

KAZAKHSTAN

KARAGANDA WWTP MODERNISATION PROJECT

PUBLIC CONSULTATION REPORT



December 2024

LIST OF ACRONYMS AND ABBREVIATIONS

CSO	Civil Society Organisation
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
ESAP	Environmental and Social Action Plan
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
KS	Karaganda Su (Karaganda Water Company)
NGO	Non-governmental Organization
NTS	Non-Technical Summary
SEP	Stakeholder Engagement Plan
WWTP	Wastewater Treatment Plant

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1 INTRODUCTION

This document is prepared as part of the Environmental and Social Impact Assessment (ESIA) for the proposed Wastewater Treatment Modernisation Project in Karaganda City (referred to as the 'Project' in the following). The Project is planned by Karaganda Su ("KS" or the "Company"), which provides water supply and sewerage services in Karaganda City. The Project is expected to receive loan finance from the European Bank for Reconstruction and Development (EBRD).

This report summarises the activities conducted during the public disclosure period in February-June 2024 as well as comments received from the public and other stakeholders, and the responses to these.

Sweco and EcoSocio Analysis as the ESIA Consultant supported Karaganda Su during the public disclosure period.

2 PUBLIC DISCLOSURE AND CONSULTATION ACTIVITIES

In accordance with EBRD requirements for a "Category A" project, the public disclosure process took place over a 120-day period during February-June 2024. The ESIA package in English, Kazakh and Russian was made public on 29th February 2024.

The following documents were disclosed during this period:

- ESIA Report for the Project
- Environmental and Social Management Plan (ESMP) for the Project
- Non-Technical Summary of the ESIA Report and the ESMP
- Environmental and Social Action Plan (ESAP) listing corporate actions to be taken by Karaganda Su
- Stakeholder Engagement Plan (SEP) for all phases of the Project

The above-mentioned documents as well as brief information about the WWTP project are available on:

- EBRD's website:
<https://www.ebrd.com/work-with-us/projects/esia/karaganda-wwtp-modernisation.html>,
- The Website of Karaganda Su:
In English: <https://www.kar-su.kz/en/cooperation-ebrd>
In Kazakh: <https://www.kar-su.kz/kk/ekdb-men-yntymaktastyk>
In Russian: <https://www.kar-su.kz/ru/sotrudnichestvo-s-ebrr>
- The specific Telegram page (<https://t.me/karagandysu>) with a link to the Karaganda Su website.

The documents were also available as printed copies at the Karaganda Su office and, upon request, in the EBRD Resident Office in Astana.

Furthermore, information about the WWTP project and the ESIA documents was available on Karaganda Su's Instagram page (<https://www.instagram.com/karagandysu?igsh=cHU3OGIxeWVuaG5j>), which is the most popular tool used by Karaganda Su to publish any information. This Instagram page has around 31,300 followers. The Instagram page has a link to and mentions that comments can be submitted through Karaganda Su's WhatsApp chat and through the email address and telephone number of Karaganda Su.

During the disclosure period, the public and other stakeholders had the opportunity to provide comments on the mentioned ESIA documents. Comments on the WWTP project and the local Environmental Impact Assessment (EIA) were provided during two public meetings held on 26 and 31 January 2024. Invitations to the public meetings were provided in local newspapers, television and in public places such as bus stops and at the Government website. The invitation is included with the minutes of the public meetings (see link

in Chapter 3 below). Written invitations were also sent to some organisations. The public meetings were announced more than 30 days in advance of the meetings as per Kazakhstan requirements. The meetings were held on weekdays, as is another requirement in Kazakhstan. Several comments were received during the two public meetings as well as a formal meeting of Civil Society Organisations (CSOs) with the EBRD representatives in October 2024, where CSOs had a chance to obtain a detailed insights into the project approval process in a face to face meeting with EBRD Management. A written response was prepared and shared with CSOs after this meeting following up on questions raised related to feasibility study and consultation process.

Further comments on the WWTP project and the above-mentioned ESIA package could be provided through the following channels:

- Through the e-mail address of Karaganda Su.
- By delivering or sending written comments to the head office of Karaganda Su.
- Through the Karaganda Su WhatsApp chat.
- Through the telephone number of the Karaganda Su call centre.

In addition, written comments could be submitted through the e-mail address of the EBRD Resident Office in Astana and by delivering or sending comments to the EBRD address in Astana.

Written comments were received from one NGO in June 2024, as explained further in Chapter 4 below.

3 PUBLIC MEETINGS IN JANUARY 2024

As mentioned above, two public meetings were held on 26 and 31 January 2024. At these meetings, comments were provided on the WWTP project and the local Environmental Impact Assessment.

The two meetings took place at Karaganda Su head office and included participants from organisations in Karaganda City/Region and some city residents:

- State Institution of Council's Office of Kazybek bi district of Karaganda city
- Local Government of Karaganda city
- Head of the Department of Housing and Communal Services Risks under the Atameken Council for Construction and Housing and Communal Services, Chairman of the Council under the Agency for Protection of Competition
- Public Council of Karaganda region, journalist of Novy Vestnik
- Republican Public Association 'Sokol' on Consumer Rights Protection
- Regional AIDS Centre
- Karaganda Region Higher Nursing College
- Regional Centre of Traumatology and Orthopaedics named after Prof. H.J. Makazhanov
- Experienced person in the water sector of the Republic of Kazakhstan, public activist
- Republican State Enterprise Kazgidromet for Karaganda Region
- Industrial Karaganda newspaper
- 'EcoObraz' NGO
- Council Karaganda region
- Karaganda city Council
- Green Energy Association
- Eco-activist
- Eight residents in Karaganda City
- Karaganda Su LL
- IE Kalmykov D.E. (prepared the national EIA)
- Aqua Rem (prepared the national Feasibility Study)

- EcoSocio Analysis (Vladimir Merkuryev, part of the team which prepared the EBRD-required ESIA documents)

37 persons participated in the meeting on 26 January 2024, while 30 persons participated in the meeting on 31 January 2024.

The official minutes with appendices of the public meetings were prepared by IE Kalmykov D.E., which developed the national EIA. The official minutes of the two Public Meetings, as well as the invitation to the meetings, are publicly available (in Russian and Kazakh languages) on the following Government website:

<https://www.gov.kz/memleket/entities/karaganda-tabigat/press/article/details/145278?lang=ru>.

The comments and suggestions received during the national consultation process and recorded in the official minutes from the two public meetings are summarised in the table below, based on specific subjects, e.g. consistency with Karaganda's Urban Master Plan, location of the treatment plant, population data, plant capacity and treatment technology, plant operations, economic and financial issues. The table also includes responses and reference to the ESIA documents, where relevant.

Table 1: Summary of comments and suggestions from national consultation process, January 2024, and further updated responses

No.	Topic	Summary of comments	Response
1	City Master Plan	Was the city's master plan and growth plan taken into account in your decisions?	The subject of Karaganda's development plan is considered in Section 6.2 of the ESIA Report. The city's master plan, developed in 2012, aimed to establish four separate wastewater treatment plants (WWTPs) across Karaganda. However, due to land constraints and local requirements, a single WWTP was chosen instead; all alternative sites identified for the proposed plants were occupied, and authorities recommended focusing on one facility. This decision aligns with the need for modern construction, as the existing plant's condition is poor. New construction will improve operational efficiency, extend the plant's lifespan, and meet future regulatory standards, all while maintaining similar capital costs. This strategy promotes sustainability and benefits the community long-term, as maintenance expenses will be lower over time.
2	Water Protection Zone	How will you address the issue of the new WWTP being located partly in a water protection zone? Why is the spillway canal being part of a separate project?	<p>The subject of the Sanitary Protection Zone is discussed in Section 3.4 and Section 5.2.1 of the ESIA Report. The proposal was submitted to the Basin Inspectorate specifically regarding the water protection zone. According to the map, the existing sewage treatment plant is situated within the water protection zone of the Bukpa River. Currently, the existing sewage treatment facilities are already located within this water protection strip and a land plot is in the process of being obtained for the construction of new sewage treatment facilities.</p> <p>As of today, the discharge point will connect to the Sokur River via an existing canal, which means that the new treatment facilities will not be located in the water protection zone or the strip of the Bukpa River. The Bukpa River is located on the left side of the map, while the land plot, which is 13 hectares, is on the right side.</p> <p>Regarding the discharge from the treatment plant, this is being operated under an existing special water use permit. This permit specifies that our discharge must meet Category 2 water quality standards. Karaganda Su receives the necessary documentation from the operating organization, which supports the operations under this permit. Additionally, according to Decree 151 and the river classification system, the Bukpa River is classified as 3rd class.</p> <p>Only the discharge channel is located within the water protection zone, so it has been removed from the feasibility study and treated as a separate project. Our discharge point is situated outside this water protection zone.</p> <p>Regarding discharges, the project complies with pollution standards and has been coordinated with the Basin Inspectorate, which raised concerns about the proposed spillway canal due to its location in a water protection zone. Despite advocating for repairs to the existing discharge canal alongside the construction of a new one, the Basin Inspectorate rejected this proposal. Consequently, a decision was made to design the discharge canal as a separate project, highlighting a need for a treatment strategy during extended wet weather periods.</p>
3	Population	Data shows that in 2023, there was an increase of almost 14,000 in population. Given this significant rise in both population and housing in Karaganda, did you consider adjusting the initial figures presented in the feasibility study?	The subject of Karaganda's population growth is considered in Section 6.2 of the ESIA. During the development of the feasibility study, the capacity of WWTP was determined in accordance with the data of the calculation made on the basis of actual indicators of wastewater disposal for a 5-year period (2018-2022), as well as taking into account the population growth up to 2040. The population projections are carefully prepared and verified by different international and local feasibility studies that considered the potential for a second WWTP to serve the remaining Karaganda catchment area, a possibility mentioned by the authorities during the development of the feasibility study for this project. However, it is understood that the specifics of the second WWTP, including its timeline and financing, are not yet determined.

No.	Topic	Summary of comments	Response
4	Effluent - Industrial wastewater component	What is the industrial share of the effluent?	The subject of Karaganda's economic activities is considered in Section 6.2 of the ESIA. Approximately 25% of the total capacity of the existing WWTP inflows to the sewer system from the food, machinery, metals, and mining industries. The average inflow to the treatment plant has been calculated to be around 95,000 m ³ /d, with about 25,000 m ³ /d coming from these industries. However, it's important to note that each industry is required to install local pre-treatment facilities on their own premises.
5	Technical Survey	Who carried out the required technical survey and which expert organisation was involved?	The subject of the current situation of the existing Karaganda WWTP is considered in Section 3.2 of the ESIA. The required technical survey was carried out by KurylysExpertProject, an accredited organization, in 2019. A feasibility study commenced in 2023. The survey concluded that most primary sewage treatment facilities are in pre-disaster condition, with only some auxiliary buildings in satisfactory condition. The organization recommended constructing a new sewage treatment plant instead of attempting repairs, a sentiment echoed by specialists from Kazcentre Housing and Utilities, who assessed that building new facilities would be more viable due to the lack of major overhauls since the plant's inception in 1979-1982.
6	Potential renovation of the existing plant	Has a comparative analysis or report been carried out between renovating the existing station and building a new one? What is the current condition of the existing plant and what is the percentage of wear and tear? How many more years can the existing plant operate?	The subject of the current situation of the existing Karaganda WWTP is considered in Section 3.2.2 and 3.7.1 of the ESIA. A comparative analysis between renovating the existing station and constructing a new one was conducted, as confirmed in the ESIA Report Section 3.7. The findings indicated that the existing facilities are in poor condition, with an 85-90% deterioration rate in the aeration plant, making renovation less cost-effective due to its limited lifespan compared to new construction. Multiple comparisons were made with several countries regarding capital and operating costs, revealing that the financial implications for both options were similar. Ultimately, the reconstruction costs were initially estimated at 68 billion tenge but were later adjusted to 54 billion after state expert review.
7	Plant Capacity	What is the overall capacity of the plant and why is the proposed design capacity significantly less than the current plant? Did calculations include wastewater from the private sector not connected to the sewerage system? Has the impact of an increasing number of small enterprises and industry on wastewater treatment capacity been considered? Did capacity calculations account for lost wastewater due to pipeline incidents, and what about the old sewer network's leakage (80-100% worn out)?	<p>The subject of the capacity for the new Karaganda WWTP is considered in Section 3.3 of the ESIA. The new wastewater treatment plant has a proposed capacity of 100,000 m³/day average flowrate, while the actual average discharge is about 90,000 m³/day. The treatment plant does not process wastewater from the Prishakhtinsk area of Karaganda, as that wastewater is directed to Saran. In calculating the capacity of the new wastewater treatment plant (WWTP), Karaganda-Su considered the population of Karaganda city and the Aktas settlement, which totals <i>approx.</i> 513,000 people according to official statistics. The calculations were based on actual effluent data from the last five years, along with projected population growth up to 2040 based on official forecasts. The current water consumption has significantly decreased since the Soviet period (Reference: Karnachuk, O.V & Banks, D. (2004) Recent trends in water abstraction and usage in the former Soviet Union and eastern Europe).</p> <p>Karaganda has a separate sewerage system, meaning stormwater is not included in these calculations. However, Karaganda Su acknowledges that some of the stormwater does enter the system during flood periods. To manage this, the treatment plant directs excess stormwater to the existing aeration tanks which act as stormwater retention basins that can temporarily store sewage during emergencies before being returned for treatment. It is noted that the Akimat has proposed the construction of a separate closed stormwater drainage system located along the streets. Consequently, such stormwater will be excluded from the sewerage system.</p> <p>Currently, <i>approx.</i> 60,000 m³ of drinking water is supplied daily to Karaganda city and the Aktas settlement, excluding Prishakhtinsk. The new WWTP is designed to handle peak daily flows up to 130,000 cubic</p>

No.	Topic	Summary of comments	Response
			<p>meters/day, and to direct the excess flows above 130,000m³/d to stormwater retention basins and direct the flow back to the treatment process once the flow subsides, which will adequately accommodate existing stormwater infiltrating into the sewerage system. Verified data from water meters and daily logs indicate that the actual daily inflow is between 80,000 and 90,000 cubic meters/day.</p> <p>Karaganda has a centralized sewer system that collects wastewater from both residential and industrial sources. However, much of the city lacks a stormwater drainage system, resulting in rainwater being directed into water bodies through ditches and depressions. The stormwater drainage system is managed by another organization in the city and is not directly included in the feasibility study. During storm events, the WWTP is designed to transfer excessive flows to the stormwater retention basins hence the sewer will not surcharge due to the WWTP; the WWTP will not be the cause of flooding in the city. This minimises the investment, and the impacts on the river are modest due to the dilution caused by the rainwater. The Design Solutions of the Akimat's General Plan include the construction of a separate closed stormwater drainage system from pipes that run along the streets. The General Plan thus proposes to drain surface water through collector pipes with stormwater planned to be discharged into the designed stormwater drainage system. The stormwater drainage system will be coordinated with the sewerage system ensuring better management of these situations. Stormwater infiltration into the sewerage system will thus be minimised, which will improve the effectiveness of the WWTP. Any decisions regarding the financing and technical aspects of these initiatives would be made separately by the stakeholders.</p> <p>During the development of the technical terms of references for the project's feasibility study, the Kazcentre of Housing and Communal Services approved the intended capacity, emphasising that any increase would substantially elevate costs without necessarily increasing the treated effluent quality. It appears that previous capacity planning was based on anticipated growth in population and industrial activity, which have not materialized in recent years. Moreover, oversized wastewater treatment plants can result in reduced overall treatment efficiency. Therefore, it is essential that the capacity accurately reflects the actual and realistic demands to ensure optimal operation and cost-effectiveness.</p> <p>Lost wastewater due to pipeline incidents and leakage from the old sewer network, which is considered 80-100% worn out, were not accounted for. Capacity calculations adhered strictly to the applicable standards and guidelines, which do not require consideration of these losses. Therefore, the established norms were the sole basis for the capacity assessments.</p>
8	Pollution	Why are the levels of substances like APAB, iron, and petroleum products increasing, and why are new substances like copper and zinc showing up?	<p>The subject of the pollution load for the new Karaganda WWTP is considered in Section 3.3 of the ESIA. Firstly, there are methodological guidelines set by the Authorities for determining which substances need to be standardized, and this list is regularly updated as new substances are added. During the project stage, the team relies on the equipment supplier's specifications, which indicate that their equipment will achieve a certain level of treatment for the substances their technology is designed to handle. This data is used when preparing the list of substances.</p> <p>When calculating the standards, they are based on the supplier's equipment specifications, as no actual measurements have been conducted yet. This explains why some discharge levels may seem higher than those set for the existing sewer system. The difference is due to the fact that the current sewer discharge</p>

No.	Topic	Summary of comments	Response
			<p>standards are based on three years of actual measurements, whereas at the project stage, the only available data comes from the supplier's equipment specifications since the treatment plant has not yet been built.</p> <p>However, it should be noted that all the established standards comply with the maximum permissible concentration (MPC) limits for these substances, and none of them exceed those limits.</p>
9	Stormwater	Was extra water from spring floods considered in the calculations? Why is the plant not designed for more capacity, especially since the sewer system is overwhelmed during peak periods and floods?	<p>The subject of excessive stormwater in the catchment is considered in Section 8.1.3 of the ESIA. Extra water from spring floods was considered in the calculations for the wastewater treatment plant. During the development of the design and feasibility study, an emergency buffer capacity was included. If more than 130,000 m³/day of water flow in, an emergency tank located at the existing aeration station will handle the excess. However, the plant is not designed for more capacity because it operates separately from the stormwater drainage system, which is not managed by Karaganda Su.</p> <p>The average daily inflow to the sewage treatment facilities is in the range of 80,000-90,000m³/day, but during flood events, this can rise to between 100,000 and 120,000 m³/d. This was accounted for in the assessment. Although stormwater drainage is not directly the responsibility of Karaganda Su, it can potentially impact the wastewater treatment plant (WWTP). It is standard international practice to only manage excess flows during short-term wet weather events. The stormwater drainage system design solutions of the Akimat's General Plan include the construction of a separate closed stormwater drainage system from pipes that run along the streets. This will ensure coordination with the sewerage system to ensure better management of these situations. This will minimise any stormwater infiltration into the sewerage system, which will improve the effectiveness of the WWTP.</p> <p>The ESIA Report, Chapter 3, has been updated to reflect the above.</p>
10	Re-use of treated effluent	Have you considered the need to reuse process water in the construction of the WWTP? Will there be enough capacity to handle this additional discharge?	<p>The subject of effluent reuse is considered in Section 8.1.2 and Section 8.1.11 of the ESIA. The WWTP is far from the city hence it is not practical to reuse process water. In addition, the Sokur River is drying up. It is pointed out that the river needs a minimum flow to maintain the hydro-dynamic situation. Hence, there is a special water use permit, approved by the BWI (Basin Water Inspectorate) of the city of Karaganda, which allows the discharge of treated wastewater into the Sokur River.</p> <p>Recycling was initially considered by Aqua-Rem during the development of the feasibility study, but there are currently no established regulations for secondary water use in Kazakhstan. These standards are still in the planning stage and have not yet been developed. In addition, implementing a recycling system would require significant capital investment, such as the construction of new pipelines. For now, the focus is on the reconstruction of the sewage treatment plant, and water recycling may become a separate project in the future.</p>
11	Construction Waste	How will the issue of construction waste be addressed, given that there is no legal place for it?	The subject of construction waste associated with the decommissioning of the existing WWTP is considered in Sections 3.5, 6.1.2, 8.1.1 and 8.1.2 of the ESIA. Construction waste from the new WWTP will be handled in accordance with regulations. Every year, Karaganda Su LLP signs contracts with disposal companies per which all waste, including construction waste, is to be disposed. Previously, Karaganda Su worked with the Kazakhstan Waste Management Operator.
12	Technology	Have you considered alternative technology solutions in the feasibility study (regarding time service and operation)?	The subject of the treatment technology for the new Karaganda WWTP is considered in Section 3.3.4 of the ESIA. The feasibility study has considered alternative technology solutions, specifically utilizing Ecopolymer equipment developed by Ekolos, which has been successfully implemented in 50 countries. This technology

No.	Topic	Summary of comments	Response
		<p>How efficient is the proposed technology and what improvements does it bring? Can you confirm that the proposed solutions are effective in real-life scenarios? Is the proposed technology being used in Kazakhstan? Does it work?</p> <p>Does the new equipment have certifications and technical regulations in Kazakhstan?</p>	<p>offers efficient sludge treatment and is currently used in Kazakhstan only in Astana, where it has undergone significant reconstruction for wastewater treatment.</p> <p>The proposed technology is part of a broader approach that includes a comparison of different methods, such as mechanical treatment and gas utilization in Shymkent and Atyrau, all of which have demonstrated both cost-effectiveness and efficiency.</p> <p>Assuming a loan agreement is established with the EBRD, an international tender will be announced for both design and construction, allowing contractors from various countries to propose their technologies. Stakeholder involvement in developing the terms of reference is welcomed to ensure the best technological solutions are considered.</p> <p>The proposed technology is not widely used in Kazakhstan; the current equipment primarily comes from Europe and other international sources. As for certifications, all imported equipment must meet international quality standards and relevant technical regulations in Kazakhstan. Furthermore, the implementation of the project will be further supported a Project Implementation Support consultant that will support implementation of the project to international standards and provide a technical supervision to check on the delivery of the project elements.</p>
13	Back-up System	Is there a backup system? If there's a problem, will you still discharge into the Sokur River?	The calculations did not specifically account for extra water from spring floods; however, the system is designed with contingency measures in place. Backup equipment is available, and an emergency buffer capacity exists for three days. All pumping stations support one another, and there are outlet pipes for efficient sludge treatment.
14	Operational phase	Have you evaluated the operational aspect in the FS?	The operational aspects were assessed in the project's feasibility study, and while equipment suppliers may be changed, it is crucial to maintain consistency with the selected technology. Proven, effective solutions using similar treatment technologies and operational models have already been successfully implemented in other cities, such as Atyrau and Shymkent.
15	Staff	<p>Will there be staff layoffs due to automation in the project?</p> <p>How will you ensure local staff are trained, who will provide the training, how much time and money will it require? Will there be a contract with a college or institute to help train them on Chinese equipment?</p>	<p>The subject of potential staff redundancy is considered in Sections 3.3 and 6.2.4 of the ESIA. According to Section 6.2.4, Karaganda Su follows specific procedures for handling redundancies. If a reduction in staff is deemed necessary or beneficial in a particular area, affected employees will be offered other jobs within the company in accordance with labour laws. Additionally, the Environmental and Social Action Plan requires Karaganda Su to prepare and submit a Retrenchment Plan to the EBRD if redundancies impact 10% or more of the workforce. In this Retrenchment Plan, EBRD requires that Karaganda Su assess impacts from redundancies in a consultative process and by demonstrating all mitigation measures for avoiding negative impact through offering retraining and re-assignment of affected personnel.</p> <p>Regarding equipment, training is provided during installation and start-up, as outlined in the project and commercial proposals from suppliers, who already include these services.</p>
16	Economic aspects – Use of funds	Why allocate money for new treatment facilities instead of repairing the actual and collapsed sewerage network and building a stormwater drainage system?	<p>The decision to allocate funds for new wastewater treatment facilities is based on a technical survey indicating a high level of wear and tear in the existing treatment plant. While there have been issues with the sewage collector, which were addressed last year, the stormwater drainage system falls outside of Karaganda Su's responsibilities. The total estimated cost for dismantling existing structures is <i>approx.</i> 850 million tenge.</p> <p>Alternative funding sources, such as State budget requests or environmental payments, have not been utilized because the Government indicated there are no available funds in the budget for the wastewater treatment</p>

No.	Topic	Summary of comments	Response
		<p>What is the total estimated cost for dismantling existing structures, and how will the funding be divided between the loan project, the state budget, and Karaganda Su?</p> <p>Why haven't alternative funding sources been utilized?</p> <p>Why a government budget request or use of environmental payments for project funding hasn't been made?</p>	<p>plant (WWTP) project. A request for funding can only be submitted once the project design and estimate documentation are approved.</p> <p>While several budget requests are made annually to various programs like "Nurly Zhol" and the "Transfer" program, only a few projects receive support. Most of the loan for the Project will be repaid by the State, with Karaganda Su only responsible for interest payments. However, any questions regarding alternative funding or environmental payments should be directed to the Government.</p>
17	Financial aspects - Loan	<p>What is the total cost of this project?</p> <p>How will the loan be paid back?</p> <p>What will the interest be?</p> <p>Will this funding eventually be reflected in the tariff?</p>	<p>The total estimated cost of the project is 55.8 billion tenge (<i>approx.</i> EUR 107 million), <i>incl.</i> VAT. Funding will be sourced from the EBRD, with the loan planned in Tenge following consultations with the government stakeholders to avoid foreign exchange risk. The repayment of the principle will come from the state and local budgets to minimize any potential increase in tariffs, while Karaganda-Su will be responsible for paying interest on the loan.</p> <p>Final costs, interest rates, and conditions will be determined after the review of the economic expertise by the State PPP Center under the Ministry of National Economy.</p> <p>As mentioned in section 8.2.9 of the ESIA Report, Karaganda Su's tariff collection ratio was close to 100% in recent year, as noted in Sweco's Feasibility Study Report (2021). This indicates that most households pay their water and wastewater bills without problems. The mentioned report also includes an affordability analysis for an investment of EUR 37 million. This analysis shows that potential future tariff increases to cover the mentioned investment as well as operations cost are affordable to households in all deciles. It is, however, uncertain whether this affordability analysis is valid for the current WWTP investment of EUR 107 million. Karaganda Su will therefore closely monitor the affordability of low-income groups after potential tariff increases due to the Project, as stated in the ESMP for the Project. Residents in Karaganda City, who have an income below the subsistence criteria are entitled to housing aid. This aid can be used to pay water and wastewater bills as well as other utility bills.</p>
18	Potential Risks	<p>Did you consider all potential risks and their mitigation strategies in the FS?</p>	<p>The feasibility study comprises technical and economic sections, <i>incl.</i> social, institutional, and marketing aspects, which address all identified risks. For economic expertise under the 136th order, these documents must be submitted, and the positive assessment received indicates that the financial and economic section was thoroughly developed. The study is now in the economic expertise phase, which is currently under review.</p> <p>In addition, the ESIA identifies environmental and social risks and impacts associated with project implementation and includes required management and control measures to mitigate these. The overall environmental and social impacts of the new WWTP are thus assessed to be positive. There are no significant negative impacts expected after successful implementation of mitigation measures included in the Environmental and Social Management Plan (ESMP) for the Project.</p>

4 WRITTEN COMMENTS RECEIVED IN JUNE 2024

Written comments to the WWTP Project were received from one NGO in June 2024. Karaganda Su responded to these comments in August 2024, with support from EBRD and from Sweco and EcoSocio Analysis who prepared the ESIA documents in 2023-2024. Furthermore, these comments have been further discussed during a face to face meeting between the CSOs (Bankwatch and local CSO) and the EBRD Management in October 2024 as stated in Chapter 2 of this consultation summary.

No other comments were received during the public disclosure period.

Table 2: Summary of written comments, June 2024, and responses

No.	Topic	Summary of comments	Response
1	Potential alternatives to a new WWTP	Alternatives to the proposed construction of a new WWTP should be presented, including particularly the justification for selecting new construction rather than renovation of the existing WWTP.	<p>During the development of the feasibility study, several options for the project scope as well as site selection for the projected WWTP were considered. Concerning the decision between rehabilitating the existing wastewater treatment plant and new construction, it is crucial to ensure the long-term welfare of the community and environment. While rehabilitation may appear to be a straightforward solution, new construction offers a superior opportunity to implement a modernized technology from the onset that will enhance operational efficiency and will be implemented by an experienced and specialized contractor. New construction promises a significantly extended lifespan for the facility, ensuring it can meet future demands and adhere to evolving regulatory standards. This approach not only maximizes the facility's long-term value but also reduces maintenance costs over its life cycle.</p> <p>Section 3.2.2 of the ESIA Report contains further details of the justification for selecting the construction of a new WWTP rather than renovating the existing WWTP, while other Project alternatives considered are described in Section 3.7 of the ESIA Report.</p>
2	Insufficient capacity of the new WWTP and lack of a stormwater management system	The capacity of the new WWTP is insufficient due to excess stormwater flows during wet weather conditions (the main part of the city has no storm water system), and due to the actual population and its growth.	<p>The WWTP is designed to serve Karaganda city, including Aktas village, to serve a population equivalent of 500,000. Population equivalent (PE) is the result of a calculation based on guidance values suggested by the EU to estimate the wastewater load a treatment plant must handle, based on the average pollution produced by one person per day. It allows treatment facilities to calculate capacity needs by accounting for both residential and industrial wastewater sources in terms of an equivalent number of people, using EU assumptions. Accordingly, and in line with international best practice, 500,000 PE capacity is considered sufficient to meet the needs of the population in the area covered by the Karaganda project.</p> <p>It should be noted that the government plans a second wastewater treatment plant to be constructed in Karaganda catchment area, which is outside the scope of this project. Prishakhtinsk and Uzenka are planned to be served by this second wastewater treatment plant in Saran city, but the details, including timeline and financing have not been finalized. In accordance with this, the volume of wastewater from the Prishakhtinsk neighbourhood of Karaganda is not included in the calculation of the capacity of the WWTP serving Karaganda city.</p> <p>During the development of the feasibility study, the capacity of WWTP was determined in accordance with the data of the calculation made on the basis of actual indicators of wastewater disposal for a 5-year period (2018-2022), as well as taking into account the population growth up to 2040. The population projections are carefully prepared and verified by different international and local Feasibility Studies which took into account also the second WWTP to serve the remaining Karaganda catchment.</p> <p>In many cities, combined sewer overflows are a routine occurrence during wet weather. The frequency and volume of these overflows depend on factors like the age and design of the sewer system, the intensity of the storm, and the capacity of the treatment plant. Wastewater treatment plants may have bypass mechanisms that allow excess stormwater to skip certain stages of treatment or avoid the plant entirely to prevent damage or overloading. Karaganda WWTP is designed to deal with temporary extreme events, but in-line with common practice, an overflow line to bypass excess flows for extended periods of time is also included in the design.</p> <p>WWTPs all over the world are primarily designed to deal with pollution loads, rather than flowrates and pollutant concentrations. Hydraulic capacities of the WWTPs are of secondary concern as compared to the pollution load-</p>

No.	Topic	Summary of comments	Response
			<p>based capacities. In wet weather conditions, the flowrates to be received by the WWTPs increase while the pollutant concentrations decrease, keeping the design loads more or less the same. This means that the WWTP will continue its operations in wet weather conditions. Under normal circumstances, no WWTP is designed to be capable of treating all wet weather flow to be received in case of combined sewer systems and in case of extended periods of extreme conditions. Usual practice is to have a bypass system that will discharge the incoming flow to the receiving water after treated physically to some extent. It is abnormal to design a WWTP that will treat all wet weather flow for extended periods of time.</p> <p>It is noted that Karaganda Su is not responsible for stormwater management. Rather this is the responsibility of the Karaganda City Akimat (<i>i.e.</i> the Municipality). The Design Solutions of the Akimat's General Plan include the construction of a separate closed stormwater drainage system from pipes that run along the streets. The General Plan thus proposes to drain surface water through collector pipes with stormwater planned to be discharged into the designed stormwater drainage system, hence reducing the hydraulic load on the sewerage system and the WWTP.</p> <p>Reference is made to Section 8.1.3, Table 8.10, of the ESIA Report, which describes potential impacts for the Karaganda WWTP operation due to different climate change scenarios as well as mitigation measures, including "City stormwater inflow water could overload the WWTP". Emergency plan needs to include appropriate measures (use of stormwater retention is expected as part of design), although not considered an uplift due to climate change. Section 4.4.3 of the ESMP stipulates that Karaganda Su is to develop an emergency plan for WWTP operations, which should explain how to respond to "natural disasters", including potential flooding events within the site, or due to overflow from the city stormwater system through the sewers (also taking into account potential events triggered by climate change). Although the stormwater retention basins will be used to manage excess flows during storm events, the City's separate stormwater system will be developed throughout the city in order to avoid stormwater infiltrating into the sewerage system and transported to the WWTP.</p>
3	Worn-out wastewater collectors	A significant part of the wastewater does not reach the WWTP due to high water losses on worn-out collectors that require rehabilitation.	<p>To reduce the level of infiltration to the wastewater collection networks, the company regularly carries out repair and reconstruction of the existing networks. The reconstruction and maintenance of the existing network does require additional investment but is an ongoing process that does not require expensive technological solutions compared to the WWTP. Moreover, at present, the design documentation is being developed for implementation of two projects on reconstruction of sewer collectors of large diameter, namely 'Reconstruction of sewer collector No. 19 in Karaganda city' and 'Reconstruction of sewer collector along Sovkhoznaya street (Orken street)'.</p> <p>In addition to those, construction of a new bypass collector is under consideration to relieve the pressure on collector No. 10.</p>
4	Conclusions of the Environmental Expertise	Conclusions of the Environmental Expertise do not reflect the results of public hearings.	<p>The conclusion on defining the scope of the environmental impact assessment of the designed WWTP was issued by the Committee for Environmental Regulation and Control of the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan. It involved public hearings held in Karaganda city on the 26th and 31st of January. All records were made public, and questions addressed to the extent possible. In addition to national EIA and local feasibility study consultations, Karaganda Su has also prepared this public consultation report as required for the loan application prior to project approval by EBRD.</p> <p>The Ministry of Ecology and Natural Resources of the Republic of Kazakhstan can provide further clarifications on the process of their decision making.</p>

5 CONCLUSION

In accordance with EBRD requirements for a “Category A” project, public consultation was undertaken during the public disclosure period of February-June 2024 associated with the Wastewater Treatment Modernisation Project in Karaganda City. A suite of ESIA documents was available to support the consultation process via a variety of media, including the EBRD and Karaganda Su’s websites. During the disclosure period, the public and other stakeholders had the opportunity to provide comments on the available ESIA documents.

Comments on the WWTP project and the local Environmental Impact Assessment (EIA) were provided during two public meetings held on 26 and 31 January 2024, as well as the CSO meeting together with the EBRD in October 2024. The two public meetings in January 2024 took place at Karaganda Su head office and involved participants from a range of organisations in Karaganda City/Region as well as some city residents. Official minutes of the two Public Meetings are publicly available (in Russian and Kazakh languages). Comments and suggestions received during the national consultation process and recorded in the official minutes from the two public meetings have been summarised, based on specific subjects, *e.g.* consistency with Karaganda’s Urban Master Plan, location of the treatment plant, population data, plant capacity and treatment technology, plant operations, economic and financial issues.

Written comments to the WWTP Project were received from one NGO in June 2024, and Karaganda Su responded to these comments in August 2024. Whilst the responses from Karaganda Su address stakeholders’ interests, it is noted that other issues that indirectly impact the proposed EBRD investment for the new WWTP will also be addressed, *e.g.* the Akimat addressing the lack of a thorough stormwater drainage system.

The ESIA Report has been amended to include a new Section 3.3.6 on the Relationship Associated with the Sewerage and Stormwater Systems. The mentioned amendment of ESIA Report is included in Annex 1 to this report. The amendment confirms that municipal authorities plan to address stormwater drainage issues which will minimise any stormwater infiltration into the sewerage system. This will improve the effectiveness of the WWTP.

ANNEX 1: AMENDMENT TO ESIA REPORT

The ESIA Report has been amended to include a new Section 3.3.6 on the Relationship Associated with the Sewerage and Stormwater Systems. The new Section 3.3.6 is included below.

3.3.6 Relationship with the Sewerage System and Stormwater Drainage System

Karaganda has a separate sewerage system operated by Karaganda Su which collects wastewater from households and commercial enterprises. A separate stormwater system is operated by the Akimat; however, it does not currently service the whole city, consequently, during storm events, stormwater accumulates in certain areas, some of which overflows into open or leaking sewer manholes.

The Karaganda WWTP is designed for a maximum of 130,000 m³/day of wastewater, however excess flows currently entering the sewerage system due to storm events is also transported to the WWTP, with the excess flow directed to stormwater retention basins (acting as buffer tanks), and then returned to the treatment process after the storm subsides. Design solutions of the Akimat's General Plan include the construction of a separate closed stormwater drainage system from pipes that run along the streets. Stormwater is planned to be discharged into the designed stormwater drainage system, consequently minimising any stormwater infiltration into the sewerage system. This will improve the effectiveness of the WWTP.

The Table of Contents of the ESIA Report has been updated to reflect the inclusion of the new section. The updated ESIA Report is dated December 2024.