

Terms of Reference for Consultants

A. Background Information

1. The transaction technical assistance (TA) will provide project preparation and capacity building support for the proposed Central Asia Regional Economic Cooperation (CAREC) Corridors 1, 2, and 6 Connector Road (Kyzylorda–Zhezkazgan) Reconstruction Project.¹ The ensuing project will require a loan of about \$200 million, with KazAvtoZhol as the Borrower. The project will be aligned with the following impacts: (i) transport and logistics infrastructure expanded to promote global integration, export competitiveness, and economic growth;² and (ii) regional and national transport networks developed to meet growing social, economic, and trade connectivity needs.³ The project outcome is the improvement of the road network efficiency, safety and sustainability, which will be achieved through two solutions: a 208 km section of the project road will be reconstructed and upgraded; and the capacity of KazAvtoZhol in road safety, procurement, contract management, and environmental management will be strengthened.

2. The Ministry of Industry and Infrastructure Development (MIID) is the asset owner of the republican road network, while the Committee of Roads (COR), under MIID, defines and implements road policies and strategies. KazAvtoZhol, a national joint stock company established in 2013 and wholly owned by MIID, is the operator of the republican road network and is responsible for project implementation, procurement and supervision of periodic maintenance and reconstruction, and operation and maintenance of toll roads. KazAvtoZhol has signed sovereign-guaranteed loans for road construction and rehabilitation with multilateral and bilateral partners, including ADB, and is the proposed Borrower for the Kyzylorda–Zhezkazgan project.

3. KazAvtoZhol prepared a technical feasibility and detailed design studies for the Kyzylorda–Zhezkazgan road project. However, there is a potential to improve project design, strengthen institutional arrangements, and enhance capacity in planning, asset management, road safety, financial management, climate change and disaster resilience, and social and environmental safeguards management by procuring international and national expertise. The TA will support due diligence of engineering designs, costs, procurement, contract management, financial management, economic and financial viability, climate change, and social, gender, and environmental safeguards. The TA will also prepare assessments to support the transition of project preparation and delivery modalities towards cost-recovery approaches; and expand and share knowledge on tolling, road sustainability, and environment. Five areas were identified as key focus points to improve project design, institutional arrangements, and institutional capacity: (i) financial sustainability, particularly tolling, asset management, and network planning; (ii) social and environmental safeguards management, particularly biodiversity conservation, climate change, and disaster resilience; (iii) gender mainstreaming; (iv) road safety at infrastructure, institutional, and road user levels; and (v) regional cooperation and integration. The TA will attract international and national expertise to strengthen the identified focus areas.

¹ The European Bank for Reconstruction and Development cofinances the Kyzylorda–Zhezkazgan project and approved a \$240 million loan to KazAvtoZhol on 21 July 2021. Due diligence under the TA focuses on the section to be financed by the Asian Development Bank. Project teams coordinate, notably on climate change, biodiversity, road safety, procurement, or financial management. European Bank for Reconstruction and Development. 2020. [Kyzylorda-Zhezkazgan Road Reconstruction](#). London.

² Government of Kazakhstan. 2012. [Address by the President of Kazakhstan, Leader of the Nation, N. Nazarbayev: "Strategy Kazakhstan–2050: New Political Course of the Established State."](#) (14 December). Nur-Sultan.

³ ADB. 2020. [CAREC Transport Strategy 2030](#). Manila.

4. The Asian Development Bank (ADB) will engage a team of international individual consultants and national consultants to assist ADB and KazAvtoZhol with preparing a project for constructing the Kyzylorda–Zhezkazgan road to the standard required for processing ADB financing, and assist ADB and MIID with preparing a robust project pipeline. The consultants will be recruited in accordance with ADB Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and/or staff instructions.

Table 1: Summary of Consulting Services Requirements
(person-months)

Item	Total
International Individual Consultants	12.5
Team Leader (Highway Engineer/Transport Planner)	5.0
Transport economist and financial specialist	3.0
Financial management specialist	3.0
Procurement specialist	1.5
International Firm	5.5
Environment specialist	4.0
Climate change specialist	1.5
National Individual Consultants	19.0
Deputy Team Leader (Highway Engineer)	7.0
Legal specialist	1.0
Road safety specialist	3.0
Environment specialist	4.0
Social development specialist (gender and resettlement)	4.0

B. International Individual Experts

1. Team leader (highway engineer/transport planner)

Team Leader	
Inputs	5.0 person-months
Education	Minimum of a Master's degree in civil engineering, road/transport engineering, or a related field
Experience	Minimum of 15 years of relevant work experience, with a minimum of 10 years of experience managing multi-disciplinary teams preparing transport sector projects. Experience with ADB or other International Financing Institution, and knowledge of ADB regulations and policies will be an advantage. Experience in Kazakhstan or Central Asian countries will be an advantage. Fluency in Russian is a requirement.
Key Tasks and Responsibilities	<ul style="list-style-type: none"> Responsible to ADB and EA for the successful delivery of all aspects of the TA, including overseeing the work of the international and national consultants to ensure that their outputs are coordinated and meet the requirements of their respective TOR. Maintaining effective communications with KazAvtoZhol, which will be responsible for the implementation of the ensuing project. Provide summary progress reports to ADB and KazAvtoZhol each month, setting out progress against schedule, problems encountered and how these are to be addressed, and other matters as appropriate. Working closely with, and requesting additional work as necessary from, the design consultants engaged by KazAvtoZhol to prepare the detailed design of the project road. As highway engineer, undertake appropriate due diligence on the feasibility study for the project road; propose amendments where appropriate to reflect improved road safety and climate resilience, and ensure these amendments are incorporated into the final detailed design and bidding documents.

-
- Support preparation of the bidding documents and of all technical matters.
 - Prepare a transport project pipeline in close coordination with the transport planner and institutional development specialist.
 - Provide expertise in other areas to support project processing and preparation.
 - Review existing strategic plans of MIID, COR and KazAvtoZhol.
 - Review the transport (roads) sector development planning framework including development priority setting, financing options, procurement, operation and maintenance.
 - Review the sector performance summarizing available data on road length and condition, estimates of routine and periodic maintenance expenditures required, actual allocations, and new investment projects in the pipeline with resource requirements.
 - Prepare a road sector assessment.
 - Assess the alignment between the strategic plan and budgeting process for capital and operational expenditures in the roads subsector-how the funds are allocated and the funding options are defined.
 - Review the tolling strategy, tolling revenue, maintenance strategy, maintenance budget for the republican network operated by KazAvtoZhol and the regional and district road networks under the responsibility of COR.
 - Assess project preparation requirements and modalities for capital projects, including projects potentially considered by ADB or other international financing institutions.
 - Provide additional support as requested, including but not limited to defining scope of construction supervision consultants and/or project management consultants, as relevant.
-

2. Transport economist and financial specialist

Transport economist and financial specialist

Inputs	3.0 person-months
Education	Minimum of a Master's degree in transport economics, economics, finance, road/transport engineering, or a related field
Experience	Minimum of 10 years of relevant work experience in the economic analysis of transport projects. Experience of HDM4 is required. Experience with ADB or other International Financing Institution, and robust knowledge of ADB regulation and policies will be an advantage. Experience in Kazakhstan or Central Asian countries will be an advantage.
Key Tasks and Responsibilities	<ul style="list-style-type: none"> • Collecting and reviewing of all existing relevant data and information of the project road. • Reviewing the macroeconomic and sector contexts. • For the project, prepare an economic analysis complying with ADB's Guidelines for the Economic Analysis of Projects (2017), using the HDM-4, and including climate change related benefits analysis. • For the project, prepare a project financial sustainability and viability analysis complying with ADB's Guidelines for the Financial Management and Analysis of Projects • Conduct a traffic demand analysis. • Conduct an analysis of regional economic benefits related to domestic and international trade demand, using trade data and ADB's strategic transport model. • Identify and compare project costs and benefits, assess project sustainability and distribution effects, conduct sensitivity and risk analysis, and identify indicators for project performance monitoring system. • Review the tolling strategy, tolling revenue, maintenance strategy, maintenance budget for the republican network operated by KazAvtoZhol and the regional and district road networks under the responsibility of COR. • Prepare a sustainability assessment and develop a pricing mechanism balancing toll allocations and maintenance expenditures. • Assess the alignment between the strategic plan and budgeting process for capital and operational expenditures in the roads subsector-how the funds are allocated and the funding options are defined. • Support the preparation and definition of a road user survey combining origin-destination and willingness-to-pay: assessing road users origins and destination, key characteristics (vehicle type, trip purpose, commodity transported, occupancy, income, etc.), and willingness to pay for toll roads commodity transported (for freight vehicles), targeting about 2 days of traffic around Zhezkazgan.

-
- Prepare a briefing note on the assessment of linkages between regional economic benefits and infrastructure network improvements conducted by March 2023
 - Respond to ADB's comments and assist KazAvtoZhol with its internal approval of the economic and financial analysis.
-

3. Financial management specialist

Financial management specialist	
Inputs	3.0 person-months
Education	Bachelor's degree in accounting, finance, or a related field, and will have a recognized professional accountancy qualification
Experience	At least 10 years of work experience in accounting, financial management, including in financial due diligence. Fluency in English is a requirement.
Key Tasks and Responsibilities	<ul style="list-style-type: none"> • Conduct a financial management assessment (FMA) using Technical Guidance Note for Financial Management Assessment (2015), including (i) reviewing the results of the previous FMAs prepared and ascertaining whether these can be used as input, (ii) assessing capacity for planning and budgeting, management and financial accounting, reporting, auditing, internal controls, and information systems, (iii) reviewing proposed disbursement and funds-flow arrangements, and (iv) concluding on the FMA risk rating and identifying and confirming measures for addressing identified deficiencies. • Review KazAvtoZhol financial statements, prepare forecast financial statements for up to 10 years after project start. Revise/prepare financial projections and update financial analysis of COR and KazAvtoZhol, and incremental recurrent costs, to determine financial sustainability, and reviewing proposed cost-recovery and tariff policies, including affordability. • Supporting the preparation and agreement of cost estimates and a financing plan • Preparing financial projections and conducting financial analyses of the executing and implementing agencies, and incremental recurrent costs, to determine financial sustainability. • Support the review and adequacy of loan financial covenants. Where significant risks are identified to projects financial sustainability or viability, propose relevant financial performance indicators to be incorporated in financial covenants. • Assessing and reaching agreement on financial reporting, auditing and public disclosure arrangements for the project. • Support the preparation of the sector assessment, of a sustainability assessment and of the development of a pricing mechanism balancing toll allocations and maintenance expenditures. • Respond to ADB's comments and assist KazAvtoZhol with its internal approval of the financial analysis.

4. Procurement specialist

Procurement specialist	
Inputs	1.5 person-months
Education	Minimum of a Bachelor's degree in engineering, business administration, or a related field
Experience	At least 10 years of experience in the procurement of major civil works contracts. Significant international technical experience in design, construction, implementation, and maintenance of road projects. Experience with ADB or other International Financing Institution, and robust knowledge of ADB regulation and policies will be an advantage. Experience in Kazakhstan or Central Asian countries will be an advantage. Fluency in Russian is a requirement.

Key Tasks and Responsibilities	<ul style="list-style-type: none"> • Prepare a strategic procurement planning, in consultation with the executing and implementing agencies, detailing the project concept, operating environment, market analysis, risk management, options analysis, procurement strategy, and procurement plan for the considered project, in accordance with ADB's guideline on strategic procurement planning. • Summarize key issues and recommendations in a procurement risk assessment. Identify potential risks, risk mitigation and management approaches, and opportunities. • Prepare bidding documents for the project road. • Support the team leader in preparing in defining scope of construction supervision consultants and/or project management consultants, as relevant • Assist EA to receive, open and evaluate proposals and bids, conduct clarification meetings, and finalize contracts.
---------------------------------------	---

C. National Individual Experts

1. Deputy team leader (highway engineer)

Deputy Team Leader (Highway Engineer)	
Inputs	7.0 person-months
Education	Minimum of a Bachelor's degree in civil engineering, road/transport engineering, or a related field
Experience	Minimum of 10 years of relevant work experience. Significant technical experience in feasibility, design, and construction of road projects. Experience with ADB or other International Financing Institution will be an advantage. Fluency in English will be an advantage.
Key Tasks and Responsibilities	<ul style="list-style-type: none"> • Coordinate with other experts engaged as individual consultants, and with the government to ensure timely project delivery. • Review the feasibility study and detailed design study prepared for the project road and provide technical expertise on project components. • Support assessment to strengthen road safety designs and practices in the project scope. • Support all experts in data collection. • Ensure coordinated delivery of the safeguards data collection. • Prepare, define, and conduct a road user survey combining origin-destination and willingness-to-pay: assessing road users origins and destination, key characteristics (vehicle type, trip purpose, commodity transported, occupancy, income, etc.), and willingness to pay for toll roads commodity transported (for freight vehicles), targeting about 2 days of traffic around Zhezkazgan. • Support the planning and execution of a road survey of road user's perception, behavior and attitude towards road safety. • Support the establishment of a regional working group on biodiversity conservation for linear infrastructure projects. • Support the analysis of the tolling strategy, tolling revenue, maintenance strategy, maintenance budget for the republican network operated by KazAvtoZhol and the regional and district road networks under the responsibility of COR. • Support the sustainability assessment and develop a pricing mechanism balancing toll allocations and maintenance expenditures. • Support the review of the alignment between the strategic plan and budgeting process for capital and operational expenditures in the roads subsector-how the funds are allocated and the funding options are defined. • Provide expertise in other areas to support project processing and preparation. • Support the preparation of the bidding documents. • Prepare works and service information in accordance with the bidding documents. • Specify the data to be submitted by the contractor with its bid. • Prepare project benefits and benchmark estimates. • Perform other tasks, as agreed with the team leader.

2. Legal specialist

Legal specialist	
Inputs	1.0 person-month
Education	Bachelor of law or other related field
Experience	Preferably with at least 10 years of work experience in commercial law practice, corporate governance, state-owned enterprises, or procurement. Experience in projects financed by international financial institutions will be an advantage. Fluency in English is a requirement.
Key Tasks and Responsibilities	<ul style="list-style-type: none"> • Support the preparation and review of bidding documents • Review the existing legislation and regulations for tolling revenue and maintenance mechanism. • Support the preparation of loan covenants, in accordance with the financial management assessment, and within the existing legal framework. • Provide overall legal guidance to the team as necessary.

3. Road safety specialist

Road safety specialist	
Inputs	3.0 person-months
Education	Bachelor of engineering or other related field
Experience	At least 10 years of experience in road safety assessments and audits of major highway projects, with a substantial part of this experience in projects financed by ADB or other similar international funding agencies. Fluency in English will be an advantage.
Key Tasks and Responsibilities	<ul style="list-style-type: none"> • Prepare iRAP and RSA assessment of the project road, and of the proposed upgraded road. Ensure that the proposed upgraded road meets at least a 4-star rating. • Working with the Team Leader/Highway Engineer prepare an assessment of the road safety aspects of all parts of the design – roads, bridges etc. • Prepare an audit report setting out amendments that must be made to the designs to bring them into compliance with acceptable international standards. • Once the designs are in final draft form, repeat the road safety assessment to ensure that all required road safety facilities and features have been incorporated and, if additional improvements are required, ensure that these improvements are incorporated before the designs are accepted as being final. • Conduct consultations with relevant road user and road safety civil society organizations to inform the design of the road user behaviour survey and road safety awareness campaign, such Urban Forum Kazakhstan, Common Road NGO, Union of International Road Carriers of the Republic of Kazakhstan, or other civil society organizations. • Prepare, plan and execute a road survey of road user's perception, behavior and attitude towards road safety in Zhezkazgan and Kyzylorda, targeting at least 300 people including 50% of women and girls. • Summarize the findings in a survey report. • Identify opportunities to engage with local youth stakeholders, such as through schools and higher education establishments in Zhezkazgan, to lead a road safety awareness campaign. Plan the implementation of the iRAP Star Rating for Schools assessment in collaboration with youth stakeholders. • Prepare recommendations for a road safety awareness campaign based on the findings of the consultations and the survey.

4. Environment specialist

Environment Specialist	
Inputs	4.0 person-months
Education	Master's degree in Environmental Sciences or Environmental Engineering, or a related field

Experience	Preferably with at least 10 years' related experience in environmental impact assessment and proven familiarity with ADB or international financial institutions safeguards requirements. Fluency in English will be an advantage.
Key Tasks and Responsibilities	<ul style="list-style-type: none"> • Lead the establishment of a regional working group on biodiversity conservation for linear infrastructure projects. • Support the preparation of a guidance note on biodiversity conservation for linear infrastructure projects for migratory species in Central Asia. • Lead the preparation of a guidance note and assessment of best practices on climate change and disaster risk management in Central Asia, particularly on afforestation along roads and at rest areas, creation of oases in desert and semi-desert regions, and use of melt and rainwater. • Work closely with the project team and report on a regular basis to the ADB team on the progress of tasks. The specialist shall support the critical habitat impact assessment study, recommendations for environmental categorization, recommendations for EIA, outcomes of public consultations, and present the findings to the KazAvtoZhol and ADB. • Consult with government agencies to identify environmentally protected and sensitive areas, cultural heritage, archeological, important natural resources, and other sensitive sites in relation to proposed projects. • Review baseline environmental surveys with focus on ecological environment including biodiversity and protected areas in the project area. Collect primary environmental and ecological data and assess them in the context of data from secondary sources. Identify if the project is located within a modified, a natural, or a critical habitat, in accordance with IFC PS6 (2019). Carry out desk and field investigations to support the analysis, with the objective to prepare an environment impact assessment (EIA) or an initial environmental examination (IEE) of the project components and an environmental management plan (EMP). • Identify and assess direct and indirect, cumulative and induced impacts of the project and associated facilities on the environment including physical impacts (air and water quality, noise and vibration, soils and wastes, etc.), ecological impacts (plants, wildlife, and protected areas), and socio-economic impacts (impacts to social environment, infrastructure, traffic, etc.). Make quantitative assessments, where possible. • Coordinate with the KazAvtoZhol to organize meaningful consultation with project stakeholders. Ensure appropriate documenting consultation processes, to ensure that NGOs have sufficient opportunities to participate in consultations. Carry out public consultations to identify perceived, potential, or actual project risks and grievances. • Propose mitigation measures for environmental impacts based on avoidance, minimization and mitigation and compensation approaches. Summarize the proposed mitigation measures in environmental management and monitoring plans that includes the proposed mitigation measures, environmental monitoring requirements, organizational arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators. Prepare a draft Environmental Management Plan following the format and contents specified in the ADB Safeguard Policy (2009), and recommendations for subsequent EIA/IEE. • Based on the implemented investigations, assess the need for an update of the national OVOS⁴ and approval by the government, if needed. • Follow up of final EIA/IEE disclosure according to ADB's requirements.

5. Social development specialist (gender and resettlement)

Social development specialist (gender and resettlement)	
Inputs	4.0 person-months
Education	Bachelor of social science, or social science related field
Experience	Preferably with at least 10 years of work experience in gender and social development, land acquisition, or resettlement. Specific experience in gender analysis of infrastructure projects and in development of gender action plans is preferred. Experience in land acquisition and resettlement in projects financed by international institutions is required, with good

⁴ OVOS is the Russian acronym for environmental impact assessment. The OVOS process concentrates on preparation of environmental impact assessment documentation.

understanding and experience of their safeguards policies. Experience of ADB's Safeguard Policy Statement (2009) is preferred. Fluency in English will be an advantage.

Key Tasks and Responsibilities

- Collect baseline sex-disaggregated data on socioeconomic indicators including among others, population composition (men, women, age groups), educational attainment, enrollment in STEM and TVET courses (by type of course/learning program), completion of STEM and TVET courses labor force participation, sectors of employment, livelihood activities of women and men, income of men and women, and other relevant data.
- Gender analysis. Consult with population in the communities residing and/or working within the project areas through focus group discussions (FGDs), including with 50% of women, with informant interviews to identify: mobility and travel patterns of women and men (frequency, purpose, destinations); concerns related to mobility and travel (as drivers, passengers, pedestrians); travel-related safety issues (harassment, crime); livelihood activities (current), opportunities, and concerns, challenges (setting up, financing, management of livelihood activities); family and community issues related to women's mobility, social, and economic growth; etc.
- Consult young women (secondary school level) on: (i) preferred areas of study and work, (ii) interest in and perceptions about enrollment in STEM, TVET courses related to transport, road construction and management, and (iii) taking on jobs in non-traditional fields (related to STEM, TVET).
- Identify gender design features, gender actions to be included in the project.
- Gender-related documents and inputs. Prepare the following: (a) gender design features and targets to be incorporated in the Design and Monitoring Framework (DMF); (b) paragraphs on Gender in the Due Diligence section of the Report and Recommendation of the President (RRP) and the Project Administration Manual (PAM); (c) gender section and actions for the Summary Poverty and Social Strategy (SPRSS); (d) comprehensive poverty, social, and gender analysis (PSGA) report to include the sex-disaggregated socio-economic data, and results of gender analysis; and (e) Gender Action Plan.
- Work with KazAvtoZhol environmental and social authorities and other stakeholders to verify the safeguards assessments prepared in the feasibility and detailed design.
- Verify and review information on full or partial, permanent or temporary physical displacement (relocation, loss of residential land, or loss of shelter) and economic displacement (loss of land, assets, access to assets, income sources, or means of livelihoods) resulting from (i) involuntary acquisition of land, or (ii) involuntary restrictions on land use or on access to legally designated parks and protected areas number of affected and displaced persons due to lost land and other assets, if any.
- Review and compile available updated data/information on RoW limits and acquired land parcels (privately owned/leased land parcels and state-owned land parcels) in each lot of the project road section.
- Review OVOS and other safeguards reports, conduct field trips, review and conduct public consultations to identify and bridge potential gaps; assist Kazavtozhol to establish a grievance redress mechanism in accordance with the ADB's Safeguard Policy Statement.
- Prepare social safeguards due diligence report.
- Prepare indigenous peoples due diligence report.

D. International Firm

1. Background Information

5. The transaction technical assistance (TA) will provide project preparation and capacity building support for the proposed Central Asia Regional Economic Cooperation (CAREC) Corridors 1, 2, and 6 Connector Road (Kyzylorda–Zhezkazgan) Reconstruction Project.⁵ The ensuing project will require a loan of about \$200 million, with KazAvtoZhol as the Borrower. The

⁵ The European Bank for Reconstruction and Development cofinances the Kyzylorda–Zhezkazgan project and approved a \$240 million loan to KazAvtoZhol on 21 July 2021. Due diligence under the TA focuses on the section to be financed by the Asian Development Bank. Project teams coordinate, notably on climate change, biodiversity, road safety, procurement, or financial management. European Bank for Reconstruction and Development. 2020. [Kyzylorda-Zhezkazgan Road Reconstruction](#). London.

project will be aligned with the following impacts: (i) transport and logistics infrastructure expanded to promote global integration, export competitiveness, and economic growth;⁶ and (ii) regional and national transport networks developed to meet growing social, economic, and trade connectivity needs.⁷ The project outcome is the improvement of the road network efficiency, safety and sustainability, which will be achieved through two solutions: a 208 km section of the project road will be reconstructed and upgraded; and the capacity of KazAvtoZhol in road safety, procurement, contract management, and environmental management will be strengthened.

6. The Ministry of Industry and Infrastructure Development (MIID) is the asset owner of the republican road network, while the Committee of Roads (COR), under MIID, defines and implements road policies and strategies. KazAvtoZhol, a national joint stock company established in 2013 and wholly owned by MIID, is the operator of the republican road network and is responsible for project implementation, procurement and supervision of periodic maintenance and reconstruction, and operation and maintenance of toll roads. KazAvtoZhol has signed sovereign-guaranteed loans for road construction and rehabilitation with multilateral and bilateral partners, including ADB, and is the proposed Borrower for the Kyzylorda–Zhezkazgan project.

7. KazAvtoZhol prepared a technical feasibility and detailed design studies for the Kyzylorda–Zhezkazgan road project. However, there is a potential to improve project design, strengthen institutional arrangements, and enhance capacity in planning, asset management, road safety, financial management, climate change and disaster resilience, and social and environmental safeguards management by procuring international and national expertise. The TA will support due diligence of engineering designs, costs, procurement, contract management, financial management, economic and financial viability, climate change, and social, gender, and environmental safeguards. The TA will also prepare assessments to support the transition of project preparation and delivery modalities towards cost-recovery approaches; and expand and share knowledge on tolling, road sustainability, and environment. Five areas were identified as key focus points to improve project design, institutional arrangements, and institutional capacity: (i) financial sustainability, particularly tolling, asset management, and network planning; (ii) social and environmental safeguards management, particularly biodiversity conservation, climate change, and disaster resilience; (iii) gender mainstreaming; (iv) road safety at infrastructure, institutional, and road user levels; and (v) regional cooperation and integration. The TA will attract international and national expertise to strengthen the identified focus areas.

8. The Asian Development Bank (ADB) will engage a team of international individual consultants and national consultants to assist ADB and KazAvtoZhol with preparing a project for constructing the Kyzylorda–Zhezkazgan road to the standard required for processing ADB financing.

2. Deliverables

9. The firm will be responsible for providing the following deliverables:
- (i) environmental impact assessment (or initial environmental examination) in accordance with ADB's safeguards policy statement; and
 - (ii) climate risk and vulnerability assessment and climate change assessment.

⁶ Government of Kazakhstan. 2012. [*Address by the President of Kazakhstan, Leader of the Nation, N. Nazarbayev: "Strategy Kazakhstan–2050: New Political Course of the Established State."*](#) (14 December). Nur-Sultan.

⁷ ADB. 2020. [*CAREC Transport Strategy 2030*](#). Manila.

3. Terms of reference

10. The role of this assignment is to support ADB's in preparing all environmental due diligence for the project, including environmental due diligence and impact assessment reports, climate risk and vulnerability assessment, and climate change assessment. The firm will also support the establishment of a regional working group in Central Asia. Table 2 below provides major tasks to be carried out by the firm.

Table 2: Major Tasks

Major Outputs	Key Activities with Milestone
1. Environmental due diligence for Kyzylorda–Zhezkazgan conducted	<p>Key tasks assigned:</p> <ul style="list-style-type: none"> • Carry out an environmental assessment of the project in accordance with ADB's Safeguard Policy Statement 2009 (SPS), and the Government's environmental regulations and policies. • Classify the project in accordance with the environmental impact assessment requirements under the relevant government guidelines, ADB's screening checklist for environmental categorization according to the SPS. • Collect baseline data representing the environmental conditions of the project site, on physical (air, noise, surface and ground water, soil), ecological (flora, fauna, protected areas) and socio-economic (occupational health and safety, community health and safety, vulnerable groups and gender issues, and impacts on livelihoods through environmental media) environmental components, and physical cultural resources, heritage sites, etc. • Assess air, noise, vibration impacts and conduct modelling where necessary. • Review of existing literature and guidance materials, documenting good practices and additional knowledge needs. • Review existing biodiversity studies and environmental assessments and develop methodologies for the ecological assessment of the project road. • Conduct comprehensive and in-depth ecological studies and critical habitat assessment in and around the project area for the road. The study will be used as a key component of the EIA/IEE for the road. Key focus includes Saiga antelopes and any species, including aviary, listed on national and international conservation lists. • Undertake analytical studies and provide support to project or plan preparation, including the baseline assessment of biodiversity and ecology in the project road area, the analysis of impacts of the project road on biodiversity and ecology and the design of measures to avoid, as a priority, and then minimize, mitigate and if necessary, offset impacts in the project road. • The biodiversity assessment study must include the following: <ul style="list-style-type: none"> ○ Review of the existing engineering design studies and reports to understand details on the location, scope of works and type of structures proposed ○ The type and number of flora and wildlife species, habitat areas existing in the project area with clear identification of species and their significance in accordance with relevant local acts and policies as well as the IUCN red list and type of habitat (critical, natural or modified) ○ Quantification of the expected habitat loss (area, number of trees) due to the project ○ The migration routes and patterns of the important wildlife species (endangered and endemic species) including Saiga antelopes, bird and aquatic species ○ Detailed maps on the project alignment area showing the boundary of the protected area, protected area zones, habitat areas, migration routes, special habitat features such as salt licks, water holes, marshes etc. ○ Impacts of traffic related noise, air and water pollution on habitats and wildlife species in and around the project area and recommendation of relevant mitigation measures in accordance with the World Bank Environment, Health and Safety (EHS) guidelines ○ Mitigation measures for all short term and long term adverse biodiversity impacts as required by the ADB SPS and recommended in the ADB Environment Safeguards sourcebook ○ Impact mitigation and habitat enhancement may include feasible smart green infrastructure, wildlife underpasses and overpasses, limitations on traffic speeds and hours, and innovative designs or measures based on international best practices from similar projects in other countries.

Major Outputs	Key Activities with Milestone
	<ul style="list-style-type: none"> ○ Assessment of the need for biodiversity offset measures, once all possible measures to avoid, mitigate, and reduce impacts have been identified, and residual (net) impacts have been clarified. ○ Cumulative and induced impact assessment as a result of the project and recommendation of appropriate mitigation measures and controls to avoid long term negative impacts. The cumulative impact assessment may cover biodiversity impacts as a result of the combined effect of all the road sections on the east-west highway that will be completed in the next five to ten years ○ A comprehensive monitoring plan to track progress of the EMP implementation as well as the biodiversity related mitigation, enhancement and restoration measures • Coordinate with KazAvtoZhol and the project preparatory consultants that prepared the engineering design, economic studies, social and physical environment studies and others to ensure ecological studies and proposed mitigation measures are consistent with the rest of the project preparatory tasks and design. • Report on the ecological assessment of the project road, including recommendations for mitigation and enhancement measures. Ensure that the project studies integrate innovative aspects, such as the use of remote sensing and GIS, the consideration of ecosystem services, the consideration of climate change, the use of bioengineering and design features such as wildlife crossings (where appropriate). • Review the national environmental assessment (OVOS) for the project by verifying potential direct, indirect, cumulative, and induced impacts and risks to physical, biological, socioeconomic, and physical cultural resources in the context of the project's area of influence. Verify potential transboundary and global impacts, including climate change. • Re-confirm alternatives to the project's location, design, technology, and components and their potential environmental and social impacts and document the rationale for selecting the particular alternative proposed including the no project alternative. • Verify avoidance, minimization, mitigation, and/or compensation of adverse impacts and enhancing positive impacts of the project by means of environmental planning and management proposed in the OVOS. • In coordination with the Implementing Agency and local administrations participate in meaningful additional consultation with affected people and concerned stakeholders, including civil society, and facilitate their informed participation. Ensure that their views and concerns are made known to and understood by decision makers and taken into account. • In coordination with the Implementing Agency and local administrations propose a grievance redress mechanism to receive and facilitate resolution of the affected people's concerns and grievances regarding the project's environmental performance. • Based on the national environmental assessment (OVOS) and consultations prepare an Environmental Impact Assessment (EIA) or Initial Environmental Examination (IEE) report for the project in accordance with ADB's Safeguard Policy Statement. • Prepare an environmental management plan (EMP) that includes the proposed mitigation measures, environmental monitoring and reporting requirements, related institutional or organizational arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators.
2. Capacity building and support to international working group provided	<p>Key tasks assigned:</p> <ul style="list-style-type: none"> • Assess the institutional set up and capacity of KazAvtoZhol for implementing all recommended biodiversity-related mitigation and enhancement measures, and relevant institutional and capacity building needs identified with adequate budget provisions. • Support the establishment of a regional working group on biodiversity conservation, climate change and disaster risk management for linear infrastructure projects. • Prepare a guidance note on biodiversity conservation for migratory species, and climate change and disaster risk management for linear infrastructure projects in Central Asia. • Support assessment and discussions on afforestation (greening) along roads and at rest areas, creation of oases in desert and semi-desert regions, and use of melt and rainwater in Central Asia.
3. Climate Change and Climate Risk and Vulnerability Assessments for	<p>Key tasks assigned:</p> <ul style="list-style-type: none"> • Identify key climate parameters relevant for the study, focusing on those applicable to the primary climate hazards of the project. • Collect and analyze information related to climate change impacts (environmental, economic, and social impacts) and projections (projected changes in temperature and precipitation) in the project area.

Major Outputs	Key Activities with Milestone
Kyzylorda–Zhezkazgan	<ul style="list-style-type: none"> • Collate baseline (historical) levels of key parameters including variables especially relevant to the project area and design, and associated hazards. • Develop simplified “best estimate” and “high case” scenarios for the key parameters and associated hazards under climate change for the lifetime of the project, using most current and relevant regional climate projections available. If no data from climate models is available use simple climate models such as “Climate 1-Stop” (http://arcserver4.iagt.org/climate1stop/) to make climate projections. • Assess the risks posed by climate change to the project viability, as well as the vulnerabilities of the project and the associated risks to the structural components of the project under these scenarios, including implications for performance and operation. • Assess climate change risks for the project in consultation with the government and ADB, and recommendations for adaptation measures in the engineering design. • Prepare a climate risk and vulnerability assessment (CRVA). • Quantification of greenhouse gas (GHG) emissions expected from the construction and operation activities. • Identify adaptation options appropriate to project conditions and design objectives, including structural and non-structural approaches and interventions, along with estimations of monetary benefits where feasible. This includes an estimation of adaptation finance required.

11. The contract will be a lump sum contract. ADB requires a minimum of 5.5 key international person-months as indicated in Table 3, including 4.0 person-months for an international environmental specialist and 1.5 person-months for an international climate change specialist. The firm can propose additional experts or alternative implementation arrangements, according to their proposed approach and methodology, subject to the review and approval of ADB.

Table 3: Relevant Experience and Qualification Requirement

Title	Relevant Experience and Qualification
International Experts	
INT01 Environment Specialist	<p>Inputs:</p> <ul style="list-style-type: none"> • 4 person-months. <p>Education:</p> <ul style="list-style-type: none"> • Minimum of a Bachelor of ecology, natural resource management, wildlife conservation or related field, preferably at postgraduate level. <p>Experience:</p> <ul style="list-style-type: none"> • At least 10 years of experience in the assessment of ecological issues with road projects, and at least 5 years of managerial experience in projects of a similar nature and magnitude. • Must have adequate experience and knowledge in designing and implementing wildlife conservation features to mitigate negative environmental impacts of transport projects on wildlife and be able to bring in relevant international best practices for incorporation in the project. • Experience in the project region is highly preferred. Experience with ADB or other International Financing Institution will be an advantage.
INT02 Climate Change Specialist	<p>Inputs:</p> <ul style="list-style-type: none"> • 1.5 person-months. <p>Education:</p> <ul style="list-style-type: none"> • Minimum of a graduate degree (preferably post graduate degree) in meteorology, climatology, or related field. <p>Experience:</p> <ul style="list-style-type: none"> • At least 10 years of experience in climate change analysis including climate modeling, downscaled climate assessments to inform project design and risk analysis. • Must have demonstrated expertise in climate change impacts and vulnerability assessments evaluating potential impacts of climate change and making recommendations for adaptation in the transport sector. • Experience in the project region is highly preferred. Experience with ADB or other International Financing Institution will be an advantage.