JANUARY 2025
SCE ZHAMBYL SU
EUROPEAN BANK FOR RECONSTRUCTION AND DEVELOPMENT

# KAZAKHSTAN TARAZ WASTEWATER TREATMENT PLANT MODERNIZATION PROJECT

## Public Consultation Summary Report

АДРЕС CECT Consulting, inženiring in svetovanje d.o.o.
7b Ankaranska str
6000 Koper
Slovenia

ТЕЛ/ФАКС +386 59 052 423
WWW cect.eu

# KAZAKHSTAN TARAZ WASTEWATER TREATMENT PLANT MODERNIZATION PROJECT

## Public Consultation Summary Report

January 27, 2025

# CONTENTS

# 1 Introduction

Taraz city, located in the southern part of Kazakhstan. The state municipal enterprise "Zhambyl-su" (the "Company"), fully owned by the city Akimat, is the sole provider of centralised piped drinking water supply and wastewater management services in the city.

As of the end of 2022 the population of Taraz city is 427.4 thousand residents. The Company's service area includes 303,224 people. 298,150 residents are covered by the Company's water supply and 200,139 by its wastewater collection services.

Total water supplied and wastewater collected comprised 20 million $m^3$ and 17.7 million $m^3$ respectively.

The Taraz WWTP modernization project is a component of the countrywide initiative launched by the Government of Kazakhstan in 2019 to upgrade sewage treatment facilities. By implementing this project, the Company will be able to treat municipal wastewater in compliance with local environmental standards as well as European Union guidelines.

The EBRD has commissioned CECT Consulting ("the Consultant"), inženiring in svetovanje d.o.o. (Slovenia) to elaborate a Feasibility Study for the Project and to determine a Priority Investment Program (PIP). In parallel, CECT Consulting's Environmental and Social (E&S) team has been assigned to undertake the Project related E&S studies.

The Project is categorized as "A" under the EBRD Environmental and Social Policy 2019 as the Project involves the construction of a WWTP with a capacity exceeding 150,000 population equivalent. Therefore, the Project requires the development of a Comprehensive Environmental and Social Impact Assessment (ESIA) report in accordance with the EBRD's E&S Policy and its Performance Requirements (PRs).

In May-November 2023 an Environmental and Social Assessment (ESA) was conducted under the frame of the Project's Feasibility Study. The ESA included the following deliverables.

- Environmental and Social Audit (update from the 2015 ESDD for Taraz Water project),
- Preliminary ESIA Scoping, including a Stakeholder Engagement Plan (SEP) as well as Environmental and Social Action Plan (ESAP).

Following the findings of the preliminary ESIA scoping the Consultant was assigned to conduct a full ESIA. Within the ESIA the Consultant is to submit the following documents/deliverables:

- E&S Scoping Report,
- Environmental and Social Impact Assessment Report (ESIA),
- Updated Stakeholder Engagement Plan (SEP),
- PR compliance table,
- Updated Environmental and Social Action Plan (ESAP),
- Non-Technical Summary (NTS).

The sewage system of Taraz was commissioned in 1962. It is designed as a network that provides for collection of both household and industrial wastewater though it and is isolated from the storm water drainage system. Separately operated the municipality a storm water drainage system primarily consists of open trays and ditches located alongside the roads. The total length of the City's wastewater disposal network is around 294 km.

Holding ponds (clarifiers) consist of 12 cells with a total area of 14 ha. Wastewater filtration lagoons consist of 112 cells with a total area of 208 ha. The filtration lagoons were built in 1963-2022. The filtration lagoons have a designed capacity of 43,000 $m^3$/day. However, the actual wastewater inflow reaches 60,000-65,000 $m^3$/day (peak inflow of around 80,000 $m^3$/day) due to daily irregularity of the discharged sewage, infiltration of ground water and the surplus of the storm water. Thus, the existing wastewater lagoons are operated under the permanent hydraulic overload, which, along with being an outdated treatment technology does not ensure the required quality of effluents, leads to contamination of groundwater and poses a significant risk to public health.

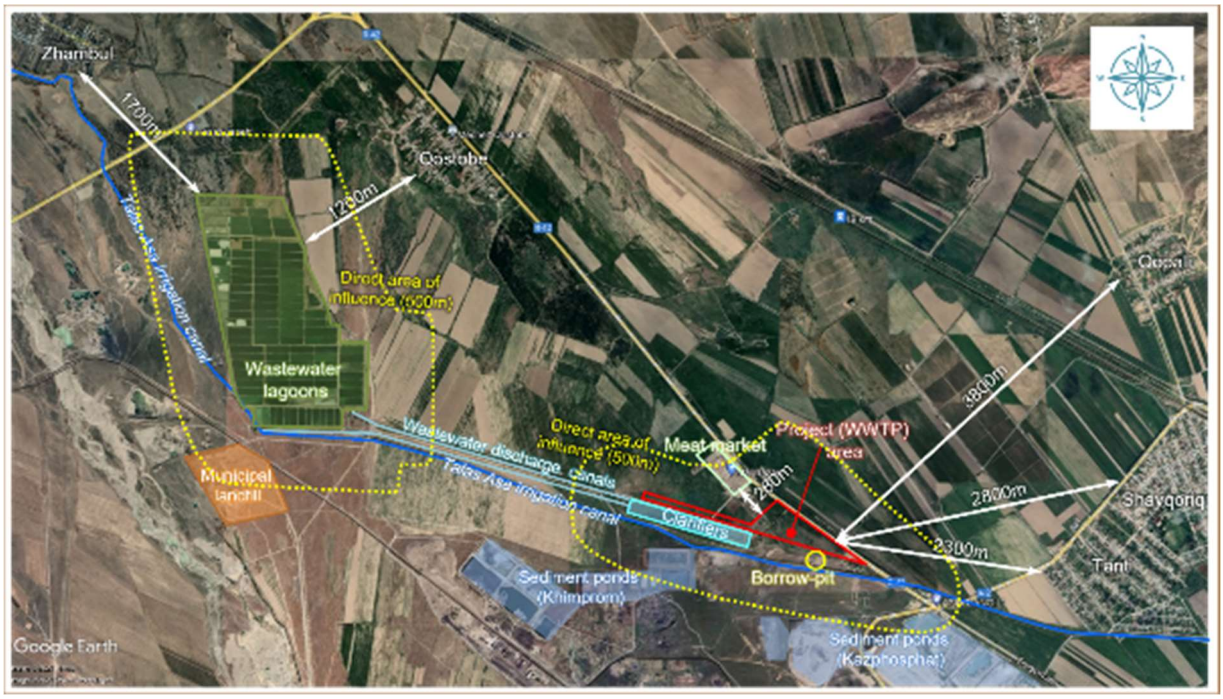


*Figure 1:* The layout of the WWTP construction area as well as the existing wastewater lagoons

Assuming Taraz population growth as well as the increased access to wastewater services (from the current rate of 53% up to 77% in 2040) the amount of wastewater to be supplied to the treatment facilities will gradually increase from 70,000 $m^3$/day in 2028 (the WWTP commissioning) reaching the design capacity (80,000 $m^3$/day) in 2040.

**Project and associated facilities**

**The Project:** The Project's Priority Investment Program (PIP) assumes construction of a new WWTP with a daily capacity of 80,000 m3/day (over 300,000 population equivalent (P.E.) to meet both national and EU requirements for urban wastewater treatment and sewage sludge and includes project design and engineering, procurement of equipment for new WWTP, construction works, maintenance equipment for WWTP, commissioning costs, contract and technical supervision – all subject to compliance with EBRD PRs.

The wastewater will undergo a multi-stage complete biological treatment with removal of nutrients. The treatment process includes:

- Removal of coarse solids using mechanical screens;
- Removal of grit in aerated grit chambers;
- Biological treatment with combined nitrogen and phosphorus removal;
- Sedimentation of sludge in secondary settling tanks;
- Post-treatment using disk microfilters to reduce the concentration of suspended solids and organic matter;
- UV disinfection of treated wastewater.

The sludge generated during the treatment will be mechanically dewatered and piled on the composting sites. After the composting is complete it will be used as a fertilizer. An option of anaerobic digestion and using of the generated biogas was also considered though rejected as in this particular case the low content of organic carbon in the produced sludge does not provide for acceptable efficiency of such an alternative.

**Associated Facilities:** The wider project scope also includes remediation of the existing filtration lagoons, reconstruction of a wastewater pumping station (WWPS) and external electricity supply to the WWTP that will be financed from the local budget through government funding. These investments are not expected to be associated with significant E&S impacts and will be implemented in accordance with national legislation incl. local EIA requirements, good international industry practice (GIIP) and the

objectives of the EBRD PRs. The responsibility for these components will be shared by the Company with Akimat of Taraz City and relevant utility providers.

The existing wastewater lagoons will be converted into a sealed holding basin for treated wastewater. The earthen holding tanks will be partially converted into emergency discharge ponds and partially remediated. Accumulated wastewater will be pumped out of the lagoons and directed to the head of the WWTP. The sludge deposits on the bottom will be naturally dried and removed to landfills or used as a filler depending on the results of chemical analyses.

The WWPS "Samarkandskaya" of 1,000 $m^3$/day capacity will be replaced on the same site by a new modular pumping station with similar operational parameters. No land allocation will be required nor any impact on the surroundings of the PS site is expected apart from short-time (a few days) noise impact during demolishing of the old structures.

The Overhead Transmission Line (OTL) supplying electric power to the WWTP will be constructed from the existing distribution substation operated by the local power supply company. The length of the line is about 5 km. It will be constructed overhead on standard concrete poles. As preliminarily agreed with Akimat, the OTL will route mainly along an irrigation channel at the edge of an earthen road. The exact route of the line is due to be determined in the course of the engineering design.

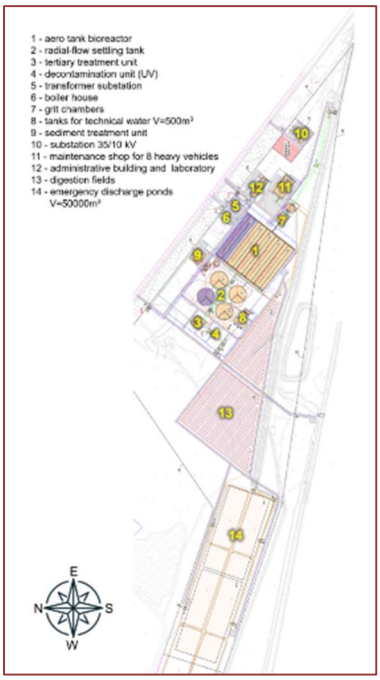


*Fig 2. The master plan of Taraz WWTP*

# 2 Consultation Process

***Consultation Process Under the National EIA***

The stakeholder engagement process within the national EIA was fulfilled in full compliance with the RoK environmental Code and pertinent national legislation[1].

The public hearings notification was communicated through:

- United Environmental Portal[2],
- The web-site of Department of Natural Resources and Environmental Management of Akimat of Zhambyl region,
- Announcement in the mass media («Ak Zhol» newspaper №128 (19395) dated 09.11.2023 (in Kazakh), «Znamya Truda» newspaper №126 (19340) dated 07.11.2023 (in Russian), TV channel «Taraz 24», broadcasted on 06.11.2023),
- Notice boards of regional administration authorities as well as notice boards at the specially designated areas at Zhambyl Su premises.

The Report on Potential Impacts (EIA Report) as well as the Non-Technical Summary were uploaded to the United Environmental Portal to disclose the key findings of the EIA to the public and other stakeholders[3].

The public hearings were held on 13.12.2023 at the "Zhambyl Su" premises. The public hearings were chaired by a representative of Department of Natural Resources and Environmental Management of Zhambyl regional administration. Fourteen people attended, including representatives from the EIA Consultant, employees of 'Zhambyl Su,' and residents of Taraz. As per the minutes of public hearings signed by the regional administration's official there were no comments from the participants about the quality of the documents submitted and the presentation delivered in terms of completeness and accessibility for understanding.

A positive conclusion on the national EIA was issued by the Committee for Environmental Regulation and Control under the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan (RoK)[4]

***Consultations under the ESIA process***

***Scoping stage consultations***

Within the ESIA process scoping consultation stage the Consultant had discussions with the key public authorities in charge for environmental regulation, permitting and control of the Project. Specifically, the following workshops/meetings were held.

| | |
|---|---|
| Shu-Talas Basin Inspectorate for the Regulation of Use and Protection of Water Resources of the Water Resources Committee of the RoK Ministry of Water Resources and Irrigation | |
| Date: | 15.02.2024 |
| Participants: | Mr. Talgat Ibraev, Director of the Inspectorate<br>Mrs. Venera Karim, "Zhambyl Su" Environmental officer<br>Mr. Suren Gyurjinyan, E&S coordinator of the Consultant<br>Mr. Sergey Balabenko, Local environmental expert<br>The Inspectorate's employees. |

[1]The Order of the Acting Minister of Ecology, Geology and Natural Resources of the RoK «On approval of the Rules for conducting public consultations" No 286 dated 03.08.2021

[2]https://ecoportal.kz/Public/PubHearings/PublicHearingDetail?hearingId=16326

[3] https://ecoportal.kz/Public/PubHearings/LoadFile/126606

[4] Conclusion on the environmental impact assessment report of the project "Modernization of wastewater treatment facilities in the city of Taraz" No KZ44VVX00279451 dated 09.01.2024

| | |
|---|---|
| Key issues discussed: | - treated wastewater discharge into the Assa river, quality/classification and permitting of treated wastewater discharge,<br>- use of treated wastewater for irrigation,<br>- retrofitting of wastewater lagoons into a holding basin. |
| Key findings: | The inspectorate has no major objections towards the Project, considering that the holding basins will be commissioned, and the treated wastewater will be used for irrigation and technical purposes (discharge of treated wastewater in the river Assa is a temporary measure). |

Department of Environment for Zhambyl Region of the Committee for Environmental Regulation and Control of the RoK Ministry of Ecology and Natural Resources

| | |
|---|---|
| Date: | 15.02.2024 |
| Participants: | Mr. Arsen Latypov, the Head of Department<br>Mrs. Venera Karim, "Zhambyl Su" Environmental officer<br>Mr. Suren Gyurjinyan, E&S coordinator of the Consultant<br>Mr. Sergey Balabenko, Local environmental expert<br>The Department's employees. |
| Key issues discussed: | - improper treatment of wastewaters at the existing wastewater lagoons, contamination of surface and ground waters,<br>- introduction of a computerized system for discharged wastewater monitoring,<br>- higher content of nitrogen and phosphorus due to the unauthorized discharge of untreated industrial wastewater into the municipal sewage system by the industrial facilities operating in Taraz city,<br>- cooperation/communication between the Department, the Zhambyl Su and the Project stakeholders throughout the Project implementation. |
| Key findings: | High commitment of the Department to cooperate/communicate with the Zhambyl Su and the Project stakeholders, especially in establishing mechanisms for management of industrial wastewaters discharges in municipal sewage system. |

An ESIA scoping workshop was organized by Taraz city administration on 16.02.2024 to discuss the Project's E&S features with wider groups of the Project stakeholders, including city administration officials, public authorities and business.

ESIA Scoping Workshop

| | |
|---|---|
| Date: | 16.02.2024 |
| Venue: | Front office of Taraz socio-entrepreneurial corporation |
| Participants: | Chaired by Mrs. Guldana Zhauynbekova, Deputy Head (Deputy Akim) of Taraz City Administration<br>Mr. Medet Berkimbaev, Zhambyl Su Director<br>Taraz city administration officials<br>Representatives of city/regional authorities<br>Representatives of local industrial facilities<br>The Consultant's E&S team members |
| Agenda: | - Welcoming remarks by Mrs Zhaunbekova<br>- Presentation of the Project features, its potential E&S risks, impacts and benefits by Mr. Suren Gyurjinyan (The Consultant's E&S coordinator)<br>- Q&A session. |
| Key issues addressed: | - higher content of nitrogen and phosphorus in municipal wastewaters, if not managed the residents of Taraz will pay high |

wastewater discharge tariffs to treat nitrogen and phosphorus to the permissible level.
- discussion on potential sources of municipal wastewaters contamination (local industry),
- environmental/public health impacts of the existing practices of wastewater treatment,
- coordination of stakeholders towards elimination/mitigation of contaminated industrial wastewater discharges.

In order to present the Project's key E&S impacts and benefits to the affected population and to get the understanding of their attitude, concerns and expectations towards the Project, a public hearing was held on 15.02.2024 in Zhambyl rural settlement.

| ESIA Public Consultations | |
|---|---|
| Date: | 15.02.2024 |
| Venue: | Regular school of Zhambyl rural settlement |
| Participants: | Chaired by Mr. Bakhyt Sadyrbayev, the Head (Akim) of Zhambyl Rural District<br>The employees of Zhambyl Su<br>The Consultant's E&S team members<br>The residents of Zhambyl and nearby rural settlements. |
| Agenda: | - Welcoming remarks by Mr. Sadyrbaev,<br>- Presentation of the Project features, its potential E&S risks, impacts and benefits by Mrs. Aray Smagul (The Consultant's local expert),<br>- Q&A session. |
| Key issues addressed: | - the residents are affected by odour from the wastewater lagoons,<br>- the residents are concerned by potential contamination of surface and ground waters,<br>- the residents believe insufficient treatment of wastewaters might cause infection diseases,<br>- The overall attitude towards the Project is positive. |

# 3 Key questions and discussion points

The ESIA package was published for disclosure on 06 August 2024. The ESIA docs in English, Russian and Kazakh languages are available both on the EBRD website[5] and the web page of Zhambyl Su (the Client)[6].

As part of the ESIA disclosure process, the consultant organized a workshop with public stakeholders and conducted a public hearing to engage local community residents. These events were designed to discuss the project's environmental and social impacts and gather the public stakeholders and local community feedback to ensure transparency and incorporate local perspectives into project planning.

The workshop with public stakeholders was held on 10 October 2024. at the Zhambyl Su premises. Representatives of the municipal and regional authorities in charge for public health and environmental protection were attended.

| ESIA Disclosure Workshop | |
|---|---|
| Date: | 10.10.2024 |
| Venue: | Zhambyl Su conference room |
| Participants: | Chaired by Mr Yermek Usenbaev, Advisor to Zhambyl Su Director<br>Zhambyl Su management<br>The officials from Taraz city Disease Control Administration and Zhambyl Regional Environmental Department<br>The Consultant's E&S team members |
| Agenda: | - Welcoming remarks by Mr Usenbaev<br>- Presentation of the Project features, its potential E&S risks, impacts and benefits by Mr. Suren Gyurjinyan (The Consultant's E&S Coordinator) and Mr. Artak Ter-Torosyan (the Consultant's Environmental Expert)<br>- Q&A session. |
| Key issues addressed: | - discussion on coordination between the public authorities and Zhambyl Su on implementation of industrial wastewater management plan<br>- engagement of the Zhambyl branch of the National Center for Expertise of the Committee for Sanitary and Epidemiological Control under the Ministry of Health as a third-party laboratory in industrial wastewater analysis<br>- public officials were requested to submit any written feedback on the ESIA package by the disclosure cut-off date, December 6, 2024. This feedback will be considered in evaluating the project's environmental and social impact and ensuring all regulatory concerns are addressed[7] |

The key findings of environmental and social assessment of Taraz WWTP project were presented to the residents of Zhambyl rural settlement (the closest residential area to the project site) on 10 October 2024 in Zhambyl regular school's premises.

| ESIA Disclosure Public Consultations | |
|---|---|
| Date: | 10.10.2024 |
| Venue: | Regular school of Zhambyl rural settlement |

[5] https://www.ebrd.com/work-with-us/projects/esia/taraz-wwtp-modernisation.html

[6] https://tarazsu.kz/2024/06/14/ovos/

[7] As of 11.11.2024 no written feedback was provided to Zhambyl Su.

| | |
|---|---|
| Participants: | Chaired by Mr. Bakhyt Sadyrbayev, the Head (Akim) of Zhambyl Rural District<br>The employees of Zhambyl Su<br>The Consultant's E&S team members<br>Thirteen residents (including 7 female and 6 male) of Zhambyl and nearby rural settlements. |
| Agenda: | - Welcoming remarks by Mr. Sadyrbaev,<br>- Presentation of the Project features, its potential E&S risks, impacts and benefits by Mrs. Aray Smagul (The Consultant's local expert),<br>- Q&A session. |
| Key issues addressed: | - the project cost breakdown,<br>- the employment opportunities both at WWTP construction and operation stages,<br>- the area allocated for the WWTP construction,<br>- access to irrigation water (the wastewater treated at the WWTP),<br>- The overall attitude towards the Project is positive. |

# 4 Consultation outcomes and conclusions

The key issues raised by public stakeholders and local residents, which have been addressed within the national EIA and ESIA processes or require further actions, are outlined below.

*Table 1: Summary of issues raised by the Project stakeholders*[8]

| The Project Stakeholders' group/category | The Project E&S disclosure stage | Issue raised | Status/Comments |
|---|---|---|---|
| Department of Disease Control of Zhambyl region under the RoK Ministry of Health | National EIA disclosure | To specify the measures for delineating and landscaping the Sanitary Protection Zone (SPZ) | To be addressed at the Project's detailed design stage.<br>The requirement to develop and implement Livelihood Restoration Plan (LRP) based on Resettlement Framework developed and verify measures to compensate land use limitations within the new future WWTP's (SPZ) is stipulated by the ESAP (point 5.2) under PR 5. |
| Department of Natural Resources and Environmental Management of Akimat of Zhambyl region | National EIA disclosure | To consider introduction of a computerized system for emissions monitoring | Addressed by the National EIA Consultant. The National EIA report is amended accordingly |
| | | Insufficient information on emergency management and emergency measures | Addressed by the national EIA Consultant. Written feedback was provided as follows: Emergency management is to be introduced through installation of an automated system for monitoring of treated wastewaters discharges. The discharges will be suspended in case of emergency. |
| | | To introduce environmentally friendly, water saving technologies, as well as technical solutions to reduce environmental emissions. | Addressed by the national EIA Consultant. Written feedback was provided as follows: Wastewater discharge is to be carried out using water metering devices. The logs for water consumption and wastewater disposal will be kept. |
| | | To envision waste treatment, to use generated waste while remediating disturbed and contaminated lands as a backfill material during the construction of roads, protective dams and structures as well as to use as fertilizer | Addressed by the national EIA Consultant. Written feedback was provided as follows: The composting of sludge and processing it into fertilizers is envisioned.<br>The requirement to develop an EIA report for the recultivation/remediation of wastewater lagoons and earthen clarifiers as well as to |

[8] Pursuant feedback/recommendations received from the Project stakeholders

| The Project Stakeholders' group/category | The Project E&S disclosure stage | Issue raised | Status/Comments |
|---|---|---|---|
| | | | recultivate/remediate the areas under wastewater lagoons and earthen clarifiers is stipulated by the ESAP (point 1.5) under PR 1. |
| Department of Environmental Regulation and Control under the Ministry of Environment and Natural Resources | National EIA disclosure | The groundwater all around the wastewater lagoons is contaminated by the effluents inflowed from the lagoons. To investigate infiltration into groundwater | Addressed by the national EIA Consultant. Written feedback was provided as follows: In order to prevent further contamination of groundwater, the construction of a WWTP and remediation of wastewater lagoons are being considered.<br>The contamination of groundwater all around the wastewater lagoons is studied in section 5.4.2 of the Project ESIA. |
| | | Discharge of wastewater into surface and underground water bodies is permitted only when the environmental permit is issued by the relevant State bodies; it is necessary to have a special permit for water discharge into the Assa river. | Addressed by the national EIA Consultant. Written feedback was provided as follows: At the Project's detailed design stage environmental permits for wastewater discharge is to be obtained.<br>The requirement to update the Company's environmental permits as per the requirements of the new Environmental Code is stipulated by the ESAP (point 3.1) under PR 3. |
| Shu-Talas Basin Inspectorate for the Regulation of Use and Protection of Water Resources of the RoK Water Resources Committee | Project ESIA Scoping consultations | Treated wastewater is to be mainly used for irrigation and technical purposes (discharge of treated wastewater in the river Assa should be minimized as much as possible.) | Addressed in the ESAP (point 11.1 under Green Finance Project Monitoring Plan) |
| Department of Environment for Zhambyl Region of the Committee for Environmental Regulation and Control of the RoK Ministry of | Project ESIA Scoping consultations | To establish cooperation among the Project stakeholders, especially in establishing mechanisms for management of industrial wastewaters discharges in municipal sewage system | Addressed through the Industrial Wastewater Management and Monitoring Plan (IWMMP) formalized by the SCE "Zhambyl Su" through the Order №84-B of the Company's director dated 15.04.2024. See the ESAP, point 3.4. |

| The Project Stakeholders' group/category | The Project E&S disclosure stage | Issue raised | Status/Comments |
|---|---|---|---|
| Ecology and Natural Resources | | | |
| Public stakeholders | Project ESIA Scoping consultations | Environmental/public health impacts of the existing practices of wastewater treatment | Addressed in the Project ESIA (sections 5.4.2, 5.7.2, 5,10, 5.20) |
| Public stakeholders | Project ESIA Disclosure consultations | Engagement of the National Center for Expertise of the Committee for Sanitary and Epidemiological Control as a third-party laboratory in industrial wastewater analysis | Will be addressed through an update of the Industrial Wastewater Management and Monitoring Plan (IWMMP), if deemed relevant by Zhambyl Su<br>The reference to IWMMP is given in the ESAP (point 3.4 under PR 3) |
| Residents of the Project Area rural settlements | Project ESIA Disclosure consultations | The supply of treated wastewater from the WWTP for irrigation should be prioritized for rural settlements affected by the project | Addressed through an update of the ESAP (point 11.1 under Green Finance Project Monitoring Plan).<br><br>Revised ESAP commitment was updated as following:<br><br>"As part of the annual E&S report to the Bank, provide information about progress of the agreed GET monitoring indicators:<br>- wastewater treated (in $m^3$);<br>- sludge treated (in tons);<br>- GHG emission reduction (in tCO2eq);<br>- wastewater treated supplied for irrigation/industrial use purposes (in $m^3$).<br>If technically feasible and with the coordination with the respective authorized bodies, prioritize the provision of water treated at WWTP for irrigation purposes on agricultural lands in rural areas adjacent to the WWTP" |