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Third Environmental Performance Review of Kazakhstan: recommendations

Note by the secretariat

Summary

The present document provides recommendations of the third Environmental Performance Review of Kazakhstan agreed upon by the Expert Group on Environmental Performance at its meeting held in Geneva on 9–10 January 2019.

The Committee is invited to adopt these recommendations.

Chapter 1: Legal, policy and institutional framework

Recommendation 1.1:

The Government should consider restoring a separate ministry or governmental body with the same status and competences as a ministry that is part of the Cabinet of Ministers, which would be responsible for policy development, regulatory, control (enforcement) and implementation functions in the areas of environmental protection and the use of natural resources.

Recommendation 1.2:

The Government should revise the 2013 Concept on Transition to Green Economy to consolidate all relevant environmental and climate change issues into one policy document.

Recommendation 1.3:

The Government should:

- (a) Ensure regular and transparent activities throughout the entire institutional framework for Sustainable Development Goals (SDGs) implementation and monitoring;
- (b) Raise awareness on the SDGs and their relevance for Kazakhstan among governmental officials and the public;
- (c) Explain the synergies between the existing national targets and the SDGs and proceed with setting up additional national targets based on the SDGs in those areas where such targets are not defined;
- (d) Ensure that the SDGs are explicitly integrated into all future strategic planning documents;
- (e) Ensure that the existing strategic documents are revised to mainstream SDGs;
- (f) Ensure the regular preparation of reports on SDGs implementation.

Recommendation 1.4:

The Government should:

- (a) Introduce a fully fledged Strategic Environmental Assessment (SEA) system into its legislation in line with the Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context;
- (b) Provide capacity-building on SEA among governmental authorities and other stakeholders;
- (c) Accede to the Protocol on Strategic Environmental Assessment;
- (d) Define an environmental assessment framework in which SEAs can be the reference for the development of Environmental Impact Assessments (EIAs) for single interventions on the territory, thus avoiding duplications in data collection, analysis, evaluation and monitoring.

Recommendation 1.5:

The Government should extend the schemes of training and advanced training on environmental issues to civil servants in sectoral ministries and their subordinated organizations, using the platforms of the Academy of Public Administration under the President and the Republican State Enterprise "Information and Analytical Centre of Environment Protection" under the Ministry of Energy.

Chapter 2: Regulatory and compliance assurance mechanisms

Recommendation 2.1:

The Government should:

- (a) Adopt an incremental plan for the implementation of integrated environmental permits, starting with a pilot project covering a limited number of companies in a given sector and expanding to all category I facilities by 2022 (at which time, category I companies would have to be subject to an integrated permit);
- (b) Raise awareness of the benefits of integrated environmental permitting and implement capacity-building activities for industrial operators to prepare them to undertake the necessary changes to apply for an integrated permit;
- (c) Ensure training of staff of the Committee of Environmental Regulation and Control of the Ministry of Energy to undertake control over enterprises with integrated environmental permits;
- (d) Develop new documents on best available techniques (BAT) and extend the scope and detail of the existing documents on BAT, enabling their effective use by the regulated community, and encourage the use of appropriate EU BAT Reference Documents (BREFs);
- (e) Balance the application of pollution charges with positive incentives to ensure that companies are incentivized to invest in processes that reduce the level of pollution.

See Recommendation 3.1.

Recommendation 2.2:

The Ministry of Energy should:

- (a) Amend EIA legislation to overcome inconsistencies with the obligations arising from the Espoo and Aarhus Conventions;
- (b) Detail the transboundary aspects of EIA in the legislation;
- (c) Ensure that large construction projects, including residential ones, fully fall within the SEE;
- (d) Integrate the public ecological expertise into the decision-making system.

Recommendation 2.3:

The Ministry of Energy should:

- (a) Develop a guideline document (rules, instructions or requirements) for the planning, preparation, execution and reporting on self-monitoring by industrial facilities, taking into account the existing international practice;

(b) Increase capacity of relevant committees to control and supervise self-monitoring reports of industrial facilities.

Recommendation 2.4:

The Government should:

(a) Establish strategic goals and priorities in terms of environmental compliance and enforcement;

(b) Thoroughly assess the positive and negative effects deriving from the reduction of inspections;

(c) Balance the reduction in the number of inspections through the establishment of unannounced inspections;

(d) Improve the disclosure of data about the performance of the environmental regulatory and compliance assurance system.

Recommendation 2.5:

The Ministry of Energy should develop and adopt a guideline document (rules, instructions or requirements) on environmental liability, establishing procedures on environmental remediation and determining that the non-remediation option, if chosen, should always be well founded and approved by environmental authorities.

Recommendation 2.6:

The Ministry of Energy should:

(a) Introduce incentives for companies certified under ISO 14001 or Eco-Management and Audit Scheme (EMAS) standard;

(b) Put in place an awareness-raising and communications campaign on the benefits available to companies that implement environmental management systems;

(c) Create a publicly available database to disseminate information on the companies that implement environmental management systems.

Recommendation 2.7:

The Government should promote corporate social responsibility (CSR) and establish clear and quantifiable targets in relevant policy documents.

Recommendation 2.8:

The Government should:

(a) Mandate the Committee of Environmental Regulation and Control to actively participate in the work of the 10-year framework of programmes (10YFP) on sustainable consumption and production patterns (SCP);

(b) Develop and implement a national SCP action plan and establish a strong governance framework for SCP.

Recommendation 2.9:

The Government should assess the system of mandatory environmental insurance, addressing current figures that show that insurance premiums greatly exceed benefit payments.

Chapter 3: Green economy and trade

Recommendation 3.1:

The Government should:

(a) Create incentives for companies to invest in pollution reduction and technology modernization, including by introducing changes in the environmental payment system;

(b) Ensure that rates applicable to taxes and fines are realistic, consistent with international practice and do not punish emissions associated with industrial practices using BAT;

(c) Shift from the fault-based concepts for monetary damages to the strict polluter pays model based on evidence of actual harm to the environment;

(d) Set rates for taxes and fines that are uniform for all sectors and set uniform rules for assessing damages.

Recommendation 3.2:

The Government should:

(a) Accelerate the removal of trade barriers in environmental goods and services, in line with the overall push towards greater connectivity for the country, starting with trade facilitation, beyond border measures and services restrictions;

(b) Better align trade, investment and innovation policies to provide effective policy support to foster green scientific and technological outputs, and motivate privately led technological upgrading based on a well-functioning intellectual property rights system and further foreign investment in emerging low-carbon technologies and projects;

(c) Enhance the role and capacity of existing institutions for research on green economy transition.

Recommendation 3.3:

The Ministry of Labour and Social Protection of Population and the Ministry of Education and Science should:

(a) Adopt the definition of green jobs aligned with internationally accepted definitions (e.g. that of the International Labour Organization (ILO)) and identify necessary skill sets for creating green jobs in the country;

(b) Gradually incorporate a green component into the definition of occupational standards, curricula and qualification assessment and certification, for technical and vocational education, higher education and workforce training, in the light of new initiatives on skills (e.g. the State Programme "Digital Kazakhstan").

Recommendation 3.4:

The Government should:

(a) Adopt a definition of green finance activities and instruments, and promote the incorporation of climate-related risks into the corporate governance of major state-owned entities;

(b) Add a mention of green finance to the mandates of the public financial institutions so they can more legitimately direct their financial resources and use risk-mitigation instruments to mobilize finance for green projects;

(c) Consider opportunities to increase the effectiveness of the use of collected environmental payments for environmental protection at the local level;

(d) Incentivize businesses to invest in resource-efficient and clean technologies through further rationalizing (indirect) energy subsidies, shifting the focus of the environmental permitting and compliance control requirements from "end-of-pipe" solutions to integrated pollution prevention that is also linked to BAT;

(e) Consider allowing Kazakhstan's Emissions Trading System (KazETS) revenues (e.g. from penalties or auctioning) to be reinvested in further climate change mitigation or adaptation instead of being absorbed into the state budget.

Recommendation 3.5:

The Government should:

(a) Regularly prepare detailed tax expenditure reports that estimate the revenue foregone by the State because of various tax concessions, and make such reports publicly available;

(b) Accelerate tariff reform in the district heating sector, gradually introduce tariffs to cover, first, operation and maintenance and, eventually, investment costs, while providing targeted support for adversely affected poorer households;

(c) Set a clear and credible timetable for the implementation of reforms to enable energy producers, distributors and households to adjust, for example, by investing in energy efficiency measures;

(d) Provide government support, such as subsidies and guarantees, for promoting renewable energy sources (RES) development.

Recommendation 3.6:

The Ministry of Finance should:

(a) Consider further elaborating the Law on Public Procurement to establish procurement regulations that provide a coherent policy framework and technical specifications to promote the inclusion of environmental (or, more broadly, sustainability) issues in the public procurement system;

(b) Make a clear link between green public procurement and the Concept on Transition to Green Economy to be updated in 2018, to mainstream sustainable consumption and production into public procurement;

(c) Develop, together with the relevant state bodies, environmental sustainability criteria for goods and services to be procured in sectors such as buildings, roads and infrastructure, vehicles, agricultural waste and irrigation systems;

(d) Implement awareness-raising activities, training and information-sharing regarding green procurement for procurement entities and departments across different public institutions.

Chapter 4: Environmental monitoring, information, public participation and education

Recommendation 4.1:

The Ministry of Energy should continue developing and expanding the state environmental monitoring network run by Kazhydromet, particularly with regard to further increasing the density of automatic air quality monitoring stations in large urban areas and industrial areas, and the number of mobile laboratories for monitoring surface water quality.

Recommendation 4.2:

The Ministry of Energy and the Ministry of Health should:

(a) Engage relevant local executive authorities and civil society initiatives towards improving the effectiveness of air quality information in alerting the population to episodes of high air pollution levels, complementing this, if necessary, with additional measurements and relevant citizen science initiatives (promoting public engagement and adherence to monitoring standards at the same time);

(b) Strengthen efforts and initiatives on the use of air quality information to raise public awareness on urban air pollution, including through additional campaigns, sharing of online air quality information through billboards and providing support to the further development of the AirKz app initiative to provide users with information and recommendations on what to do in the case of specific air pollution levels.

Recommendation 4.3:

The Government should:

(a) Accelerate the development of the Unified State System for Environmental and Natural Resources Monitoring;

(b) Further develop and improve the content and online access to the database of the State Environmental Information Fund, natural resource cadastres, State Cadastre on Waste and State Pollutant Release and Transfer Register (SPRTR), to bring them together into the Unified State System and make the information available to the public;

(c) Enhance public outreach of the annual national state of the environment report in both the Kazakh and Russian languages through the use of interactive tools for enhanced data visualization supported by online portals.

Recommendation 4.4:

The Government should:

- (a) Accede to the Protocol on Pollutant Release and Transfer Registers under the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters;
- (b) Provide sufficient human and financial resources to continue developing and maintaining the SPRTR, in particular to enable the introduction of online reporting, integration with other relevant databases and improvement of data dissemination through the online portal;
- (c) Encourage learning from international experience and good practices on establishing Pollutant Release and Transfer Registers (PRTRs) through expert assistance and participation in capacity-building activities under the Protocol on PRTRs;
- (d) Improve the SPRTR to become a single-window access point for industry and for governmental authorities to fulfil different national and international reporting obligations and to use the outcomes of the reporting in an integrated way for different purposes;
- (e) Raise enterprises' awareness of reporting obligations and capacity to report.

Recommendation 4.5:

The Government should provide sufficient human and financial resources in order for the Committee on Statistics to produce and share online the full set of 42 ECE environmental indicators along with the complete metadata information, and to complete and publish the full set of OECD green growth indicators, as well as fully implement the System of Environmental-Economic Accounting (SEEA) accounts.

Recommendation 4.6:

The Committee on Statistics of the Ministry of National Economy, in cooperation with other ministries and agencies, should address existing gaps in waste data collection and production of reliable and actionable/useful waste indicators and build capacities for the production of waste statistics at national and oblast levels.

Recommendation 4.7:

The Government should ensure that:

- (a) The provision of environmental information on the websites of central and local environmental authorities is enhanced by being timely, regular and easy to access, and in forms and formats that meet the needs of different users with appropriate multi-query search and geographical reference functions;
- (b) Charges for supplying environmental information outside the free public service on provision of environmental information, if applicable, do not exceed a reasonable amount and do not constitute a barrier to access to environmental information;
- (c) The possible grounds for refusal of a request for environmental information are interpreted in a restrictive way, taking into account the public interest served by the disclosure and the aims and the objectives of the Aarhus Convention;
- (d) There is regular training for public officials responsible for various aspects of access to environmental information, including decision-making on disclosure of environmental information.

Recommendation 4.8:

The Government should:

- (a) Take urgent measures to build capacities of public authorities to prevent persecution of environmental activists for exercising their rights and ensure safe reporting and independent and impartial investigation of such cases;
- (b) Ensure translation of the Maastricht Recommendations on Promoting Effective Public Participation in Decision-making in Environmental Matters in the Kazakh language and its distribution to public authorities at the national and local levels and to relevant stakeholders;

(c) Ensure the organization of training on public participation procedures based on the Maastricht Recommendations for different target groups (public authorities, developers, etc.);

(d) Implement Decision VI/8g on compliance by Kazakhstan with its obligations under the Aarhus Convention;

(e) Improve the effectiveness of public councils, especially those with a mandate to consider environmental issues.

See Recommendation 2.2.

Recommendation 4.9:

The Government should ratify the Almaty Amendment on genetically modified organisms to the Aarhus Convention and take the legislative, institutional and technical measures to implement its provisions.

Recommendation 4.10:

The Ministry of Justice should:

(a) In cooperation with the Supreme Court and the Ministry of Energy, enhance training and development of the expertise and capacity of judges, lawyers and other legal personnel on environmental matters;

(b) Strengthen judicial specialization in environmental law and the capacities of courts in using independent environmental expertise;

(c) Take measures to improve access for members of the public to legal aid in environmental matters.

Recommendation 4.11:

The Government should:

(a) Assign a clear mandate to the Ministry of Education and Science to implement education for sustainable development (ESD) in close cooperation with the Ministry of Energy and other stakeholders;

(b) Ensure that ESD is integrated into the relevant strategic documents and allocate adequate financial resources for the development and promotion of ESD;

(c) Establish a multi-stakeholder coordination mechanism for ESD;

(d) Ensure the active participation of the country in ECE regional activities on ESD.

Recommendation 4.12:

The Ministry of Education and Science should:

(a) Make the subject Environment and Sustainable Development mandatory in upper secondary education, vocational training and higher education;

(b) In cooperation with the Ministry of Labour and the Ministry of Economy and in consultation with higher education institutions, continuously identify the needs of the labour market and adapt and diversify environmental specializations accordingly.

Recommendation 4.13:

The Ministry of Education and Science should include dedicated training on ESD in the training of teachers on the updated curricula.

Chapter 5: Climate change

Recommendation 5.1:

The Government should:

(a) Develop and adopt a national adaptation plan;

(b) Ensure that climate change concerns are prominently integrated into sectoral policies, plans and programmes, in particular in the housing, transport, agricultural, urban planning, health, energy and industrial sectors, including the mining sector;

- (c) Encourage oblasts and cities to integrate climate change into their programmes for development;
- (d) Promote the elaboration and implementation of local adaptation plans.

Recommendation 5.2:

The Government should:

- (a) Develop and adopt a national disaster risk reduction strategy in line with the Sendai Framework;
- (b) Promote the elaboration and implementation of local disaster risk assessment plans.

Recommendation 5.3:

The Government should:

- (a) Introduce SEA as a support tool to develop sound and coordinated sustainability policies that integrate climate change;
- (b) Ensure that climate change considerations (mitigation and adaptation, linked to disaster risk reduction) are an explicit part of SEA;
- (c) Ensure the application of SEA to policy documents in the housing, transport, agriculture, land use, urban development, energy and industrial sectors, including the mining sector and other sectors, at national and oblast levels.

See Recommendation 1.4.

Recommendation 5.4:

The Government should promote among the cities of Kazakhstan:

- (a) The signing and implementation of the Covenant of Mayors;
- (b) The development and implementation of Sustainable Energy and Climate Action Plans.

Recommendation 5.5:

The Government should:

- (a) Update mitigation scenarios to 1 per cent GDP growth;
- (b) Strengthen KazETS by abandoning the baseline/basic method for allocations;
- (c) Address emissions from non-KazETS sectors with comprehensive plans, concrete actions and indicators to monitor progress in emissions reductions;
- (d) Introduce carbon taxation for sectors such as housing and commercial, to incentivize the switch to more sustainable technologies, taking into account the needs of poor and vulnerable groups;
- (e) Revise the regulations to increase energy efficiency and use of renewable energy sources for new and existing buildings, in line with international near-zero-energy building standards;
- (f) Incentivize the penetration of renewable energies, such as photovoltaics, geothermic heat pumps and biogas, in housing, street lighting, public utilities, etc., as a partial alternative to the use of coal.

Recommendation 5.6:

The Government should adopt international standards for land cover classification, such as the CORINE standards.

Recommendation 5.7:

The Government should:

- (a) As part of the State Programme "Digital Kazakhstan", set up a geoportal for spatial information that integrates satellite and aerial data, including relevant information on climate-change-related issues, using modern technologies, and make it publicly accessible;

(b) Ensure, in cooperation with relevant stakeholders, that protocols are established for data flow, including workflow definitions (precisely defining who reports what, when and to whom) and protocols on higher levels of information subsystems to avoid segregation of the whole system.

Chapter 6: Air protection

Recommendation 6.1:

The Government should take measures to transfer the current air quality assessment to air quality standards based on pollutant concentrations according to internationally accepted practices.

Recommendation 6.2:

The Government should:

- (a) Strengthen the national legislation to specifically address air protection, including through incentives for clean production and installation of air pollution prevention technologies;
- (b) Support oblast and other local authorities to analyse industrial emissions and urban developments (traffic, heating) and propose measures for reduction of air pollution as part of their air quality plans and programmes;
- (c) Support oblasts and other local authorities to draw up air quality plans and programmes to reduce and prevent the exceeding of air quality standards.

Recommendation 6.3:

The Government should:

- (a) Take all possible measures to improve access for car and truck drivers to fuels of higher quality and to stimulate car owners in the transfer from liquid fuels of low quality to natural gas, petroleum gases or electric propulsion;
- (b) Introduce economic incentives to facilitate the renewal of the car fleet.

Recommendation 6.4:

The Government should encourage cities and towns polluted by traffic, such as Almaty, to:

- (a) Ensure the deployment of intelligent transportation systems;
- (b) Ensure that effective and reliable public transport systems are working;
- (c) Promote active (non-motorized) mobility in cities, taking into account the possible co-benefits of such a transformation;
- (d) Enforce environmental considerations in urban spatial planning in order to proactively consider the characteristics of the sites to develop, such as prevailing winds, morphology, etc. and the possible effects of the localization of future built-up volumes, to maximize the exploitation of natural light and avoid drawbacks such as street canyons determined by the buildings' height;
- (e) Apply temporary measures to quickly decrease air pollution in peak-pollution periods, such as alternating driving days for cars with even- and odd-numbered licence plates, allowing at the same time free public transportation for those limited periods, and restrict the circulation of old and polluting cars in the city centre.

Recommendation 6.5:

The Government should accede to the EMEP Protocol under the Convention on Long-Range Transboundary Air Pollution as soon as possible, and initiate a stepwise process to accede to the three amended protocols to the Convention: the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone, the Protocol on Heavy Metals and the Protocol on Persistent Organic Pollutants.

Recommendation 6.6:

The Government should:

- (a) Stimulate implementation of measures for energy efficiency in residential and commercial buildings, e.g. by enhancing the attractiveness of energy efficiency measures by guaranteeing a reasonable payback period of costs and setting conditions for better maintenance of heating systems;
- (b) Promote the use of low carbon technologies (heat pumps, renewables, and also considering geothermal heat pumps) and cleaner fuels such as natural gas instead of liquid and solid fuels for individual households and apartment buildings;
- (c) Promote the use of individual heat-use monitoring devices (thermostats) in apartment buildings;
- (d) Take measures to modernize the heating systems.

Recommendation 6.7:

The Government should revise the legislation on emission standards for large combustion plants, in particular by:

- (a) As a first step, basing these standards on the BAT that are defined in the annexes of the amended Protocol to Abate Acidification, Eutrophication and Ground-level Ozone under the Convention on Long-Range Transboundary Air Pollution;
- (b) As a second step, adapting the emission limit values for large combustion plants that are defined in the most recent (EU) BREF for Large Combustion Plants (2017);
- (c) Addressing the issue of the different approaches to emission standards for new (more stringent standards) and existing (more relaxed standards) combustion plants, to make their modernization more attractive versus business as usual.

Chapter 7: Water management

Recommendation 7.1:

The Government should:

- (a) Ensure compliance with the regulatory requirements for wastewater by industrial enterprises, including thermal power plants, avoiding the discharge of their wastewater into municipal sewerage systems;
- (b) Ensure pretreatment of industrial wastewater by enterprises through enhanced compliance monitoring;
- (c) Stimulate industrial enterprises to conclude contracts with water utilities for additional wastewater treatment;
- (d) Develop a plan/roadmap for expansion of stormwater sewerage networks.

Recommendation 7.2:

The Government should consider expanding the surface water monitoring, including hydrobiological monitoring, based on experience of OECD Member countries.

Recommendation 7.3:

The Government should continue its work to provide the population with safe drinking water and sanitation services, in particular by:

- (a) Paying stronger attention to water supply and sanitation in rural areas;
- (b) Increasing investments in and creating favourable conditions for attracting investments in water supply and sanitation.

Recommendation 7.4:

The Government should:

- (a) Enhance the number of employees of the basin inspections and ensure regular training of their personnel;
- (b) Improve the material and technical equipment of basin inspections (e.g. make available portable laboratories for rapid analysis of water quality);

(c) Ensure dialogue and exchange of information among the authorities responsible for various aspects of water monitoring.

Recommendation 7.5:

The Ministry of Agriculture should:

- (a) Conduct an inventory to identify abandoned canals, collectors and drainage systems, dams and reservoirs;
- (b) Initiate the transfer of the abandoned infrastructure under the responsibility of state institutions in order to carry out its repair and rehabilitation.

See Recommendation 12.1.

Recommendation 7.6:

The local executive authorities should:

- (a) Complete the definition of borders for water protection zones and belts for all water bodies;
- (b) Organize strict control over compliance with the regime of economic activities in these areas;
- (c) Ensure demolition of illegal buildings in water protection zones and belts.

Recommendation 7.7:

The Ministry of Agriculture should ensure the regular meeting of the Interagency Council on Water Resources Management and that information on its activities is publicly available.

Chapter 8: Waste and chemicals management

Recommendation 8.1:

The Ministry of Energy should:

- (a) Introduce the weighing of waste for all waste treatment and disposal facilities;
- (b) Evaluate the effectiveness of the current system of waste data management and implement changes that will ensure that reports from all waste generators are included;
- (c) Enforce collection of quantitative statistics on waste streams.

Recommendation 8.2:

The Ministry of Energy should:

- (a) Reconsider the current waste management policy and initiate development of an action plan aimed at development of controlled landfills;
- (b) In cooperation with local executive authorities, analyse the current system of financing of municipal waste management and develop a roadmap to achieve cost-based financing of municipal waste management.

Recommendation 8.3:

The Ministry of Energy, in cooperation with local authorities and the Committee on Statistics, should identify and implement measures for improved reporting of recyclables.

Recommendation 8.4:

The Ministry of Energy, in cooperation with local authorities and operators of waste sorting plants, should identify the key issues that hinder effective and sustainable operation of waste sorting infrastructure and develop an action plan that will fully utilize existing sorting capacities.

Recommendation 8.5:

The Government should update the National Profile on Assessment of National Infrastructure for Management of Chemical Substances.

See Recommendation 13.2.

Recommendation 8.6:

The Ministry of Energy should:

- (a) Analyse the operation of the contact point for the three chemicals conventions, and propose and implement changes to enhance capacities with the aim of satisfactorily fulfilling international obligations;
- (b) Take steps to ensure accession to the Minamata Convention on Mercury.

Recommendation 8.7:

The Government should:

- (a) Review the available options for final disposal of radioactive waste and decide about its final disposal;
- (b) Create the national operator of the radioactive waste disposal facility.

Recommendation 8.8:

The Ministry of Health, in cooperation with the Ministry of Energy, should:

- (a) Initiate development and ensure implementation of regional waste management plans for medical waste;
- (b) Ensure that contracts for collection and treatment of medical waste support the regional approach.

Chapter 9: Biodiversity and protected areas

Recommendation 9.1:

The Government should adopt legislation on the conservation, protection and sustainable use of flora, including native wild flora species and plant communities, with a particular focus on rare, threatened and endemic ones.

Recommendation 9.2:

The Government should:

- (a) Undertake an assessment and adopt the list of priority long-term state monitoring and research programme topics on biodiversity, with a special focus on rare and threatened flora and fauna species, plant communities and ecosystems, and on invasive alien species;
- (b) Revise and update the 2006 Red List of rare and endangered flora and fauna species, and corresponding Red Books, paying due account to the globally applied methodology and criteria of the International Union for Conservation of Nature, and update and publish the Green Book on plant communities requiring special conservation measures and the Black Book on alien invasive species;
- (c) Commission scientific research projects indispensable for measuring progress towards the achievement of SDG 15;
- (d) Revise the rules for financing scientific activities in relation to the priority long-term state monitoring and research programmes on biodiversity;
- (e) Mobilize adequate resources in order to ensure the continuation of programmes related to state biodiversity monitoring and research in the long run.

Recommendation 9.3:

The Government should:

- (a) Develop, adopt and commence the implementation of an effective, participatory and updated national biodiversity strategy and action plan, paying due account to the current strategic plans and relevant programmes of work under the Convention on Biological Diversity;
- (b) Develop, adopt and commence the implementation of species action plans.

Recommendation 9.4:

The Government should:

(a) Designate new protected areas, and extend the territories of existing protected areas, with particular focus on providing for adequate coverage of all main ecosystem types representative of Kazakhstan, as well as the sufficient inclusion of habitats of all rare and threatened wildlife species, including important plant areas;

(b) Consider raising the legal protective status of the current state nature sanctuaries ("zakazniks"), in particular of complex and botanic types, by converting them into state nature reserves or state national nature parks with legal entity status;

(c) Support the initiatives of oblast authorities for the designation of ecological corridors, in order to enhance ecological connectivity and continuity and conservation of migratory species outside the protected areas.

Chapter 10: Energy and environment

Recommendation 10.1:

The Government should:

(a) Encourage the use of energy contracting models to promote energy efficiency measures in buildings, based on the practices of OECD Member countries;

(b) Promote the undertaking, at national, oblast and local levels, of energy audits of public buildings, and implement appropriate actions for improving their energy performance accordingly.

See Recommendation 6.6.

Recommendation 10.2:

The Government should:

(a) Continue to take steps to concretely reduce Kazakhstan's GDP carbon intensity;

(b) Continue defining and implementing more efficient and environmentally friendly ways to use coal in all sectors, facilitating, wherever possible, the use of less polluting sources of energy as a partial alternative;

(c) Take appropriate measures to reduce emissions and increase the energy efficiency of existing large coal-fired power plants through gradual modernization and technology upgrades, and also by incentivizing, where possible, the application of BAT;

(d) While developing its national policy documents to meet SDG 7, undertake a comprehensive study on the development of advanced fossil fuel technologies that will include their status, trends, economic analysis, environmental and health impacts, and institutional and legislative barriers;

(e) Develop economically and environmentally sound policies that also address health impacts in support of SDG 7, ensuring they are supported by appropriate legal frameworks and economic incentives;

(f) Take appropriate measures to ensure that the limits in terms of maximum allowed emissions set by EIAs for the oil and gas industry in the project design phase are respected, carefully monitoring their implementation phase;

(g) Continue taking measures to increase the energy efficiency of existing residential buildings, especially concerning the improvement of thermal insulation, in order to gradually bring the annual average energy consumption (kWh/m²) to more efficient values.

Recommendation 10.3:

The Government should:

(a) While developing its national policy documents to meet SDG 7, undertake an analysis on the development of renewable energy technologies in the country;

(b) Take appropriate steps to meet the targets of raising the share of alternative energy sources in total consumption to at least 3 per cent by 2020 (set in the Strategic Plan for Development until 2020), of 30 per cent by 2030 and 50 per cent by 2050 (set in the Concept

on Transition to Green Economy), also in coordination with provisions about renewable energy sources as per the 2017 Strategic Plan of the Ministry of Energy for the period 2017–2021.

Recommendation 10.4:

The Government should:

- (a) Take measures to replace obsolete coal-utilizing generation facilities in all three Almaty combined heat and power (CHP) plants with steam–gas combined cycle generation to provide both high efficiency of fuel use as well as heat and electricity cogeneration by 2022;
- (b) Employ CHP plant-1 as a source of peak-load heat energy, by applying heat pipelines connecting CHP plant-1 and CHP plant-2.

Chapter 11: Industry and environment

Recommendation 11.1:

The Government should promote inclusive and sustainable industrialization in line with the 2030 Agenda for Sustainable Development, through supporting the introduction of environmental, health and safety, and social standards in industry and encouraging CSR in industry.

See Recommendations 2.6 and 2.7.

Recommendation 11.2:

In order to support the introduction of green technologies in industry, the Government should:

- (a) Create financial incentives for industrial enterprises to move towards green technology;
- (b) Foster the creation of small and medium-sized enterprises and start-ups focused on green technology and improve access to finance;
- (c) Increase financial resources allocated to research and development (R&D) on low carbon development and green technology;
- (d) Develop targets and indicators for industrial waste.

Recommendation 11.3:

The Government should strengthen the implementation of the Convention on the Transboundary Effects of Industrial Accidents to enhance industrial safety, in particular by:

- (a) Benefiting fully from the two projects implemented under the Convention and contributing to the project activities;
- (b) Ensuring coordination among the three appointed competent authorities under the Convention, in particular through the appointed focal point in the Ministry for Investments and Development;
- (c) Ensuring an active role for the Ministry of Internal Affairs as the point of contact for the Convention's Industrial Accident Notification system (reregistration and access to the system "24/7");
- (d) Implementing the national action plan for implementation of the Convention;
- (e) Proceeding with the identification of hazardous activities with possible transboundary effects and their notification to potentially affected countries;
- (f) Preparing a hazard rating list and a map of tailing management facilities.

Chapter 12: Agriculture and environment

Recommendation 12.1:

The Government should:

- (a) Adopt an adequate tariff methodology for establishing cost recovery irrigation tariffs;
- (b) Gradually raise irrigation tariffs to cost recovery levels over a well-defined time period;
- (c) Provide subsidies to smallholders and farmers who cannot afford to pay cost recovery irrigation tariffs;
- (d) Promote sustainable irrigation techniques, the efficiency of water distribution networks and drought resistant cultivation.

See Recommendation 7.5.

Recommendation 12.2:

The Ministry of Agriculture should set up a scheme, including dedicated funds and farmers' involvement, for promoting the preservation, restoration and amelioration of soil fertility and ensure systematic provision of extension services to farmers.

Recommendation 12.3:

The Government should adopt the by-laws which are the precondition for the operation of a national certification and labelling system for organic agricultural products.

Recommendation 12.4:

The Government should take steps to enhance agriculture's adaptation to the impacts of climate change, ensuring that the respective roles and responsibilities are clearly defined and distributed throughout the governmental bodies at various levels.

Recommendation 12.5:

The Government should take measures on elimination of obsolete pesticides.

Chapter 13: Health and environment

Recommendation 13.1:

The Government should:

- (a) Establish an intersectoral coordination mechanism to ensure interagency coordination and collaboration on environmental health, including chemical safety, and application of the "health in all policies" approach in the development of national strategies and programmes;
- (b) Ensure the widespread implementation of health risk assessment in decision-making processes and in strategic planning.

Recommendation 13.2:

The Government should develop a chemicals management system that meets needs for the protection of human health and the environment and would support the achievement of SDG Target 3.9, including through:

- (a) Initiating the development of the legislation defining the mandates of governmental bodies on sound management of chemicals and requirements for regulation of hazardous chemicals, including prohibition of and/or restrictions on production and use of hazardous chemicals and their mixtures;
- (b) Developing the national institutional framework on chemical safety;
- (c) Establishing the chemical register, with its main role being a source of information for human health risk assessment and mitigation;
- (d) Initiating development of the implementation plan of the Strategic Approach to International Chemicals Management;
- (e) Ensuring the transition to the Globally Harmonized System of Classification and Labelling of Chemicals;
- (f) Conducting regular human biomonitoring surveys to assess the population's exposure to hazardous chemicals;

(g) Advocating for less hazardous and non-hazardous alternatives to hazardous chemicals, taking into account the practices in OECD Member countries;

(h) Creating a poisons control centre in line with the World Health Organization (WHO) recommendations.

See Recommendation 8.5.

Recommendation 13.3:

The Ministry of Health, in cooperation with the Ministry of Education and Science, should take actions to improve indoor environments, in particular in schools, kindergartens and other public buildings for children, through:

(a) Developing legislation defining the roles and responsibilities of the governmental bodies for creation of child-friendly and healthy indoor environments in places where children live, study and play, and requirements for organizational, technical and other measures for health risk reduction and healthy indoor environments;

(b) Setting the national monitoring system of indoor environments in public buildings for children and providing an updated risk assessment of indoor environmental pollutants on children's health.

Recommendation 13.4:

The Government should:

(a) Carry out an epidemiological study of mesothelioma trends and asbestos exposure, including occupational exposure, applying methodology recommended by WHO;

(b) Develop the national asbestos profile for the prevention of asbestos-related diseases;

(c) Ensure strict control of the use of asbestos and asbestos-containing products and implementation of a set of measures to comply with environmental protection requirements and health and safety at work in asbestos production enterprises, in order to reduce as much as possible the health effects of the use of asbestos in line with the practices of OECD Member countries.

Recommendation 13.5:

The Government should accede to the ECE/WHO-Europe Protocol on Water and Health to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

Recommendation 13.6:

The Ministry of Labour and Social Protection should initiate accession to the ILO conventions on environmental and occupational health risks prevention, namely the:

(a) Convention concerning the Protection of Workers against Ionising Radiations, 1960 (No. 115);

(b) Convention concerning Safety in the use of Chemicals at Work, 1990 (No. 170);

(c) Convention concerning the Prevention of Major Industrial Accidents, 1993 (No. 174).
