification of the Protocol on environmental impact assessment in a transboundary context to the Convention for the protection of the marine environment of the Caspian Sea (923 of 30.12.2020); (3) Order of the Minister of EGNR on amending the order of the Ministry of Energy of 26 February 2015 regarding the approval of the Rules for setting environmental quality targets (111 of 19.05.2020).

The Program for Fishery Development until 2030 has been adopted adopted; territorial branches of the Committee for Forestry and Wildlife were reorganized.

New appointments. Serikkali Brekeshev was appointed Deputy Minister of Ecology, Geology and Natural Resources of the Republic of Kazakhstan (March 5); Erlan Muratov was appointed Deputy Chairman of the Committee for Forestry and Wildlife under the Ministry of Environmental Protection and Natural Resources (MENR) of the Republic of Kazakhstan (April 15).

Projects and programs. The 2020 results on the development of environmental initiatives, forestry and wildlife, improvement of legislation and measures of state support in the environmental sector were summed up at an enlarged meeting of the Board of MENR. The tasks were set for 2021, in particular: (1) develop a national project "Zhasyl Kazakhstan"; (2) control the implementation of comprehensive plans for

NATIONAL PROJECT "ZHASYL KAZAKSTAN

GOALS:

- creating a favorable living environment for the population and improving the environmental situation in the country
- facilitating development of the sustainable development society

MAIN DIRECTIONS:



Improving water bodies

reduce discharge of wastewater by 20%



Reducing air pollution

• overcome high air pollution in 10 cities



Waste management

increase the share of solid waste recycling from 18% **to 30-35%**



Energy efficiency

reduce energy intensity of country's GDP

Biodiversity conservation

increase the share of nature reserves from 9.6% **to 10%** of the total country area

Greening the Republic

plant 2 billion trees

To be developed and approved by 1 July 2021

forest reproduction and afforestation; (3) improve the regulatory framework in the field of forestry and protected areas; (4) develop a network of designated conservation areas and ecological tourism.

As part of the projects (1) "Afforestation of the dried bottom of the Aral Sea in Kyzylorda province" (2018-2020), the Committee for Forestry and Wildlife together with the Korean Forest Service of the Republic of Korea and the Foundation for Biodiversity Conservation of Kazakhstan planted 5 million saxaul seed-lings on an area of 13.3 thousand ha; (2) CACILM-2, the research on climate-related disaster risk management, early warning and agrometeorological services was started.

For more details on projects in the area of natural resource management, land and ecosystems, climate change, and the SDGs, please, see United Nations Development Program.

Events. Nur-Sultan was ranked 2nd in fastest growing ecosystems in the Global Startup Ecosystem Report 2020. Also, Nur-Sultan showed the highest score on the Environmental Finance Index (June 25).

171 businesses joined the Earth Hour in Kazakhstan on 28 March. As part of the "World Cleanup Day", a tree planting action took part throughout the country upon the initiative of MEGNR.

Environmental education. The President of Kazakhstan proposed to introduce a subject on "Environmental education" in schools (10 July, enlarged meeting of the Government). An agreement was reached to establish a Coordinating Council for Environmental Education (18 August). The Ministry of Education and Science launched a project with the UN to increase the level of environmental culture and education in the academic year 2020-2021.

International cooperation. Kazakhstan and the UN signed a Cooperation Agreement for the period of 2021-2025. The framework program covers three areas of work: human development and equal participation; effective institutions, human rights and gender equality, sustainable environment and inclusive economic development (12 August). The President of Kazakhstan took part in a video conference dedicated to the 75th UN anniversary (21 September).

During the meeting of Mr. Mirzagaliyev with the Mr. Kozlov, Minister of Natural Resources and Environment of the Russian Federation a number of documents were signed in the field of environmental protection and rational nature use, including the Program of Russian-Kazakhstan cooperation on conservation and restoration of the transboundary Ural basin ecosystem for 2021-2024, and the Program of cooperation between the two countries to preserve and restore the ecosystem of the transboundary Irtysh River for 2021-2024 was adopted (4 December, Moscow).

Kazakhstan took part in an informal meeting of environmental ministers from the Caspian riparian states. The ministers discussed cooperation in monitoring of the Caspian Sea, the impact of climate change on the sea ecology, the state of bio-resources, as well as measures to prevent pollution of the coastal zone (9 June).

Emergencies and disasters

Sardoba dam accident in the Syrdarya province of Uzbekistan. As a result of the accident, the border collecting drains in Maktaaral district, Turkestan province of Kazakhstan were overfilled with water and this caused flooding (1 May). More than 5,000 people had to leave their homes and about 500 ha of pastures were flooded. Presidents of Kazakhstan and Uzbekistan discussed how to organize effective cooperation to overcome the consequences of the emergency accident in border regions of the countries. The Government Commission was formed for mitigation of flooding consequences in Turkestan province (4 May). See details in Sardoba Dam Collapse.

In 2020, forest fires covered an area of 41.8 thousand ha. The more significant acreage was burned in Zhambyl, East Kazakhstan, West Kazakhstan, Pavlodar and Turkestan provinces, as well as in the "Semei ormany" reserve. The total damage from the fires amounted to 2.1 billion tenge.

As a result of rising water level along the Lengerka River and overflowing, settlements were waterlogged in Tole Bi district of Turkestan province (6 May). More than 300 people were evacuated from the zones of flooding by rainwater in Shymkent (14 May).

Sources:

Official sites of:

the President of Kazakhstan (www.akorda.kz/ru);

Ministry of Ecology, Geology and Natural Resources (www.gov.kz/memleket/entities/ecogeo/about?lang=ru); Ministry of Agriculture (www.gov.kz/memleket/entities/moa?lang=ru); Ministry of Energy

(www.gov.kz/memleket/entities/energo?lang=ru); Legal Information System of RK http://adilet.zan.kz/rus

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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://liter.kz/; https://kazaral.org; https://kazakh-zerno.net; https://lenta.inform.kz/ru; https://kaztag.kz/ru; https://centrasia.org

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 resources, and 44.5 to 51.9 km³ (2%) as average annual river runoff. There are about 3,000 rivers and streams, the catchment area of which covers 7% of the territory. The amount of annually renewable groundwater in major artesian basins is about 7.7 km³. The current glaciation accounts for 4% of the country's territory.

The total water consumption in the republic is estimated at 10-12 $\rm km^3$ a year. The water transportation

losses in river channels, canals and irrigation structures amount to 1.7-2.3 km³. Owing to natural (mainly relief) conditions, irrigation water is supplied mainly from small rivers serving about 800,000 ha or 76% of the total irrigated area: 80,000 ha (11%) are irrigated from regulated sources, while the rest of 720,000 ha, by natural flow.

Public administration reforms. By Decree 38 of 12.02.2021 "On institutional measures amid the adoption of a new Government structure and reform of executive authorities in the Kyrgyz Republic", the following restructuring was undertaken: (1) the Ministry of Agriculture, Food Industry and Land Reclamation was transformed into the **Ministry of Agriculture**,

Water Management and Regional Development; (2) State Water Resources Agency was transferred to the Ministry of Agriculture, Water Management and Regional Development, except for the Department for Drinking Water Supply and Sanitation, which was transferred to the Ministry of Transport, Architecture, Construction and Communications; (3) State Agency for Environmental Protection and Forestry was transformed into the State Forestry Agency and transferred to the Ministry of Agriculture, Water Management and Regional Development, except for functions on ecology and environmental protection that were passed to the Ministry of Emergencies.

IT-technology is promoted in the State Water Resources Agency's activities, including development of online information bases and integration with the e-system of interdepartmental interaction "T γ nd γ k". These measures will allow automating the water measurement system, increasing efficiency and transparency of implemented projects.

Water-saving technology. Over 2,450 economic entities on an area of more than 2,410 ha were equipped with drip irrigation. In 2020, 82 ha of agricultural land in Batken province were equipped with drip irrigation system, and water-saving equipment was installed on 18 ha of the Kara-Kuldja forest enterprise. As part of the Sustainable Energy Finance Facility Program (KyrSEFF), a number of projects for water saving has been implemented in the country. This included the installation of drip irrigation on an area of 3.15 ha in a farm in Issyk-Kul province that allowed reducing irrigation water consumption by 60% or more than 724 m³ annually.

Projects. An agreement between the Kyrgyz Republic and IDA on the Swiss grant (additional financing for the National Water Management Project) was ratified for an amount of \$4.5 million. The grant will be used for implementation of measures planned in the water sector under the original project, as well as for strengthening of the newly established water institutions and improvement of O&M of main canals at the inter- and on-farm levels.

A number of **projects were implemented to improve the water supply** of nearby lands, including in Uzgen (1.5 thousand ha), Kochkor (2.5 thousand ha), At-Bashy (2.3 thousand ha), Naryn (5.0 thousand ha), and Aravan (2.6 thousand ha) districts. One of large irrigation projects – construction of "Maksat" culvert in Leilek district, Batken province – will help to add 1,8 thousand ha of irrigated land in the border area and transfer about 3,0 thousand ha from pumped to gravity flow irrigation.

Under the WB Agriculture Productivity and Nutrition Improvement Project: (1) 30 WUAs were included into a rehabilitation program as part of Rehabilitation and modernization of irrigation and drainage infrastructure component and got equipment for maintenance of the on-farm network, and construction was completed on 6 pilot inter-farm systems; (2) as part of the Agricultural Advisory Services component, 33 demonstration sites for drip irrigation and 32 sites for advanced surface irrigation were organized in 65 Aiyl Aimaks.

Within the framework of the National Water Resources Management Project Additional Financing: (1) Basin Plans for the Chui, Talas and Karadarya-Syr Darya-Amu Darya River Basins have been finalized; (2) the Talas and Karadarya-Syr Darya-Amu Darya Basin Water Administrations have been established and their provisions approved; (3) training in improving water use efficiency was held on 16 and 19 March 2021.

Drinking Water Supply

Latest developments in legislation. The Program for the development of drinking water supply and sanitation systems in settlements of the Kyrgyz Republic until 2021, the Plan of measures for implementation of the Program and the matrix of indicators for monitoring and assessment of implementation were approved on 12 June 2020.¹⁹

Projects and programs. Drinking water supply systems were constructed and rehabilitated in 107 out of 1,819 villages at the expense of the WB, the republican budget, international funds and local budgets.

Clean water projects were implemented in Issyk-Kul, Chui, Osh and Batken provinces. Besides, projects were undertaken for the construction and rehabilitation of irrigation systems and the improvement of water accounting.

A number of loan and grant agreements have been ratified between the Kyrgyz Republic and international partners, in particular:

■ with **EBRD** on (1) "Rehabilitation of the water supply and sewerage system in Kerben town" for €6.5 million, including: €2.5 million – EBRD loan; €3 million – EU grant from IFCA funds; €1 million – EBRD grant from technical cooperation funds; (2) "Rehabilitation of the water supply system in Isfana town" for €5 million, including: €1.6 million – EBRD loan; €2.4 million – EU grant from IFCA funds; €1 million – EBRD grant from technical cooperation funds; (2) system in LS and the water supply system in Isfana town" for €5 million, including: €1.6 million – EBRD loan; €2.4 million – EU grant from IFCA funds; €1 million – EBRD grant from technical cooperation funds. Implementation period – 3 years;

with Saudi Fund for Development on "Rural water supply and sanitation project" for an amount of \$30 million. Co-financing from the Government of Kyrgyzstan will be \$10 million. Implementation period – 4.5 years;

with ADB on the "Program for rural water supply and sanitation in Naryn province" for an amount of \$32.9 million, including \$13.7 million – ADB grant; \$13.7 million – ADB loan; \$5.5 million – co-financing by the Government of Kyrgyzstan; and, the agreement on the financing mechanism of \$10 million for the construction and rehabilitation of water supply and sanitation systems in Osh and Karakol, as well as villa-

¹⁹ See https://www.water.gov.kg/images/Programma/PrezintaciyaProgrammy2026.pdf

Drinking water supply – facts and figures



Source:

https://kaktus.media/doc/443413_kyrgyzstan_bez_chistoy_ vody._nagliadno_v_cifrah_i_faktah.html ges in Naryn province and Bazar-Korgon district of Dzhalal-Abad province.

Additionally, (1) the draft law on ratification of the Loan agreement between the Kyrgyz Republic and EBRD on "Water supply and sewerage system rehabilitation in Naryn", Phase 2, and a grant agreement between the Kyrgyz Republic and EBRD on the investment grant provided by the Government of Swiss Confederation and the European Union for this project, and (2) decision of the Government on the Loan agreement between the Kyrgyz Republic and EBRD were approved by Decree 422.

Agriculture

Irrigated area. According to the State Statistical Committee of the Republic, in 2020, the total crop acreage was 223.6 thousand ha or 6.9 thousand ha more than in 2019.

Latest developments in legislation. The Decree of the President "On measures for the development of the agro-industrial sector in the Kyrgyz Republic" has been signed. The Government was recommended (1) to develop and submit for consideration a draft Concept of Agrarian Sector Development in the Kyrgyz Republic and an action plan for its implementation; (2) to improve the efficiency and market turnover of agricultural land; (3) to consider the possibility of transferring a part of land from the State Agricultural Land Fund to an authorized agriculture body for the development of cooperatives, seed production and breeding farms, etc.

Development trends. The Ministry of Agriculture, Food Industry and Land Reclamation continued reforming agriculture and increasing its competitiveness through (1) consolidation of farmers, producers and suppliers into a "hub" of high-quality "halal" products; (2) digitalization by introducing electronic document management in the ministry to provide accurate and timely information to farmers and developing an information system for agricultural services to citizens; (3) processing. The Ministry signed an Agreement on cooperation with the Kyrgyz Stock Exchange in order to support farmers and create opportunities for products to enter the world markets. The Agreement sets the following: creation of a list of exchange commodities; assistance for domestic producers to enter the commodity markets of EAEU (Eurasian Economic Union) member states; and, identification of promising directions of business.

In 2020, production of main crops was increased in the republic as a whole. Over 1.8 million t of grain were milled. This is 4.2% more compared to 2019. The harvest of vegetables amounted to more than 1 million t but was 0.2% lower than in 2019.

Projects. The Governmental Decree No.81 of 14.02.2020 approved the Agriculture Financing – 8 Project, for which 1,250 million soms were allocated. The following interest rate was set for agricultural producers: 10% for small producers, including physical persons; 8% for large ones; and, 6% per annum for food and processing businesses. The WB Agriculture Productivity and Nutrition Improvement Project under its Agricultural Advisory Services component allocated a small grant for 30 WUAs in the amount of \$30 thousands with 10% of joint contribution by WUAs for the implementation of WUA development plans and provided agricultural machines, seeds and fertilizers; concluded contracts with agricultural consultants to improve knowledge and skills of farmer-water users; conducted training in agronomy and irrigation; established 1,077 support groups that received certified vegetable and forage crop seeds and small equipment.

International cooperation

A Memorandum of Understanding was signed between the Ministry of Agriculture, Food Industry and Land Reclamation of the Kyrgyz Republic and the Rural Development Authority of Korea. The parties will jointly study and coordinate activities for the development and dissemination of agricultural technologies of mutual interest. Within the framework of this Memorandum, the Center of Korea Project on International Agriculture (KOPIA) was to be established in Kyrgyzstan. Director of the Sixth Political Department / Department of Economic Diplomacy of the Ministry of Foreign Affairs of the Kyrgyz Republic E. Omuraliev met with the Head of KOPIA Mission and discussed the possibilities of developing joint projects for building capacities of the Kyrgyz Republic in the field of agriculture (27 October).

An agreement has been reached with IDB to provide the Kyrgyz Government with a \$20 million loan for the "Development of Irrigated Agriculture in Issyk-Kul and Naryn Provinces" project, which aims to improve rural livelihoods through agricultural development and water management adapted to climate change.

Energy

Kyrgyzstan has sufficient hydropower potential, which is estimated at 18.5 million kW or more than 142 billion kWh. In practice, hydropower resources are used by no more than 10%. More than 90% of the country's energy supply comes from the Toktogul HPP and downstream HPPs of the Naryn cascade.

Latest developments in legislation. The "Regulations on the conditions and procedures for electricity production and supply with renewable energy sources" were approved by Governmental Decree No. 525 of 30.10.2020.

According to the Governmental Decree "On institutional measures amid the adoption of a new Government structure and reform of executive authorities in the Kyrgyz Republic", the State Committee for Industry, Energy and Subsoil Use was re-organized into the Ministry of Energy and Industry.

Modernization of HPPs. In 2020, Kambarata-2, Upper Naryn cascade, and Uchkurgan HPP have undergone modernization. As part of the "Toktogul HPP Rehabilitation Project" Phase 2, the "ZMEC (China) & SMP (Korea)" consortium made underwater survey to detect defective places of a gate at the HPP and cleaning from water build-up. In general, as part of rehabilitation of Toktogul HPP, 4 transformers and 4 cable lines of VL-500 were replaced and the work on replacement of hydroelectric units of HPP has been started.

Reconstruction of At-Bashi HPP was continued: the third hydrounit was put into operation and the assembling of fourth hydrounit was started.

The Parliament approved an additional agreement between the Kyrgyz Republic and EDB for \$110 million on commissioning the second hydrounit of Kambarata-2. A loan and grant agreements between KR and ADB on the "Modernization of the Uch-Kurgan HPP" worth \$100 million, of which \$40 million as a grant and \$60 million as a soft loan, were ratified. The project will increase the capacity of the plant from 180 to 216 MW (by 20%) and will ensure stable energy generation for the next 35-40 years.

Small hydropower. Just over 10 small HPPs are in operation in Kyrgyzstan. However, the hydropotential of small rivers is used by about 3%, and the country has capacities to build 100 small hydropower projects of 180 MW.

Regional and international cooperation. The following documents have been signed among others: (1) Protocols of negotiation between representatives of water and energy sectors of Kyrgyzstan and Kazakhstan on the exchange of electric energy during the growing season 2020 and electric energy supplies from Kazakhstan to Kyrgyzstan in 2020 (26 May); (2) a Memorandum of mutually beneficial cooperation between the State Committee for Industry, Energy and Subsoil Use and the Turkish company "CengizHolding" (10 July); (3) a Memorandum of mutual understanding and cooperation between the State Committee for Industry, Energy and Subsoil Use and "B&JCorporation" (19 August).

Additionally, the Chairman of the Board of the National Energy Holding had a meeting with representatives of the Japanese company "Yokogawa Electric Corporation" (February). And the 4th Annual International Congress and Exhibition "Hydropower: Central Asia and the Caspian 2020" was held on 19-20 February in Bishkek.

Environmental Protection and Climate Change

Latest developments in legislation. The staff size of the State Environmental and Forestry Agency at the Government of the Kyrgyz Republic was re-considered, and the republican and local environmental and forestry development funds has been liquidated (Decree 154 of 13.03.2020). The following regulatory documents were adopted: (1) the law "On amending the legislative acts on protection of aquatic biological re-

sources", including additions to the Code of Misconduct and the Code of Offences envisaging liability for the import, production, manufacture, sale and use of synthetic fish nets and electrofishing systems (No.21 of 28.02.2020); (2) the law "On amending the Law of KR on biosphere territories" to remove existing shortcomings and drawbacks in the socio-economic development of biosphere territories, develop a single system of rules, regulations and restrictions on natural resource use and environmental protection, as well as to ensure sustainable development of the "Issyk-Kul" biosphere (No.26 of 13.03.2020.); (3) the law "On amending the legislative acts on clean air and tax management" (No.122 of 12.08.2020); (4) the law "On wastewater disposal and treatment facilities within the territory of "Issyk-Kul" biosphere to ensure the rights of citizens to a healthy environment and preserve integrity of the ecosystem, taking into account its inclusion in the UNESCO World Network of Biosphere Reserves (No.133 of 17.08.2020).

International cooperation. The Kyrgyz Republic presented its Voluntary National Review (VNR) of Sustainable Development Goals (SDG) on 16 July 2020 at the High Level Political Forum on sustainable development (HLPF) of the UN Economic and Social Council (ECOSOC). The National Review describes key directions in the Republican policy, main achievements and challenges in implementation of the Agenda 2030 goals and targets.

Agreements between the Governments of the Kyrgyz Republic and the Federal Republic of Germany on financial and technical cooperation for 2019-2020 have been ratified. The agreements envisage allocation of grants worth €41.8 million for a number of projects, including "Green Economy and Sustainable Private Sector Development" (€6 million); "Biodiversity Conservation and Poverty Reduction through Community-based Management of Walnut Forests and Pastures" (€2.9 million).

The Green Climate Fund approved a \$2.6 million grant for the development of a **national adaptation plan** and sectoral adaptation action plans for emergency, health, agriculture and irrigation. Assistance will be provided for strengthening institutions, enhancing horizontal and vertical coordination, and improving scientific and technical support of adaptation planning.

A Coordination Council on Green Economy and Climate Change has been established. The Council combines the functions of former Commissions on climate change and green economy to make a comprehensive effort in planning and implementation of relevant activities.

EBRD launched a Green Technology Selector for the Kyrgyz Republic. This is a catalogue of high-performing green technologies that are pre-approved for green financing via local financial institutions. It is the largest international virtual-store like platform that helps manufacturers and vendors of green technologies find potential clients.

Emergencies

Natural disasters. More the half of the Republican territory is prone to avalanches. The area of 3,200 km² is subjected to flooding. In May, destructive mudflows in Dzhalal-Abad and Batken provinces damaged residential buildings, roads, businesses and crops. The damage was estimated at about 130.5 million soms. Rising water in the Chon-Naryn Canal led to flooding of 30 home yards, household buildings and roads in Batysh, Alma-Bak, Ak-Korgon and Kotormo in June.

International Cooperation. The Kyrgyz Parliament has approved draft laws on (1) ratification of the Agreement between the Kyrgyz Republic and IDA on financing the Enhancing Resilience in the Kyrgyz Republic Project. The Project consists of five components, such as strengthening disaster preparedness and response systems, improving safety and functionality of school infrastructure, enhancing financial protection, and contingent emergency response (8 June); (2) ratification of the Agreement between the Kyrgyz Republic and IDA on financing the Social Protection Emergency Response and Delivery Systems Project worth \$50 million (3 September). The World Bank's Board of Directors approved Additional Financing for the Enhancing Resilience in the Kyrgyz Republic Project in the amount of \$55 million from IDA on highly concessional terms.

Foreign Policy and International Cooperation

In 2020, the President of the Kyrgyz Republic paid formal visit to Hungary (September) and working visits to the Russian Federation (February, September, December). The country was visited by Foreign Ministers of Hungary (February) and PRC (September).

Meetings were also held with the Swedish Parliament delegation headed by the First Vice-Speaker (January), Ambassadors of the Russian Federation (October) and the Republic of Kazakhstan (November), Permanent representative of IMF (March), Heads of ADB and WB missions in the Kyrgyz Republic (March), Director of EBRD for Central Asia (March) and others. Telephone calls took place with leaders of a number of countries and heads of international organizations.

As a **foreign policy priority** in 2020, Kyrgyzstan built and strengthened bilateral relations with its closest partner countries and far abroad countries. 2020 was declared the Cross year of Kyrgyzstan and Russia. Significant efforts were made to mobilize external assistance for measures to prevent and combat COVID-19 pandemic and support the national budget. The total amount of the received assistance was more than \$95 million, including over €36 million from EU as rapid and short-term emergency response and budget support. In total, agreements were reached with donors for allocation of \$774.4 million, including \$343.3 million as financial assistance, \$271.3 million as loans and \$72.0 million as grants. Additionally, it was agreed to temporarily suspend servicing of foreign debt before a number of countries.

Development of alliances and strategic partnerships. A Roadmap was signed for deepening and strengthening cooperation between Uzbekistan and Kyrgyzstan in order to intensify trade and economic relations, extend the range of exported goods, and revive joint projects in the industrial and agricultural sectors, the construction of logistics centers and free economic zones in the border areas of the two countries. An agreement has been also reached on establishment of permanent working groups between the ministries of economy, agriculture, transport and customs authorities of the two countries for quick handling of urgent matters. The mechanisms and technical details of formation of a joint Kyrgyz-Uzbek investment fund were discussed (See Bilateral Cooperation).

In 2020, representatives of Kyrgyzstan took part in a number of important international events, among which were: the Global Forum for Food and Agriculture (GFFA) and the Annual Agriculture Ministers' Conference (January, Berlin); 7th meeting of Joint Kyrgyz-Austrian Commission on Bilateral Foreign Economic Relations (January, Vienna); meeting of the Eurasian intergovernmental council (January, Almaty); C5+1 Ministerial Meeting (February, Tashkent); 32nd session of the FAO Regional Conference for Europe (November, Tashkent); Joint meeting of the Governmental delegations of Kyrgyzstan and Uzbekistan on delimitation and demarcation of the Kyrgyz-Uzbek border (December, Bishkek). Additionally, numerous meetings in the format of video-conference also took place at Central Asia, CIS and UN levels and were attended by representatives of the Kyrgyz Republic.

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State Water Resources Agency
(https://www.water.gov.kg);

State Committee for Industry, Energy and Subsoil Use/Ministry of Energy and Industry (http://www.gkpen.kg/)

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5.3. Tajikistan



Water Sector

Water resources. Tajikistan has got water resources from glaciers, rivers, lakes, reservoirs and groundwater. There are 14,509 glaciers with the total glaciation area of 11,146 km² (approx. 8% of the country's area) and the total glacial volume of about 845 km³. 947 rivers stretching to more than 28,500 km flow across the country. The main watercourses are the Amu Darya and the Syr Darya and their tributaries. The average annual runoff generated in Tajikistan is 64 km³/year (62.9 km³/year in the Amu Darya basin and 1.1 km³/year in the Syr Darya basin. Tajikistan possesses about 1,300 lakes

covering 705 km². The lakes contain over 46.3 km³ of water, including 20 km³ of freshwater. The potential groundwater stock is 18.7 m³/year, while usable groundwater resources are estimated at 2.8 km³/year.

Latest developments in legislation. A number of regulatory documents were adopted in 2020, including: (1) the law on Water User Association, which sets economic, institutional and legal framework of WUA activities and aims at water conservation and efficient operation of waterworks facilities in WUA's service area (1668 of 02.01.2020); (2) the Water Code of Tajikistan (1688 of 02.04.2020), which governs public relations in the area of water ownership, use and exploitation and aims at conservation and rational use of water resources and legal protection of water users; (3) the governmental decree (241 of 29.04.2020), which assigns the Agency for Land Reclamation and Irrigation under the Government of Tajikistan the coordinating function of WUA activities; (4) the governmental decree on assignment of an authorized state body for regulation of water use (548 of 27.10.2020) in the face of the Ministry of Energy and Water Resources; (5) the governmental decree on the procedures for development, approval and fulfillment of basin water plans (680 of 31.12.2020); (6) the governmental decree on the procedure of establishment and functioning of river basin councils (681 of 31.12.2020).

New appointments. Mr. Daler Shofakir Jum'a was appointed Minister of Energy and Water Resources of Tajikistan in connection with the appointment of Mr. Usmonzoda as Deputy Prime Minister of Tajikistan.

Mr. Orif Khamid Amirzoda was appointed Director of the Institute of Water Problems, Hydropower and Ecology at the National Academy of Sciences (NAS).

Projects. ADB approved a grant of \$15 million for the Water Resources Management in the Panj River Basin Project. This will be used for the construction of a sediment tank in the Chubek irrigation system, which is the largest one (50,160 ha) in the basin. Due to deterioration of the system, including sedimentation, the system's flow capacity decreased to 80 m³/s in 2013 against the design capacity of 150 m³/s (1950).

In December 2020, GEF approved a grant for the FAO's "Institutionalizing transboundary water management between Tajikistan and Afghanistan for the Panj River Sub Basin" project worth \$7.9 million. The project objective is to establish new operational mechanisms and foster effective transboundary water management between Tajikistan and Afghanistan to manage nexus trade-offs in the Panj River basin. The Project is comprised of 4 components: (1) jointly agreed transboundary diagnostic analysis considering climate change, environmental flows, and development related nexus trade-offs; (2) transboundary water management strategy and action program and underpinning institutional arrangement for the Panj River basin; (3) demonstration projects to pilot interventions for improved transboundary water management (focused on climate change, drought and flood mitigation, sustainable water and land management, policies, practices and technologies); (4) enhanced capacity of key stakeholders, reinforced participatory processes, mainstreamed gender equality focus, and effective project progress monitoring.

Events. The Republican Research-to-Practice Conference "Accounting, formation, distribution and use of water resources as the main factor of sustainable development in Tajikistan" was organized by the Ministry of Energy and Water Resources and TajikNIIHiM and held on 21 October in Dushanbe.

Water sector reform. As part of the Program for water sector reformation in Tajikistan for the period of 2016-2025, the following results were achieved:

• Legislative and regulatory development: (1) adopted a new Water Code, the laws on drinking water supply and sanitation and on Water User Associations, nine bylaws and 10 draft ones are in process of approval; (2) developed drafts of the National Water Strategy until 2030 and the basin water plans for the Syr Darya, Zarafshon, Panj, Kofarnikhon, Isfara and Isfana River Basins; a Program of water supply rehabilitation in the industrial sector and equipping with water meters is in process of approval; a methodology for tariffication of irrigation water supply services;

Institutional reforms: (1) determined basin zones (territorial units of water management); (2) established five river basin organizations; (3) formed four Basin Dialogues on IWRM in the Syr Darya, Zarafshon, Panj and Kofarnihon basin zones and held their scheduled meetings; (4) started the process of establishing river basin councils in the Syr Darya, Zarafshon, Panj and Kofarnihon basin zones; (5) work on developing a draft State Program on water supply and sanitation for the period until 2030 and improving the governance structure in this sector is underway;

Infrastructure rehabilitation: (1) 11 projects worth \$180 million in the water supply and sanitation sector;
 (2) 5 projects worth \$149 million in the sector of land reclamation and irrigation (+bank enforcement) are ongoing;

• Supporting instruments of the water sector reform: (1) developed a Concept on the National water information system and a methodology for coding water bodies and catchment basins in the Republic and completed coding of water bodies; the State water cadastre, Water budgets, and Irrigation database applications are under development; (2) work on the establishment of an IWRM Innovation and Research Cluster on the base of the Tajik Agrarian University is underway with the support of CAREC Tajik branch and SDC; (3) held workshops and trainings to build capacities of those, who work in the water sector.

Drinking Water Supply

Latest developments in legislation. The following regulatory documents were approved: (1) Procedure of accounting and reporting in the drinking water supply and sanitation sector (117 of 27.02.2020); (2) Procedure of establishment of trust funds for drinking water supply and sanitation.

Projects and programs. The first stage of the "Water Supply Line from Dehmoy Spring of Jabbor Rasulov District in Khujand" was commissioned to provide clean drinking water for more than 15,000 residents. The Project was implemented at the expense of the republican budget, with the cost of the first stage of more than 16 million somoni.

The construction of a 15,282 m long water pipeline was completed and now provides water for 537 households of the Guliston community in Kulkand Isfara Jamoat. The total cost of the facility is 1,162,972 somoni, of which 861,372 somoni – grant contribution, and 301,600 somoni – contribution from local residents.

As part of the "Strengthening the Water Service Management of Pyanj and Khamadoni Vodokanals in the Republic of Tajikistan" Project, the JICA Tajikistan Office provided assistance to the "Khojagii Manziliu Kommu" utility company in the amount of 9,555 thousand somoni for purifying drinking water.

Under the "Safe Drinking Water and Sanitation Management Project" (SWSMT), the Aga Khan Agency for Habitat in Tajikistan (AKAH) successfully completed technical feasibility, hazard and environmental assessments for water supply systems in 75 targeted villages. It also established a water quality testing laboratory. The piped water supply systems were constructed in 10 districts and more than 6,000 households across the target villages were benefited from this water supply.

Agriculture

In 2020, the **agricultural production** reached 33.6 billion somoni or over \$2.9 billion. This is by 8.8% more than in 2019. The rates of crop and livestock production growth amounted to 8.2% and 10.7%, respectively. The country's agricultural sector produced more than 842,300 tons of grain (excluding corn), 656,500 tons of potato, 404,000 tons of cotton, etc.

The per capita gross domestic product (GDP) was a little over 8,740 somoni (\$773) in 2020. The total GDP was 82,543 billion somoni (more than \$7.3 billion). Agriculture accounted for 22.6% in GDP.

Agricultural export. As of 21 October 2020, Tajikistan exported a little over 120,400 tons of agricultural produce (more than 90,800 tons of vegetables, 12,100 tons of fruits, 95 tons of melons and gourds, more than 15.4 tons of dry fruits, and 1,900 tons of other products) for more than \$17.1 million. This is 41.7% or 35,400 tons more as compared to 2019.

Latest developments in legislation. The following regulatory documents were approved: (1) Governmental decree (566 of 28.10.2020) on the Concept for establishment and development of agro-industrial clusters in Tajikistan for a period up to 2040. The Concept sets objectives of agro-industrial clusters and institutional, organizational, methodological and administrative bases of cluster development; (2) Governmental decree (386 of 25.06.2020) on the Program of food security in Tajikistan for 2020-2024. The Program's objective is to supply population and processing enterprises with safe and nutritive local agricultural produce.

New appointments. Mr. Sulaymon Rizoi Ziyozoda was appointed Minister of Agriculture by Presidential Decree on 3 November 2020.

International cooperation and projects. As part of the "Agriculture Commercialization" Project, a new agri-

cultural information platform "Tajik produce" was launched. The online platform containing the necessary information on local agricultural produce is to expand cooperation between Tajik businessmen and importers from CIS countries.

Energy

Power production and export. In 2020, Tajikistan generated about 19.8 billion kWh, which is 4.4% (906 million kWh) less than in 2019. About 95% of electricity in the republic was generated by hydroelectric power plants, and the remaining part – by thermal power plants. Electricity export amounted to more than \$ 56.4 million, which is 40% less than in 2019.

An agreement was signed between Uzbek and Tajik (OJSC "Barki Tojik") energy agencies for electricity supply from Tajikistan to Uzbekistan in the period from May to September (2 May). Because of reduced inflow to the Vakhsh River and water shortage in reservoirs, the average daily supply was reduced from 12 to 0.3 MkWh (25 July). In early August, to supply the population and national economy with electricity, OJSC "Barki Tojik" terminated the agreements of electricity export to Uzbekistan and Afghanistan. In September, the agency informed on filling the Nurek reservoir and the resumption of exports to Afghanistan.

A single Republican command center was established to ensure rational use of electricity and detect illegal connections to electrical grids (10 December). The Center will raise awareness on the rational use of electricity and check consumption in households, factories and institutions irrespective of their ownership form.

New appointments. Mr. Jamshed Shodi Shoimzoda was appointed first Deputy Minister of Energy and Water Resources on 3 November 2020.

HPP modernization

Kairakkum HPP. The Government of Tajikistan has ratified a grant agreement between OJSC "Barki Tojik" and EBRD for the project on modernization of Kairakkum HPP (08.04.2020). Under the Project second phase it is planned to complete the rehabilitation of HPP that will increase the current installed capacity from 126 to 174 MW, prevent water losses through spillways, and provide an opportunity to generate more hydropower using the same flow.

Nurek HPP. The WB Board of Directors approved additional grant for \$50 million from IDA for the "Nurek HPP²⁰ Rehabilitation Project", phase II. The total cost of the Project phase II is \$192 million. It is planned to rehabilitate the remaining six aggregates and the Nurek bridge and repair HPP building and other key structures. Upon completion, electricity generation will increase almost by 300 MkWh.

²⁰ Put into operation in 1972

Sarband HPP. Aggregates 2 and 6 of 39 and 49 MW, respectively, were commissioned on 22 September. Rehabilitation of aggregate 3 has been started.

HPP construction

Rogun HPP. By October 2020, two aggregates of Rogun HPP generated 1.7 billion kWh of electricity for the national energy system. In 2020, 1.872 billion somoni were allocated from the state budget for the pre-contract construction-assemblage work, procurement of equipment, construction materials and services. The construction-assemblage work was continued in the site of spare and main fourth gate. The Webuild is to ensure timely construction of the dam up to a level of 1,110 m and focus on reinforcement of the dam and prevention of flooding. To ensure safety of HPP and organize technical and technological monitoring at 53 structures of HPP, 4,000 measurement devices were installed. Eleven digital satellite seismic stations have been set up around the Rogun and Nurek reservoirs with connections to the seismic centers of the Rogun HPP and the Geophysical Service of the Tajikistan's National Academy of Sciences.

Sebzor HPP. The Ministry of Economic Development and Trade has signed a trilateral grand agreement with the German Development Bank for construction of Sebzor HPP worth €18.6 million (22 July). For the construction of 11-MW HPP and its infrastructure in Roshkala district, GBAO \$55.2 million were mobilized in total.

Shurab HPP. A feasibility study for the construction of 8th stage of the Vakhsh cascade – Shurab HPP – was started. The HPP of 862 MW will be located between Rogun HPP and Nurek HPP, 110 km far from Dushanbe. \$ 1 billion will be needed for the construction. It is planned that the Tajik Aluminum Company will take care of the preparation, with the involvement of authorized agencies and consulting companies.

HPPs on the Zarafshan River. The Tajik and Uzbek delegations negotiated the joint construction of two HPPs on the Zarafshan River in Tajikistan (28 January, Tashkent). At the first stage, it is planned to build Yavan HPP with the estimated cost of \$282 million. The 140-MW HPP will generate 700-800 MkWh. At the next stage, the parties will consider the construction of a 135-MW hydropower plant on the Fandarya River with the estimated cost of \$270 million to generate 500-600 MkWh. The HPPs will produce up to 1.4 billion kWh "exclusively for the needs of Uzbekistan" (see Bilateral Cooperation).

CASA-1000. As part of the project, excavation and concrete work have been completed in Tajikistan, and metal structures, anchor bolts, and drainage pipes have been delivered to the construction site. By agreement with the MEWR, negotiations have been concluded between the Kalpataru contractor and Nokili TALCO for the procurement of 1,780 km of cable at 9.7 million somoni. Construction of the transmission line will be completed by the end of 2021. The contractor was selected for the supply and installation of equipment at Isfara-1 substation and the improvement of 110/10 kV distribution networks, transmission line and substation.

Alternative Energy

The world's tallest new solar power plant of 220 kW was put into operation with the assistance of USAID in Murghab district, GBAO. The plant will increase the available daily electricity by 50%. The project also includes a hybrid pumped storage hydro of 180 kWh. With the commissioning of the power plant, more than 6,000 people in the city of Murghab now have access to electricity.

Climate Change, Glaciers and Environmental Protection

New appointments. Mr. Dilovarsho Saidakhmad Dustzoda was appointed Director of the Hydrometeorology Agency at the Committee for Environmental Protection on 8 June 2020.

International cooperation and projects. Tajikistan and Afghanistan signed a Memorandum of Understanding on protection of mountain ecosystems in the Panj and Amu Darya river basins (1 October). The Memorandum was signed for 5 years and implied measures for (1) counteraction to climate change; (2) biodiversity conservation; (3) water quality monitoring; (4) environmental assessment; (5) exchanges in ecosystem management.

The Government of Tajikistan signed an agreement to launch a climate change adaptation project titled "Building Climate Resilience of Communities through Capacity Strengthening and Livelihood Diversification in Mountainous Regions of Tajikistan" funded by the Green Climate Fund (GCF).

Events. The Tajik delegation took part in the International Conference "Green Central Asia" (28 January, Berlin). The Green Climate Action Month was launched as part of the partnership to strengthen action on climate change and biodiversity conservation (since 24 October, Committee for Environmental Protection and GIZ). The International Science-to-Practice Online Conference "Integrated use of water and land resources in Central Asia in the context of global climate change" was organized on 3-4 December by the Institute of Water Problems, Hydropower and Ecology at the National Academy of Sciences of Tajikistan.

Emergencies and Disasters

Emergencies. In 2020, 213 natural emergency situations (680 – in 2019) were recorded in the territory of Tajikistan. 25 of them caused material damage to the population and the national economy in the amount of 58.9 million somoni. Eight people died, 141 residential buildings, 14 bridges, 89 km of roads, over 18,817 ha were damaged.

Prevention measures. The Committee of Emergency Situation of Tajikistan has signed a contract for delivery and installation of weather radar to detect hail and other weather phenomena. The radar is to be put into operation in March 2021. **Capacity building.** As part of the EU-funded project "Stabilization of Tajikistan's southern border region with Afghanistan", the OSCE Programme Office in Dushanbe in co-operation with the Committee of Emergency Situation organized the first round of training course to improve skills of rescuers in conducting field-based emergency response operations under challenging conditions.

International cooperation on transboundary disaster risks. An agreement was signed on cooperation between the Institute of Seismology of the Uzbekistan's Academy of Sciences and the Institute of Geology, Antiseismic Construction and Seismology of the Tajikistan's Academy of Sciences. The Parties agreed to exchange methodologies and geological-geophysical and seismological information in the field of earthquake prediction and seismic zoning.

Foreign Policy and International Cooperation

Working and official visits. In 2020, the President of Tajikistan paid a working visit to the Russian Federation to take part in special events dedicated to 75th anniversary of the Victory in the Great Patriotic War (26 June). Official visits were also paid to the Russian Federation by the Minster of Foreign Affairs S. Mukhriddin (24-25 February), Chairman of Parliament R. Emomali (24-25 November). The Russian delegation headed by Deputy Chairman of the Government visited Dushanbe.

Visits of the Tajik Minister of Foreign Affairs to Brunei, South Korea, Qatar, Germany, Russia, Serbia and Uzbekistan and meetings with his colleagues from India, China, Kyrgyzstan, Pakistan and US allowed discussing priority areas of bilateral cooperation in economic sector, trade, investments and infrastructure.

Development of alliances and strategic partnerships. Despite complex situation due to the pandemic, bi-

and multilateral cooperation between Tajikistan and partner countries, international and regional organizations continued developing. A Tajik-Uzbek Investment Forum took place on 29 September and resulted in signature of contracts worth \$50 million.

Foreign investments. Due to the COVID-19 pandemic, FDI flow to Tajikistan fell by 53% in 2020. Investment in the economy of Tajikistan amounted to \$428 million, including \$162 million of FDI. According to the State Investment Committee, 70 investment projects worth more than \$3.5 billion are implemented in the country. About 50% is loans, more than 45% is grants, and the remaining percentage is the Government's contribution. The projects are designed for rehabilitation and development of transport, energy, municipal sector, agriculture, land reclamation, as well as for health protection, education, social protection, state governance.

Reinforcement of the country's image. The UN General Assembly has adopted its resolution 72/212 "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", which

was offered by Tajikistan and the Netherlands together with the vast majority of UN member countries – 190 countries (21 December).

Chairmanship. Tajikistan assumed the responsibility of chairmanship in the SCO (10 November) and the CSTO (2 December). Speaking at summits of these regional organizations, Emomali Rahmon voiced priorities of his country chairmanship.

Tajikistan also has been chairing IFAS since 2019 to 2022. See IFAS and Other Regional Organizations in Central Asia.

Participation in high-level events. The President of Tajikistan spoke at (1) the UNGA 75th session, noting that Tajikistan intends to take active efforts for the promotion of its constructive initiatives on water and climate change together with other countries (22 September, online); (2) the meeting of the CIS Council of Heads of State, where Dushanbe was declared the cultural capital of the Commonwealth in 2021 (18 December).

The virtual participation of the Tajik Minister of Foreign Affairs S. Mukhriddin was organized at the High-Level Forum "Accelerating implementation of the 2030 Agenda through **water**, **sanitation and climate action**" on 29 May, the International Conference of Foreign Ministers within the "Belt and Road Initiative" on 18 June, the Annual Meeting of Foreign Ministers of the Group of Landlocked Developing Countries (LLDCs) on 23 September, the Special Meeting of Foreign Ministers of the Conference on Interaction and Confidence Building Measures in Asia (CICA) on 24 September and the 27th Session of Ministerial Council of OSCE on 3 December.

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5.4. Turkmenistan



Water Sector

Water resources. The total volume of water resources of Turkmenistan is comprised of the surface runoff of the Amu Darya (88%), Murgab (6.5%), Tedjen (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 groundwater resources and collector-drainage waters. All large rivers of Turkmenistan are transboundary, i.e. 95% of surface water in the water balance of Turkmenistan is formed outside the country.

Water accounting. As part of the Socio-Economic Development Program for 2019-2025, the efforts are made to save water and augment water stock. In particular, water meters have been installed in 13 points along the Murgab River in Mary province²¹. The automated water monitoring system allows the Mary water authority and the State Committee for Water Management control water level and irrigation water supply in real time for better water planning. The system is also important for early warning of local communities about floods.

²¹ Equipment was provided to the State Committee for Water Management as part of the USAID-funded "Water, Education and Cooperation" Project implemented by CAREC



Source: Official site of the Turkmenistan's State Committee for Water Management, http://turkmenwater.gov.tm/ru/cherez-czifrovuyu-sistemu-dlya-kontrolya-urovnya-vody-i-ee-potrebleniya-ustanovleny-schetchiki-vody-v-reke-murgap/

Capacity building. A number of seminars and trainings were organized and held on water saving technologies (17 September); water diplomacy practices (7 October); water and energy cooperation (10 November); operation of pumping stations, audit of pumping units and planning of water use at the interfarm irrigation systems (24 December).

International cooperation. Turkmenistan chaired the 79th meeting of ICWC (24 November, online). See ICWC of Central Asia.

The meeting between representatives of water management organizations of Turkmenistan and Uzbekistan took place on 30 October (see Bilateral Water Cooperation between the Countries of Central Asia). At the 4th meeting of the Water Coordination Commission between Turkmenistan and Afghanistan (22 November), the parties discussed water sharing along the Amu Darya, Murgab and Tedjen rivers and signed the resulting protocol. During a work meeting on the regional water use, officials and experts of the State Committee for Water Management of Turkmenistan, the Ministry of Energy and Water Resources of Tajikistan and EC IFAS considered the results of water use in the region, the analysis of water stock for 2021, and the forecast of flow in the main rivers (3 February 2021).

A Memorandum of Understanding was signed on 2 December between the State Committee for Water Management of Turkmenistan and the UNDP mission in Turkmenistan on sustainable water resources management.

Drinking Water Supply

Water treatment facilities were put into operation as part of the **"General Clean Water Program"**. Experts of exploration companies at the State Corporation "Turkmengeology" make efforts to explore groundwater, update groundwater stock, and determine the state of currently operational wells. In 2020, new sources of drinking water were discovered in freshwater lenses in Uchkepderi of Gurbansoltan-eje district and Dostluk of Gubadag district (Dashoguz exploration company), as well as in "Çukur" aquifer in Serdar district and "Arçaly" aquifer in Makhtumkuli district (Balkanabad exploration company).

Agriculture

Latest developments in legislation. In line with the Land Code of Turkmenistan and the Presidential Decree (14668 of 18.03.2016) "On governing land relations in Turkmenistan", an Order was adopted for abolishing the right of respective legal entities to use land on the basis of contracts for allocation of their land plots for enterprises and institutions, members of the Union of Industrialists and Entrepreneurs.

The President of Turkmenistan signed a decree, which sets the acreage of agricultural land fund, from which land plots will be allocated for stock companies, peasant farms, other legal persons and citizens in the country. The land will be leased for 99 years, provided that wheat, cotton and other crops from the 'state order' list are grown on contractual basis on, at least, 70% of the land area. Crop surplus can be used by owners of land plots on their own or sold by state purchase price to the state.

Strengthening of physical infrastructure and digitalization of agriculture. In January-September, machine-handling in crop production increased by 61.8% as compared to the similar period in 2019, mainly, through procurement of up-to-date agricultural equipment. 785 units of such equipment were bought from the American "John Deer" company. Modern 'smart' farms with automated production processes are in the process of establishment (e.g., a poultry farm, greenhouses in Balkanabat and Mary district).

Projects.

■ As part of the EU-funded Project "Support to Further Sustainable Agriculture and Rural Development in Turkmenistan – SARD III", the 7th work meeting of the Project's Steering Committee (17 June), a seminar for farmers (27-28 August), and a webinar "Vegetables production in greenhouses and key aspects of greenhouse business management" (25 November) were held. The Project aims to develop small- and medium-scale business in the agroindustry and introduce international standards and best practices. One of the main aspects of the Project is the improvement of water and land use and contribution to environmental security.

Under the UNDP/GEF Project "Supporting climate resilient livelihoods in agricultural communities in drought-prone areas of Turkmenistan": the local adaptation plans were developed jointly with local authorities, farmers and livestock breeders to overcome the effects of climate change (droughts, floods, desertification, etc.); a webinar "Establishing agricultural advisory services and knowledge dissemination services in Turkmenistan" was held on 16 October. The Project supports 6 farm associations and 2 livestock farms in Lebap and Dashoguz provinces, continues providing grants in support of community projects and holds trainings on the development of grant-seeking proposals, introduction of agricultural innovations, including water accounting, laser land leveling, solar energy use and the modernization of water collecting facilities.

Energy

Latest developments in legislation. The internal regulations of the Ministry of Energy and the structure of its headquarters have been approved.

The energy sector continues increasing the generating capacities. Two gas turbine energy blocks, 70 MWh each, will be constructed and an existing power station at Turkmenbashy oil processing complex will be reconstructed by the Turkish Çalik Enerji Sanayi ve Ticaret A.Ş. A 432 MW gas turbine power station is under construction in Charjew district, Lebap province. The work is carried out together with Sumitomo Corporation, Mitsubishi Hitachi Power Systems (Japan) and Turkish Rönesans Holding. Energy Equipment Maintenance and Service Centre will be opened in 2022. The construction is carried out by the consortium of Çalik Enerji Sanayi ve Ticaret A.Ş (Turkey) and Çalik Enerji Swiss AG (Switzerland).

International cooperation. A Program of energy diplomacy development in Turkmenistan for 2021-2025 was approved. It sets the key areas of cooperation with UN agencies, the International Energy Agency, the Secretariat of the Energy Charter and other relevant organizations (5 December). A Memorandum of Understanding was signed between the Ministry of Energy and UNDP on cooperation in the field of sustainable development of the electric energy industry on 11 December. **Energy Charter.** On April 28, a videoconference meeting with the Secretary General of the Energy Charter Dr.Urban Rusnák was held in the premises of the MFA of Turkmenistan. The parties discussed a number of issues related to further development of bilateral cooperation between Turkmenistan and the Energy Charter, modernizing the Energy Charter Treaty, transit of energy carriers. Turkmenistan took part in meetings on the modernization of the Energy Charter Treaty. The participants discussed the issues related to energy transit, access to infrastructures, principles of tariff setting, sustainable development, corporative social responsibility, dispute settlement, and transparency of actions of the parties in energy deals and agreements (2 June, 8 July, 8 September).

Events. A number of seminars and conferences were held in Turkmenistan in the energy sphere, in particular: a webinar on net energy consumption as a new ecological and energy-saving system (14-17 October); online seminar on energy diplomacy (11-12 November, Ashkhabad); International science-to-practice conference "Stable energy cooperation as an essential condition for global development" (1 December, Ashkhabad).

Alternative Energy

National strategies and programs. There is ongoing transition to green economy and to modern environmentally safe and resource-saving technology in industry and social sectors under the State Program for Energy Saving for 2018-2024. A National strategy on renewable energy development in Turkmenistan until 2030 was approved on 5 December.

Solar energy. The "Täze energiýa" company installed solar panels to supply electricity to: (1) three settlements in Akhal province (total capacity 10 kW) and large livestock farm in Dashoguz province²²; (2) cell towers in the same province and for street lighting on Ashkhabad-Mary and Bugdaily road. It is also planned to install 11 stations of 4.3 MW in remote settlements. In addition, a software called "Digital Photovoltaic Solar System Design" was developed in this context.

International cooperation. In order to further develop renewable energy, Turkmenistan cooperates with the International Renewable Energy Agency (IRENA)²³, EU, OSCE and UN agencies. Ambassador Extraordinary and Plenipotentiary of Turkmenistan to the UAE S.S. Garadjaev was appointed Permanent Representative of Turkmenistan to IRENA (26 June). It is planned to nominate Turkmenistan for election to the IRENA Council for 2021-2022.

Environment and Climate Change

Latest developments in legislation. The Law "On Environmental Information" was adopted on 14 March (227-VI). This law defines the legal, institutional, economic and social frameworks for access to environmental information and is aimed to ensure rights of legal entities and individuals to full, reliable and timely

²² Within the UNDP Project "Energy Efficiency and Renewable Energy for Sustainable Water Management in Turkmenistan"

²³ In October 2018, Turkmenistan became a full member of the International Renewable Energy Agency (IRENA,

https://www.irena.org/aboutirena)

information on the state of the environment and natural resources. The law provides for the establishment of a State Fund of Environmental Information. On 23 October 2020, the Intersectoral Commission on Environmental Protection was established.

The following **resolutions of the Mejlis (Parliament)** were adopted: "On ratification of the amendment to the Montreal Protocol on substances that deplete the ozone layer", "On accession to the Agreement on the conservation of African-Eurasian migratory waterbirds", "On accession to the Convention on the conservation of migratory species of wild animals", "On accession to the Nagoya Protocol on access to genetic resources and the fair and equitable sharing of benefits arising from their utilization to the Convention on Biological Diversity".

Implementation of national strategies and programs. The implementation of the National Strategy of Turkmenistan on Climate Change²⁴ is underway. The Strategy provides for a gradual shift of all major industries to more environmentally friendly mode, including energy efficiency and energy conservation, rational use of energy and natural resources, adoption of innovative technologies, advanced scientific and technological solutions, alternative energy sources, etc.

Forests. Turkmenistan joined the UNECE's Trees in Cities Challenge to plant more than 2.2 million trees in the cities of Turkmenistan in 2020. As part of the National Forest Program (2013-2020), 10 million (21 March) and 15 million (7 November) seedlings of deciduous, coniferous, fruit trees and grapes were planted.

Projects.

Within the framework of the Central Asian Desert Initiative (CADI) (Greifswald University, German/ FAO), a workshop was held on 28-31 January on the Island of Vilm and the 3rd Steering Committee meeting took place on 13 November. The rationale for revision of functioning and expansion of the Bereketli Garagum nature reserve and for the creation of better habitats for wild ungulate animals was developed; the preparation of the series of transnational World Heritage nomination "Temperate Deserts of Turan" was underway. On the basis of the Vilm Declaration²⁵, national working groups of Kazakhstan, Turkmenistan and Uzbekistan have developed draft lists of national nominations. In Turkmenistan those included Bereketli Garagum, Kaplankyr and Repetek nature reserves.

As part of the Sustainable Cities in Turkmenistan: Integrated Green Urban Development in Ashgabat and Awaza (UNDP/GEF), a work plan for 2020 was signed; campaigns for plastic waste collection in exchange for young plants took place in March and August; dedicated equipment was installed to measure and monitor atmospheric air by the Environmental Control Service and laboratories of provincial environmental offices; a training in monitoring environmental state in cities was also held. **Events.** A number of events were held in 2020, with the key ones including: a seminar on the outcomes of the high-level conference "Green Central Asia" and the 9th meeting of the EU-CA working group on the environment and climate change (28 February); a science-to-practice conference dedicated to the World Environment Day (5 June); a science-to-practice conference "Environmentally safe habitat is the basis of life" (5 June); a video conference "Preservation of the unique nature and ecological system of Turkmenistan is a key to sustainable development" (2 December).

Turkmenistan took part at the high-level Conference "Green Central Asia" (28 January, Berlin, Germany), the 3rd Central Asia Climate Change Conference (19 October, Dushanbe, Tajikistan); a meeting of the Technology Executive Committee of the Framework Convention on Climate Change (UNFCCC) (17-20 November, Bonn, Germany).

Emergencies

Floods. A break of the Sultan Bent dam on the Murgab River caused damage to more than hundred houses and farmland in Iolant district of Mary province (June). Flooding was also recorded in the south of Lebap province near Gabshal, Novruz, Ussatlar, and Khatap villages in the south of Kerki, as well as in Dashrabat, Bozarik and Khatap villages due to the outflow of the Amu Darya (June).

Fires. Every year, steppe fires occur in Badkhyz and Karabil in the south of Turkmenistan. In 2020, fires were recorded from May till August.



Source: Meteojournal, http://meteojurnal.ru/novosti/ ploshhad-stepnyh-pozharov-na-yuge-turkmenistanadostigla-neskolkih-desyatkov-kvadratnyh-kilometrov/

²⁴ Adopted in a new version on 23.09.2019

²⁵ Joint declaration of intent and schedule towards the World Natural Heritage nomination of the "Cold winter deserts of Turan" prepared on 30 January 2020 on the Isle of Vilm, Germany

Preventive measures. As part of the project "The set of mudflow protection structures in the southern part of Ashkhabad city", the Russian company "Vozrozhdenie" started the construction of 7 mudflow collectors. These structure will be capable to collect simultaneously the maximum volume of mudflow and withstand the design seismic activity of 9-9.5 points.

Since May, fire-fighting activities, including arrangement of trench strips and clearing of vast areas from grass vegetation, patrolling of areas, have been carried out in the country. There are fire-fighting checkpoints equipped with rapid response facilities at the Department of Fire Safety of the Ministry of Internal Affairs, the Ministry of Agriculture and Environmental Protection.

International cooperation. Meetings were held (1) between the Deputy Minister of Defense Mr. Durdiyev and UN representatives to discuss possible expansion of disaster prevention activities (9 July, online); (2) between the heads of ministries and agencies of the central civil defense and emergency services and the heads of UN agencies to discuss priority areas of cooperation for 2021 (16 November).

In 2021, the governments of Kazakhstan and Turkmenistan plan to sign an emergency cooperation agreement.

SDGs in Turkmenistan

SDG targets and indicators are integrated into the Socio-Economic Development Program of Turkmenistan for 2019-2025.²⁶

United Nations and the Government of Turkmenistan signed the new Sustainable Development Cooperation Framework (SDCF) for 2021-2025 (14 March). It envisions that the country, by 2025, will make a significant progress in achieving the following three strategic priorities: people-centered governance and rule of law; inclusive, green, and sustainable economic growth; good quality, inclusive and affordable health, education, and social protection. The successive session of the National Leading and Coordinating Committee of the Partnership Framework Development



Program between Turkmenistan and the UN for 2016-2020²⁷ (14 February) and the first meeting of the Steering Committee for the implementation of SDCF for 2021-2025 were held at the Ministry of Foreign Affairs of Turkmenistan (16 December).

As part of SDG-related events, the Global Session "National Indicators and the National Voluntary Reviews on the Sustainable Development Goals" (27 April); an international seminar "Financing the implementation of the Sustainable Development Goals: the role of integrated national financing mechanisms" (28 May); a webinar "Building robust data ecosystems for achieving the SDGs" (17 November); and, a webinar "Review and guidance on global, international and regional funds to finance the SDGs in Turkmenistan" (18 December) took place in Turkmenistan.

Cooperation on the Caspian Sea

Turkmenistan scales up cooperation on the Caspian Sea. The development of the international treaty framework of the riparian country partnership is underway. Turkmenistan hosted:

meetings of authorized representatives of the Caspian riparian states to discuss (1) the draft Protocol on cooperation in the field of securing maritime safety in the Caspian Sea (27-29 January); (2) the draft Agreement between the Governments of the Caspian States on Cooperation in Conducting Search and Rescue Operations in the Caspian Sea (30-31 January);

meetings of experts of the Caspian riparian states to discuss (1) the draft of the Protocol on cooperation in the area of combatting illegal extraction of biological resources (poaching) in the Caspian Sea (3-5 February); (2) the draft Agreement between the governments of the Caspian states on cooperation in the field of scientific research on the Caspian Sea (6-7 February).

Establishment of a reliable system of environmental protection of the Caspian Sea is among the tasks of Turkmenistan's environmental strategy. Mejlis of Turkmenistan at its tenth meeting of sixth convocation adopted a resolution "On ratification of the Protocol on environmental impact assessment in a transboundary context to the 2018 Framework Convention for the Protection of the Marine Environment of the Caspian Sea" (22 August).

The Institute of the Caspian Sea held: a meeting on the issues of cooperation between Turkmenistan and Azerbaijan, including resource usage and collaboration in the Caspian, research, innovation and technological cooperation of the two countries within the framework of prior agreements (7 May); a roundtable on prospects of cooperation between Turkmenistan and the International Ocean Institute. During the meeting the parties discussed also training programs and courses of the Institute (30 October).

The preparation to the VI Summit of the Heads of Caspian Riparian States to be hosted by Turkmenistan was underway.

²⁶ Adopted on 01.02.2019

⁷ Signed on 04.04.2016

Turkmenistan took part in the informal meeting of environmental ministers of the Caspian riparian states (9 June), International science-to-practice conference on Caspian bioresources (14 September), fourth session of the Commission for conservation, rational use of aquatic bioresources and management of their joint stock (21-23 December).

Foreign Policy and International Cooperation

In 2020, the President of Turkmenistan visited Azerbaijan (11 March), held 20 meetings with official representatives of other countries, heads of foreign corporations and companies, and had 40 telephone calls. Ashkhabad was visited by the Prime-Minister of Kazakhstan, who paid a working meeting on 17 September.

Key developments in the foreign policy of Turkmenistan

Development of alliances and strategic partnerships. Turkmenistan extends mutually beneficial relationships with the CA countries based on the goodneighborliness and equality principles, both in a biand multilateral format. In particular, cooperation is developed in energy, transport, trade, ecology, water, etc. The country is a member of the Central Asia Regional Cooperation Program (CAREC) since 2010. Turkmen delegation took part in the Senior Officials' Meeting in the framework of CAREC on 20 October. Partnership relations are enhanced under CIS umbrella. During meetings of the Council of CIS State Leaders Turkmenistan signed a number of documents, including the Strategy of CIS economic development until 2030, the draft Priority areas of CIS member states cooperation in the field of transport until 2030, etc. (29 May, 6 November). The President of Turkmenistan spoke at the meeting of the Council of CIS State Leaders on 18 December.

The partnership with Afghanistan is developed within the framework of a number of large projects (construction of the Turkmenistan-Afghanistan-Pakistan-India gas pipeline and the Turkmenistan-Afghanistan-Pakistan transmission line) and socio-economic and humanitarian programs (Afghan students study in Turkmen education institutions, relief consignments are regularly sent to Afghanistan, and energy is delivered on preferential terms). The President of Turkmenistan approved the program of humanitarian aid to the Islamic Republic of Afghanistan for 2020-2022 on 20 February. Turkmenistan and Afghanistan signed a set of documents to facilitate further implementation of joint infrastructure projects on 30 September. Turkmenistan also participated at the high-level Afghanistan Conference that was held under the chairmanship of the Governments of the Islamic Republic of Afghanistan and the Republic of Finland jointly with the United Nations (23 November, Geneva). A meeting of cooperation "Central Asia + Afghanistan + China" took place on 9 December.

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

2020 was declared the year of "Turkmenistan as the land of neutrality". In the course of the year, the events dedicated to Turkmenistan's 25th neutrality anniversary were organized²⁸. Upon Turkmenistan's initiative the political platform "Group of Friends of Neutrality" was established at the United Nations. The first states that became the members of the Group were Russia, China, Uzbekistan, Pakistan, Egypt, Qatar, Iran, Ireland, Costa Rica and others. An international exhibition was organized just before the International Neutrality Day²⁹. Ashgabat hosted an international conference "Policy of neutrality and its importance in ensuring international peace, security and sustainable development" on 12 December. Á session was held under the theme "International cooperation in environmental protection and climate change" within the framework of the above International Conference at the Turkmen State University named after Makhtumkuli. The Final document of the International Conference was adopted and disseminated as an input to the UNGA 75th session and published in UN official languages.

Turkmenistan actively cooperates with the United Nations, EU, OSCE, and OIC. In 2020, Turkmenistan was elected Vice-Chairman of the 75th UNGA (29 June). The A/RES/75/28 resolution "The role and importance of a policy of neutrality in maintaining and strengthening international peace, security and sustainable development" was adopted by the GA (7 December). 2021 was declared the International Year of Peace and Trust by GA upon Turkmenistan's initiative.

As part of cooperation between Turkmenistan and EU, a meeting under the Turkmenistan-EU dialogue on human rights (18 June), the 19th meeting of the Turkmenistan-EU Joint Committee (25 June), and a meeting between the Minister of Foreign Affairs of Turkmenistan and the Ambassador Extraordinary and Plenipotentiary of the European Union to Turkmenistan, where the parties discussed the development of a Roadmap for cooperation in such priority areas as energy, transport, trade and education, took place.

Sources:

The official web-sites of:

MFA (www.mfa.gov.tm/ru); State Committee of Water Management of Turkmenistan (http://turkmenwater.gov.tm/ru/glavnaya/); Ministry of Justice (http://minjust.gov.tm/ru);

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://www.parahat.info/

²⁸ In 1995, Turkmenistan declared itself a neutral state. In December the same year, the UNGA recognized and supported the neutral status of Turkmenistan by adopting a resolution "The Permanent Neutrality of Turkmenistan" (A/RES/50/80 of 12.12.95)

²⁹ On the initiative of the President of Turkmenistan, the UNGA adopted a resolution proclaiming 12 December the International Neutrality Day (A/RES/71/275 of 02.02.17)

5.5. Uzbekistan



Water Sector

Water resources. Uzbekistan's average water use is 51-53 billion m³, of which 80% (approx. 41 km³/year) is provided through transboundary river water.³⁰ The estimated natural fresh and brackish groundwater deposits potentially yield 27.6 km³/year; however, they are unevenly distributed throughout the country. The demand of water users is met through a combination of surface water (50.9 km³/year), groundwater (0.5 km³/year), and the reused collector and drai-

nage 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 sectors.

Latest developments in legislation. The Concept approved by the President Decree UP-6024 on 10 July 2020 defines priority areas of water sector development in Uzbekistan, including the improvement of water accounting system, transparency of water data, modernization and automation of large infrastructure on the base of digital technology, introduction of

³⁰ Source: Concept on Water Sector Development 2020-2030, https://water.gov.uz/ru/posts/1545735855/396

Smart Water technology, development of synergies between education, science and production, etc. Additionally, it is planned to improve efficiency of irrigation systems from 0.63 to 0.73, reduce irrigation areas with low available water supply from 560,000 to 190,000 ha, and decrease saline irrigated area by 226,000 ha. **National strategies and programs.** A State Program was approved for implementation of the Strategy of Actions in five development priority areas for 2017-2021 in the Year of Science, Education and Digital Economy Development (UP-5953 of 02.03.2020).

Source: https://strategy.uz/



🕜@dsc.uzbekistan 🕥 @dsc_uzb <</td>@dscuzbekistan 🙆 @dscuzbekistan Development

Implementation of initiatives of the Uzbek President voiced at XII Summit of the Heads of IFAS Founder-States. A State Program for development of the Aral Sea region in 2017-2021 was approved by President Decree in 2017. In 2020:

relevant decrees were adopted on: (1) measures for comprehensive socio-economic development of the Republic of Karakalpakstan in 2020-2023;
 (2) additional measures for the improvement of performance of the International Innovation Center for the Aral Region that supports an agro- and ecotouristic project titled "My garden in the Aral Sea";

■ During the 75th session of the UNGA, the President of Uzbekistan initiated a special resolution about declaring the Aral Sea region an area of environmental innovation and technologies and marking the date of adoption of this important document as the International Day for the Protection and Restoration of Ecosystems (23 September);

 A Committee for development of the Aral Sea region was formed at the Senate of the Supreme Council of Uzbekistan to coordinate activities, projects and programs undertaken in the region and increase control over implementation of the state policy aimed at the restoration of natural environment and the improvement of living conditions in the Uzbek territory of the Aral Sea region (October). An Advisory Committee was established in support of sustainable development in the Aral Sea region at the MPHSTF for the Aral Sea region. WHO has joined the MPHSTF. The Governments of Finland and the Republic of Korea contributed to the MPHSTF;

• UNDP Uzbekistan's Accelerator Lab in partnership with ministries and agencies launched the Green Aral Sea crowdfunding campaign. https://greenaral sea.org./ is the website, where everyone may contribute: every dollar or 10,000 soums donated will go for planting a saxaul tree (March);

SIC ICWC together with IICAR undertook the second research expedition to the exposed Aral Sea bed as part of the joint UNDP-UNESCO project "Addressing the urgent human insecurities in the Aral Sea region through promoting sustainable rural development" funded by the MPHSTF for the Aral Sea region (28 May-26 June). See Expeditions on the Exposed Bed of the Aral Sea in 2019-2020.

Water management system. The total length of the main and inter-farm irrigation network is 28,940 km, the farm and on-farm networks comprise 155,000 km. More than 54,000 hydraulic structures are operated along the main and inter-farm canals; and 114,000 structures are operated on the on-farm network. More than 12,400 wells are used for abstraction of groundwater, including 4,069 wells being operated by the MWM, the other are operated by individual economic entities and population. Also, 56 water reservoirs and 13 mudfow reservoirs (debris basins) are operated in the country, and their total storage capacity is more than 20 billion m³. The total length of drainage network is 142,800 km, of which 106,100 km are open collectors (collecting drains) and 36,700 km are subsurface horizontal drains. For land reclamation purposes, the MWM also operates 172 pumping stations, 3,788 vertical drainage wells and 27,648 observation wells. For irrigation purposes, 1,687 pumping stations are operated in the country and are under responsibility of the Ministry. More than 5,285 pump units consume 8.0 billion kWh annually. Also, more than 10,280 pumping units are operated on the on-farm irrigation networks³¹.

Water saving technologies. In 2020, water saving technologies were introduced on 133,600 ha. The total land area with water saving technologies reached 291,200 ha (about 7% of the total irrigated area). As a result, during the growing season, 280 Mm³ of water were saved and irrigation water supply of more than 300,000 ha was improved.

According to the decree on measures for promotion of water-saving technologies in agriculture (PP-4919 of 11.12.2020), the rate of introduction of drip and sprinkler irrigation systems, as well as of discrete irrigation, including laser land leveling should be increased 5 times. In 2021, water saving technologies will be introduced on 230,000 ha, and 200,000 ha will be laser leveled.

Land reclamation. As a result of repair of 13,584.1 km of collector-drainage network and 324 vertical drainage wells, 294,500 ha of irrigated land have been reclaimed. In particular, the strongly to moderately saline land area has been reduced by 29,800 ha.

The adopted decrees on urgent measures for the effective use of water resources and the reclamation of land in Jizzak and Syrdarya provinces (PP-4801 of 11.08.2020) and in the Republic of Karakalpakstan (PP-4912 of 05.12.2020) set a plan of construction and reconstruction efforts on irrigation and drainage infrastructure until 2023.

To improve water management and accounting and land reclamation, a Research Center for water problems has been established at the Cabinet of Ministers of Uzbekistan on the base of the Khorezm experimental farm.

Groundwater. GUP Uzbekhydrogeology and its 4 field offices carry out activities on groundwater explora-

tion and assessment. In particular, it is planned to put into operation 11 wells in Chust district, Namangan province for irrigation of unused land by groundwater. Similar wells have been drilled in Dzhizak (12), Bukhara (11) provinces, etc. The monitoring is maintained to prevent illegal use of groundwater and illegal drilling of water wells.

Projects. An agreement was signed between the Uzbek Government in the face of MWM and the Swiss Government in the face of SDC on the **National Water Resources Management Project in Uzbekistan**, Phase II (2020-2024) aimed to improve living conditions of the rural population through IWRM (16 June).

The **UzWaterAware Project**³²/Raising Awareness and Partnership for Sustainable Water and Environment Development in Uzbekistan has been completed (November 2016-2020, EU, €2.2 million). On 28 and 30 October 2020, final and reporting event of the Project took place in Tashkent. Nine active waterenvironmental NGOs of the country were involved in the joint implementation of activities, close cooperation was established with the Ministry of Water Management, the State Committee of Ecology and their press services, 100 events of different formats were held, and different knowledge products were developed.

The following projects were continued: (1) "South Karakalpakstan Water Resources Management Improvement Project" (2014-2022, \$376.7 million, including \$214.9 million of WB Ioan); (2) "Fergana Valley Water Resources Management Project", Phase II (2017-2024, \$225 million, including \$144.9 million – WB Ioan); (3) Amu Bukhara Irrigation System Rehabilitation (2014-2020, \$406.29 million, including \$216.75 million – ADB Ioan, \$108.97 million - JACA Ioan); (4) a feasibility study for the "Preparing the Climate Adaptive Water Resources Management in the Aral Sea Basin Project" (since August 2019, ADB, \$1.35 million) and others.

See United Nations Development Program on implementation of "Sustainable Management of Water Resources in Rural Areas in Uzbekistan: Component 2 on Technical Capacity Building" (2016-2020) and other projects related to land resources, ecosystems, climate change and activities on the Aral Sea.

Drinking Water Supply

In the regions of Uzbekistan, 26,900 km (38%) out of 70,400 km of drinking water supply network and 1,700 km (22%) out of 7,600 km sewerage network need repair. 3,500 (38%) out of 9,300 drinking water supply facilities must be reconstructed. Centralized drinking water supply reaches³³ 85% of the population in Fergana province, 75% in Tashkent province, 61.9% in Khorezm province and 54.2% in Kashkadarya province.

³¹ Source: Concept on Water Sector Development 2020-2030, https://water.gov.uz/ru/posts/1545735855/396

³² Component 3 of the European Union Programme "Sustainable Management of Water Resources in Rural Areas in Uzbekistan"

³³ From the reports of the Committee for Ecology and Environmental Protection's session (11.05.2020)

Latest developments in legislation. By the Decree "On measures for the development of social and industrial infrastructure of the Republic of Uzbekistan in 2020-2022" (PP-4565 of 10.01.2020) the Target Program for construction and reconstruction of drinking water supply and sewerage facilities in 2020 was approved. As part of the Program, the Fund for Development of Water Supply and Sewerage Systems³⁴ allocated 1,277 billion soum for the construction and reconstruction of 120 water supply facilities, as well as for the construction of 3,400 km of drinking water and sewerage networks at 216 sites.

In order to solve the problem of water supply for rural settlements, by a decree of 25.09.2020 the MHCS will give annual social orders to NGOs and other community organizations for provision of drinking water for rural settlements with the population of not less than 15,000 people that have no access to centralized water supply.

International cooperation and investment projects.

The Tashkent Province Water Supply Development Project is continued jointly with ADB (2017-2021, \$143.8 million). 265,000 people in 58 villages in Kibray, Zangiata and Tashkent districts will get the improved drinking water supply.

In 2020, a number of agreements and memorandums of cooperation were signed between the Uzbek water supply agency (AO Uzsuvtaminot) and the Singapore Alpha Global Capital (s) Pte Ltd company, for installation of a wastewater treatment and water production system, with the Avelar Solar Technology, the OOO "Ecolos-Proyektstroy", the Korean Ministry of Ecology and Environment and others.

The efforts have been made to ensure continuous supply of drinking water to population in provinces, including installation of solar panels, modernization and improvement of old water facilities, and application of bio-purification methods at aeration stations.

Agriculture

The total agricultural land area is 20,236,300 ha, of which: cropland – 3,988,500 ha; perennial plantation area – 383,100 ha; fallow land – 76,000 ha; hayfields and pastures – 11,028,300 ha; and other land area – 4,760,400 ha.

Latest developments in legislation. For the implementation of the Agricultural Development Strategy of the Republic of Uzbekistan for 2020-2030 a number of decrees were adopted, such as: (1) "On measures for fulfillment of Strategy tasks in 2020" (PP-4575 of 28.01.2020); (2) "On measures for wider application of market principles in cotton growing" (PP-4633 of 06.03.2020) and in grain production (PP-4634 of 06.03.2020); (3) "On measures for further improvement of agriculture and food production governance system" (PP-4643 of 18.03.2020). These decrees canceled the so-called state orders for cotton and grain. Grain produced by farmers and other enterprises will be sold through exchange auctions or direct contracts at free prices. The practices setting purchasing prices for raw cotton have been abolished.

By the decree on measures for radical improvement of land inventory (UP-6061 of 07.09.20), the **Ministry of Agriculture has got powers** to monitor agricultural land and crops, cropping patterns, deliver state control over protection of agricultural land, make assessment of soil quality, etc.

Subleasing of agricultural land was legalized on 29 September.

Support of farm enterprises, dehkan farms and garden plots' owners. The analysis of January-December 2020 showed that dehkan (subsistence) farms produced 68% of the total agricultural produce, farm enterprises – 27.8%, other agricultural enterprises – 4.2%.

In order to develop and support farms, a number of decrees were adopted in 2020. Those provided for: allocation of the land put outside of production and the land comprising groundwater stock on easy terms for putting back such land into agricultural production (PP-4700 of 01.05.2020); subsidies for irrigation equipment, seeds and seedlings, and greenhouses (PP-4716 of 18.05.2020); zero customs duties for agricultural equipment bought for subsistence farms until 1 January 2022 (PP-4767 of 30.06.2020); subsidies to cover partially drilling of vertical wells, purchase of facilities for pumping water from rivers and canals for irrigation of subsistence plots and non-agricultural land in the regions suffering from water shortage (PKM 459 of 30.07.2020); allocation of 200 billion soums in support of farm enterprises and dehkan farms (PP-4964 of 27.01.2021).

Agroclusters. Uzbekistan is applying a cluster-based form of production that would cover the full chain of agrobusiness – from growing to selling of agricultural produce. There is ongoing work on the establishment and development of grain-growing, potato-growing and intensive horticultural clusters³⁵. 96 cotton-textile clusters on 907,783 ha have been established. A cotton-textile cluster association has been established in line with Decree No. 397 of 22 June to counteract systemic problems that clusters face, regulate relations between farms and clusters, etc.

For upscaling water-conservation technologies a new order of state support to agricultural producers who applied water-conservation technologies has been set (PP-4919 of 11.12.2020).

Adoption of smart agriculture and innovation technologies. The Strategy of innovative agrarian education

³⁴ Established according to the Decree on the Program for comprehensive water supply development and modernization (PP-2910 of 20.04.2017)

³⁵ Decree on measures for increased production of potato and further development of potato seed growing in the Republic (PP-4704 of 06.05.2020)

development until 2030 (approved on 15 December) provides for modernization of the agrarian sector, improvement of education in this area, introduction of resource-saving smart agriculture and information technologies, and better integration of education, science and production. A Center of Agro-Industry Digitization has been established to maintain "Digital Agriculture" information system.

The first innovation Center of Agro-services will be opened in Fergana province to serve more than 500 farming entities on the PPP base. An innovation project is ongoing in Andizhan province on agricultural land management through satellite data. Provincial districts have been digitized and inputted into the Monterra platform. Now the land owners can get recommendations on their land management.

Projects and programs. Uzbekistan and WB signed an Agreement on financing the Agriculture Modernization Project in Uzbekistan³⁶ (2020-2026, \$659.3 million) aimed to digitize the agricultural sector and transfer to more efficient land and water use.

The Project for Horticulture Value Chain Promotion³⁷ (2020–2025, \$337.6 million, of which \$213.2 million – JICA Ioan, \$58.9 million – Uzbekistan's contribution, \$65.5 million – contribution from participants) was started. The project is designed to provide financing via commercial banks to horticultural entrepreneurs in the form of soft Ioans.

See Food and Agriculture Organization on implementation of FAO-GEF projects, such as: (1) Integrated natural resources management in drought-phone and salt-affected agricultural production landscapes in Central Asia and Turkey (CACILM-2); (2) Smart farming for the next generation; (3) Shifting food systems and land use to a sustainable track and supporting land restoration.

The "Agricultural diversification and modernization"³⁸ Project is continued in Andizhan, Namangan and Fergana provinces (2018-2023, with the involvement of IFAD). A loan agreement was signed for financing the project phase 2³⁹ (04.08.2020) aimed to increase incomes of more than 375,000 people in the region through the introduction of modern farming methods and creation of additional high-paid jobs.

International cooperation. The Global Agro-Industrial Forum of Uzbekistan was held as part of the International Agricultural Exhibition on 11-12 March. The agricultural ministers of the CA countries met via a videoconference on 19 May. A video-meeting was organized with the European Commissioner for Agriculture and Rural Development on 8 December. The Ministry of Agriculture signed a framework cooperation agreement with the French company "Rungis Semmaris" on 9 December.

Energy

The available generating capacities in Uzbekistan amount to⁴⁰ 12,900 MW, of which 11,000 MW (84.7%) – TPP; 1,850 MW - HPP (14.3%); and, more than 133 MW (1%) – isolated stations. The main source of energy generation is 11 thermal plants, including 3 cogeneration plants. The capacity of modern energy-efficient blocks is 2,825 MW (25.6% of the total capacity of TPP).

The hydropower sector includes 42 HPPs, including 12 large ones, with the total capacity of 1,680 MW (90.8% of the overall HPP capacity), 28 small HPPs of 250 MW in total (13.5%) and 2 micro plants of 0.5 MW. 30 HPPs with the total capacity of 532 MW (4 large plants – 317 MW and 26 small plants – 215 MW) are located along watercourses. 10 HPPs are a part of reservoir systems and have the total generating capacity of 1,400 MW. The hydropower use coefficient is 27% in Uzbekistan.

In 2020, 66.4 billion kWh of electric energy were produced in Uzbekistan. TPP generated 60.7 billion kWh (56.4 billion kWh in 2019), while HPP generated 5 billion kWh (6.5 billion kWh in 2019).

Latest developments in legislation. According to the "Digital Uzbekistan-2030" Program and the Decree "On the state program for implementation of the Strategy of Actions in five development priority areas, 2017-2021 in the Year of Science, Education and Digital Economy Development", the supervisory control and data acquisition (SCADA) and the energy consumption management (EMS) systems are introduced in the energy sector.

The Law on amending and supplementing the law on rational energy use (628 of 14.07.2020) sets the order of state control over energy efficiency aimed to limit production and import of produce, which is not energy efficient, and promote energy saving by public agencies and institutions. The Ministry of Energy was appointed responsible for promotion of rational energy use.

Provisions on the Extrabudgetary intersectoral fund for energy saving were adopted (PKM-640 of 09.10.2020) to mobilize investments and financing for energy efficiency projects in economic sectors, social sector, and dwellings.

National strategies and programs. The Government approved the Concept on provision of the Republic of Uzbekistan with electric energy for 2020-2030. The Concept envisages modernization and reconstruction of power stations, construction of new stations on the base of energy efficient technologies, improvement of energy accounting system, development of RES, etc. In particular, by 2030 it is planned: (1) to raise

³⁶ Decree on measures for implementation of Agriculture Modernization Project in Uzbekistan (PP-4803 of 11.08.2020)

³⁷ Decree on measures for implementation of the Project for Horticulture Value Chain Promotion with the involvement of JACA (PP-4669 of 10.04.2020)

³⁸ Decree on measures for implementation of the "Agricultural diversification and modernization" Project (PP-4021 of 20.11.2018)

 ³⁹ Decree on additional measures for implementation of the "Agricultural diversification and modernization" Project PP-4830 of 15.09.2020)
 ⁴⁰ Source: Concept on provision of the Republic of Uzbekistan with electric energy for 2020-2030,

http://minenergy.uz/uploads/1a28427c-cf47-415e-da5c-47d2c7564095_media_.pdf

capacities from 12.9 to 29.3 GW and increase power production from 63.6 to 120.8 kWh; (2) to reduce the use of natural gas from 16.5 to 12.1 billion m³; (3) to decrease transmission losses to 2.35% and distribution losses to 6.5% (1.85 times lower than in 2019).



Source: Concept on provision of the Republic of Uzbekistan with electric energy for 2020-2030

A national Low-Carbon Energy Strategy is developed on the basis of the Concept and with assistance from the EBRD. By 2030, it is planned to deploy up to 3 GW of wind energy, 5 GW of solar energy, and 2.4 GW of nuclear energy.

Hydropower. The Ministry of Energy informed on the beginning of construction of a small hydropower at Sardoba reservoir (2020-2022, €21.3 million, installed capacity – 10.7 MW) in line with the relevant decree of 29 January 2020. The dam of Sardoba reservoir collapsed on 1 May. See Sardoba Dam Collapse.

In 2020, modernization of the following plants was completed⁴¹: (1) 15 MW HPP-14 on the Bozsu Canal; (2) 7.05 MW HPP-2 on South-Fergana Canal in the cascade of Shakhrikhan HPPs; (3) 15.34 MW Kadyr'i HPP-3 as part of Chirchik-Bozsu water-energy conveyance system.

Regional and international cooperation. Negotiations between Uzbekistan and Tajikistan are underway on joint construction of two HPPs of the total capacity at 320 MW on the Zarafshan River⁴² (see Bilateral Water Cooperation, Key Water Developments – Tajikistan).

The Russian company "Siloviye mashiny", which opened its representative office in Tashkent, works on: (1) construction of small hydropower on the Dargom (two hydroaggregates 3.2 MW each) and the Bogishamol canals (three hydroaggregates 2.15 MW each); (2) modernization of Farkhad HPP (127 MW) and Tupalang HPP (175 MW). It was planned to deliver equipment for Lower Chatkal and Pskem HPPs and small HPP at Sardoba reservoir.

The French Development Agency signed an agreement with the Ministry of Finance for provision of a \in 55.8 million loan, of which \in 46.5 million would go to construction of Paitak small HPP in Andizhan province, small hydropower on the South-Fergana Canal and \in 9.3 million – for safety of Charvak HPP.

Thermal energy. In line with the above mentioned concept, the efforts are undertaken under the following projects: (1) construction of third 650 MW unit at Navoyi TPP⁴³, construction of new TPP in Syrdarya province⁴⁴; (2) modernization of Talimarjan TPP; (3) modernization of Syrdarya and Takhiatash TPPs; (4) reconstruction of Fergana TPP.



⁴¹ As part of fulfilment of the Decree on Program of measures for further development of hydropower in 2017-2021 (PP-2947 of 02.05.2017)

 ⁴² The issue of joint construction is addressed in the Joint Statement of the Presidents of Uzbekistan and Tajikistan signed on 17 August 2018
 ⁴³ The project is to be implemented in 2020-2024

⁴⁴ PP-4799 of 10.08.2020

International cooperation. Investment agreements were signed for construction of TPPs in Tashkent province by Turkish companies: (1) "Cengiz Enerji", 240 MW; (2) "Aksa Enerji Üretim A. §", 240 MW⁴⁵.

Atomic energy. The UzAtom Agency jointly with Russian experts continues surveying the site selected for construction of a nuclear station in Jizzak province.

As part of cooperation with IAEA, negotiations were held with IAEA delegation on 12 October and pre-INIR online mission⁴⁶ was undertaken to discuss a self-evaluation report submitted by Uzbekistan (9-12 November). The INIR mission is planned for the first half of 2021.

As decided, Uzbekistan will re-join the Joint Institute for Nuclear Research as a full member since 1 January 2021.

The UzAtom's delegation paid a working visit to India to study the country's experience in construction and operation of nuclear stations and hold negotiations with relevant agencies on establishing cooperation in peaceful use of atomic energy (16-19 February). A Memorandum of Cooperation was signed between the UzAtom and the Global Center for Nuclear Energy Partnership at the Atomic Energy Department of India for education and training of experts in this field (21 September).

Alternative energy

Solar energy. As part of the Scaling Solar Program, with the support of International Financial Corporation: (1) financing was approved for construction of 100 MW SPP in Navoyi province⁴⁷; (2) a construction tender was announced for two SPPs 200 MW each in Samarkand and Jizzak provinces; (3) construction of photovoltaic stations Sherabad I was started in Surkhandarya province; (4) preparatory work was started on photovoltaic stations in Bukhara (250 MW), Namangan (150 MW) and Khorezm (100 MW) provinces; (4) an agreement was signed with the French "Total Eren SA" for construction of 100 MW SPP in Samarkand province (13 May)⁴⁸.

Wind energy. An Investment Agreement was signed with "Masdar" (UAE)⁴⁹ for the project on design, financing, construction and operation of 500 MW wind power plant in Navoyi province (10 June). Another agreement was signed with ACWA Power (Saudi Arabia) for the construction of wind power plants with the total capacity of 1000 MW in Bukhara⁵⁰ and Navoyi provinces.

Capacity building. Representatives of the Ministry of Energy took part in: (1) the opening ceremony of the international course "Future leaders" (25 May, course

duration – from May till December); (2) training in regulation in the energy sector (9-13 November); (3) webinar "Expansion of RES and their integration in energy infrastructure: legal and technical aspects", with the focus on German experience (23 November).

Events. The following events were held in 2020: (1) International Conference CONMECHYDRO-2020 (23-25 April); (2) roundtable with participation of a number of international financing institutions to discuss steps in reformation of the energy sector in Uzbekistan (23 October); (3) 16th meeting of the Taskforce on regional energy cooperation in Central and South Asia (2 November); (4) second Festival of Science and Atom organized by the Information Atomic Technology Center in Tashkent with the support of the UzAtom and RosAtom Corporation (27-28 November).

Environment and Climate Change

Latest developments in legislation. By the Decree on measures for further improvement of the hydrometeorological service in Uzbekistan (PP-4896 of 17.11.2020) the following documents were approved: (1) the Concept of hydrometeorological service development in Uzbekistan for 2020-2025; (2) a Roadmap for implementation of the Concept; (3) the Program for extension and automation of the observation network of the Hydrometeorological Service (UzHydromet). UzHydromet is assigned responsible state body in the field of hydrometeorology, monitoring of climate change and environmental pollution. It also functions as the Regional specialized meteorological center of WMO and the Regional telecommunication center for collection, processing and dissemination of hydrometeorological information of the WMO World weather service for the CA states. It is envisaged to establish the Center of information technology development in hydrometeorology on the base of the UzHydromet's Information-Technological Department "Meteoinfosystem".

A decision has been made to **establish the Southern Ustyurt National Nature Park** on the total area of 1,447,143 ha and the **Kitab Geological National Nature Park**.

The following regulatory documents were approved also in 2020: General technical regulations on environmental security; Concept of forestry development in Uzbekistan until 2030; Decree on further improvement of the mechanism of environmental impact assessment; Decree on additional measures on afforestation in Republican regions and the Aral Sea region.

Projects. As part of a GEF/UNEP/UzHydromet project, UzHydromet prepares the Fourth national communication and the First biennial update report of the Re-

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⁴⁵ PP-4807 of 13.08.2020

⁴⁶ INIR (Integrated Nuclear Infrastructure Review) is a holistic peer review to assist Member States in assessing the status of their national infrastructure for the introduction of nuclear power. Upon request from a Member State, the IAEA conducts an INIR mission. Before receiving an INIR Mission, the country must complete a self-evaluation of the 19 nuclear power infrastructure issues included in the IAEA's "Milestones" approach

⁴⁷ PP-4677 of 14.04.2020

⁴⁸ PP-4712 of 13.05.2020

⁴⁹ PP-4933 of 22.12.2020

⁵⁰ PP-5001 of 23.02.2021

public of Uzbekistan for UNFCCC. The systemic and effective work is done in line with the Montreal Protocol within the framework of the Project "Complete HCFC Phase-out in Uzbekistan through promotion of zero ODS, low GWP and energy efficient technologies" (Goscomecology/UNDP/GEF)⁵¹. The project results were presented at the third Steering Committee meeting on 4 December. Representatives of Goscomecology and the State Customs Committee have become nominees of the Montreal Protocol Award for Europe and Central Asia for 2019-2020. As part of the UNDP/GEF/Goscomecology Project "Sustainable natural resource and forest management in key mountainous areas important for globally significant biodiversity", a Biodiversity Conservation Information Management System (BCIMS) was developed. BCIMS (http://bcims.uznature.uz/bcims/main) is a restricted platform. The website http://bcims.uzna ture.uz/wordpress/ has been developed for open access.

Events. A number of online events were held: (1) an expert discussion on environmental problems related to water, air and urban development in Uzbekistan under the aegis of IWPR and CABAR (18 April); (2) first Central Asian Conference on climate journalism. During the conference, journalists, bloggers, researchers and experts from Kazakhstan, Tajikistan, Uzbekistan and Kyrgyzstan presented joint project results and held

seminars on climate data handling, climate change disinformation, climatic activism and journalism (26-27 November); (3) eco-challenge #BeTheWave for youth to share their vision on climate change (1-7 December, EU Delegation in Instagram).

The Uzbek delegation took part in (1) High-level Conference "Green Central Asia" as part of implementation of the new EU strategy for CA and Afghanistan (28 January, Berlin); (2) 9th meeting of EU-CA working group on environment and climate change (12-13 February, Brussels, Belgium) and the 1st Meeting of EU-CA WGECC Coordination Committee⁵² (15 June); (3) third Central Asia Conference on climate change/CACCC-2020 (23 October).

SDG in Uzbekistan

The group of UN organizations in Uzbekistan together with the Senate of Oliy Majlis of the Republic of Uzbekistan and the National Movement "Yuksalish" have launched the initiative "Decade of Action to achieve the Sustainable Development Goals in Uzbekistan by 2030" (2 March). A meeting of the Parliament's Commission for control over implementation of the national Sustainable Development Goals in Uzbekistan was held on 13 May to discuss the draft Voluntary National Review (VNR)⁵³.



⁵¹ The Montreal Protocol on Substances that Deplete the Ozone Layer was adopted on 16 September 1987. By present, 197 countries, including Uzbekistan has ratified the Protocol

⁵² The EU project "European Union – Central Asia Water, Environment and Climate Change Cooperation (WECOOP)"

⁵³ VNR is the process by which countries assess and present progress made towards the global Sustainable Development Goals and "Leave no one behind" Commitment

Uzbekistan presented its first VNR at the UN High-Level Political Forum on Sustainable Development on 15 July. The implementation of SDGs in Uzbekistan concurred with ambitious reforms under the Strategy of Actions in five development priority areas of Uzbekistan. There are ongoing efforts to integrate national SDGs into Republican, sectoral and regional development strategies and programs, including the developed Concept of comprehensive socio-economic development in Uzbekistan and the Strategy of poverty reduction by 2030. According to the Sustainable Development Report 2019, Uzbekistan was on the 52nd position among 162 countries⁵⁴. The strategic goals and tasks before Uzbekistan are set as follows: (1) further reduction of poverty and inequality; (2) improving quality and access to social services, particularly health care and education, with the focus on remote regions and vulnerable groups; (3) ensuring sustainable employment, especially among youth and women; (4) more rational use of water, energy and land resources for sustainable development and adaptation; (5) ensuring rule of law, freedom of speech and press, transparency and quality of public services, fighting against corruption.

Source: "National sustainable development goals and tasks" (http://nsdg.stat.uz/publications/1)

UN agencies launched a new Joint Programme "The Integrated National Financing Framework for Sustainable Development in Uzbekistan" to support Uzbekistan's financing of the Sustainable Development Goals on 9 December.

Emergencies

Latest developments in legislation. The Decree "On further improvement of the state system for prevention and actions in emergency situations in the Republic of Uzbekistan" was adopted on 26 August 2020.⁵⁵ In this context, operational territorial units for protection of population and territories from emergencies will be established at relevant state administrations and khokimiyats. These units will provide operational control, forces and facilities to eliminate emergencies and will have automatic systems for warning of the risks of emergencies and information.

Dam collapse. The dam of Sardoba reservoir collapsed in Syrdarya province on 1 May. This has resulted in flooding of settlements and destruction of roads. About 70,000 people had to be evacuated. The disaster affected the south of Kazakhstan as well. More than 30,000 people had to be evacuated there. A governmental commission and an intergovernmental Uzbek-Kazakh group were formed for recovery from the accident. See Sardoba Dam Collapse. **Preventive measures.** To prevent flooding during spring rains, the Ministry of Emergency Situations and other relevant services of Jizzak province made efforts to clear channels and protect banks. Representatives of the Ministry of Emergency Situations, UzHydromet and Goskomgeologiya have made aerial surveys in the basins of the Pskem and Oygaing rivers to assess risks in case of potential breakthrough of high-mountain lakes in Tashkent province.

Foreign Policy and International Cooperation

In 2020, the President of Uzbekistan paid formal and working visits to Turkey (February), the Russian Federation (June) and Kazakhstan (September).

The country was visited by the Foreign Minister of RF (January), US State Secretary (February), Prime-Minister of Kazakhstan (February), as well as by delegations from WB (January), Hungary (January), China (February), and EBRD (March).

More than 20 high-level dialogues and over 80 meetings and interdepartmental visits were organized in the online format under the pandemic conditions. Uzbekistan sent humanitarian aid to a number of countries, including Azerbaijan, Belarus, Kyrgyzstan, Tajikistan, Afghanistan, etc.

Key developments in the foreign policy of Uzbekistan

Development of alliances and strategic partnerships.

The CA region is among the priorities of the Uzbekistan's foreign policy. In 2020, the volume of trade exceeded \$3 billion with Kazakhstan, \$900 million with Kyrgyzstan, \$500 million with Tajikistan and was about \$530 million with Turkmenistan. The CA countries prepare a five-sided interstate document on friendship, good neighborliness and cooperation for the CA development in XXI.

The meetings of Joint Demarcation Commissions with Tajikistan (7 January, Tashkent) and with Kazakhstan (18-24 February 2021, Almaty) were held for successful delimitation and demarcation of the national frontier.

Upon the initiative of the President of Uzbekistan, the International Institute for Central Asia⁵⁶ was established in Tashkent in 2020. The Institute will serve as a platform for studying ongoing processes in the region and developing promising multilateral projects for mutually beneficial cooperation (see Science and Innovations).

⁵⁴ Sustainable Development Report 2019,

https://s3.amazonaws.com/sustainabledevelopment.report/2019/2019_sustainable_development_report.pdf

⁵⁵ For the enforcement of the Decree "On institutional measures for the improvement of emergency bodies" (PP-4276 of 10.04.2019)

⁵⁶ https://t.me/iica_uz

"...Today, the Central Asian states face an important strategic task. This is to ensure deep integration of our region into the global economic, transport and transit corridors. In this regard, we propose to establish a **Regional Centre for the Development of Transport and Communications**..."

(from the statement of the President Shavkat Mirziyoyev at the 75^{th} Session of the UNGA).

Bilateral cooperation with **Afghanistan** is developed. During the visit of Afghan delegation to Uzbekistan, an agreement was signed between the Uzbek national energy company and the Afghan "Da Afghanistan Breshna Sherkat" (DABS) on power supplies to Afghanistan for a period of 10 years. The parties also discussed how to accelerate the construction of Surhan-Pulehumri transmission line, approved and initialed a draft agreement between the countries on international motor service (28-29 August).

Decrees were adopted in 2020 on measures for further extension and enhancement of economic cooperation with Afghanistan (4892 of 12.11.2020) and on measures for development of specialized economic and small industrial zones in Surkhandarya province and Tashkent city (6109 of 12.11.2020) to create new legal environment for cooperation with Afghanistan.



Participation in international organizations

In 2020, **Uzbekistan chaired the CIS**. Under the chairmanship of Uzbekistan, over 100 multilateral events were organized, including meetings of the Council of CIS Foreign Ministers (12 May and 10 December), the Council of the CIS Heads of Government (29 May and 6 November) and the Council of the CIS Heads of State (18 December). The Permanent Representative of Uzbekistan at UN presented the resolution "Cooperation between the United Nations and the Commonwealth of Independent States"⁵⁷, which was unanimously adopted on 23 November. In 2020, Uzbekistan also joined several sectoral bodies of CIS, including the Council for youth affairs, Advisory Committee for labor, migration and social protection, Advisory Committee for consumer rights protection, and the CIS Interstate Council on industrial safety.

Uzbekistan got the status of observer in EAEC in $2020^{\mbox{\tiny 55}}.$

On July 7, Geneva hosted the 4th meeting of the Working Group on the accession of the Republic of

⁵⁷ See the Resolution on https://undocs.org/A/RES/75/9

⁵⁸ By the decision of the Supreme Eurasian Economic Union (14 of 11.12.2020)

Uzbekistan to the WTO via video-conferencing. The meeting resulted in agreement on bilateral negotiations on ensuring access to the market of goods and services from July 20 to July 31 2020, as well as on transition to the next stage of negotiations on accession to the WTO, namely, the preparation of an evidence summary, which is the basis for the Report of the Working Group on Uzbekistan's accession to the Organization.

Uzbekistan took the two-year chairmanship of the FAO Regional Conference for Europe at its 32nd session (2-4 November).

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

The law on ratification of the Charter of the Hague Conference on private international law (605 of 02.03.2020) and the Decree on the improvement of Uzbekistan's position in international ratings and indices (6003 of 02.06.2020) were adopted.

Also, Uzbekistan has become a member of the UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions .

As part of Uzbekistan-EU cooperation, (1) experts discussed preparation of the UNGA draft special resolution on the announcement of the Aral Sea region as an area of environmental innovation and technologies at the webinar "Introduction of environmental technologies and innovations in the Aral Sea region within the framework of implementation of the new EU Strategy for Central Asia: Cooperation between Uzbekistan and Belgium" (22 October); (2) negotiations were conducted on the Extended Partnership and Cooperation Agreement⁵⁹. Uzbekistan took part in a videoconference on "Prospects and opportunities for enhancing cooperation between the European Union and Central Asian countries. The role of Uzbekistan in implementation of the European Strategy in the region" (3 July). The European Commission has made a positive decision on the Uzbekistan's application to get the beneficiary status in the Generalized Scheme of Preferences (GSP+).

Participation in regional and international videocon-

ferences: "Strengthening regional and international cooperation to ensure peace, stability and sustainable development in the Central Asian region" (22 June); "The Future of Afghanistan: Perspectives from Central Asia and Iran" (9 July); "The Caspian Region in the COVID-19 Era: Implications for Security Policy and Regional Cooperation" (11 July); "China-Pakistan Economic Corridor and Central Asia: Emerging connectivity opportunities" (9 September); "Central Asia and the EU: Multilateral cooperation to achieve sustainable development of the Eurasian region" (30 September); Economic Forum "EU-Central Asia dialogue on partnership for prosperity" (7 December).

The following events were also held in 2020: "Efforts of Uzbekistan and Pakistan in resolving the situation in Afghanistan: Prospects for mutually beneficial cooperation" (12 August); online conference "Cooperation between Central and South Asia in the process of a peaceful settlement in Afghanistan" (20 August); videoconference "Policy of good neighborliness and mutually beneficial cooperation in Central Asia: Prospects for cooperation between Uzbekistan and the EU" (24 September).

Sources:

Official sites of the:

President (https://president.uz/ru); Legislative chamber of Oliy Majlis (http://parliament.gov.uz/ru/); MFA (https://mfa.uz/ru); Ministry of Investment and Foreign Trade (http://mift.uz/ru); Ministry of Water Management (http://www.water.gov.uz/ru); Ministry of Energy (http://minenergy.uz/ru); Goskomecologiya (http://eco.gov.uz/ru); Ministry of Agriculture (http://www.agro/uz/ru); National law database (http://www.lex.uz); Institute for Strategic and Regional Studies (http://isrs.uz/ru/); http://cis.minsk.by/news; http://e-cis.info

Information agencies and sites:

http://www/uzdaily/uz/; http://norma.uz; https://dunyo.info/ru; http://ru.sputniknews.ru; http://kun.uz

 $^{\rm 59}\,$ EPCA will replace the former agreement effective since 1999

