MOTT MACDONALD

MTO Gas Chemical Complex in Bukhara Region, Uzbekistan

ESIA Scoping Report

July 2021

Mott MacDonald
71 Sadovnicheskaya
Embankment
Moscow 115035
Russia

T +7 (495) 981 5665
mottmac.com

JV "Jizzakh Petroleum"

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Acronyms and Abbreviations Table

Abbreviation/Acronym	Definition
ACs	Affected Communities
AoI	Area of Influence
Consultant	Mott MacDonald Limited (UK), supported by Uzbek firm Ekostandart Ekspert LLC
EBRD	European Bank for Reconstruction and Development
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
EPC	Engineering, procurement and construction
ESIA	Environmental and Social Impact Assessment
ESMMP	Environmental and Social Management and Monitoring Plan
ESMS	Environmental and social management system
ESP	Environmental and Social Policy
EVA	Ethylene vinyl acetate
FEED	Front-end engineering design
FGDs	Focus group discussions
GCC	Gas chemical complex
GDI	Gender Development Index
GDP	Gross domestic product
GGGI	Global Gender Gap Index
GHG	Greenhouse Gas
GIIP	Good International Industry Practice
GIP	Good International Practice
GoU	Government of Uzbekistan
H&S	Health and safety
HSE	Health, Safety, and Environment
IBA	Important Bird Area
IBAT	Integrated Biodiversity Assessment Tool
ICCPR	International Covenant on Civil and Political Rights
ICESR	International Covenant on Economic, Social and Cultural Rights
IFC	International Finance Corporation
ILO	International Labour Organisation
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
JP	Jizzakh Petroleum JV LLC
JSC	Joint stock company
KBA	Key Biodiversity Area
LDPE	Low density polyethylene
LRP	Livelihood Restoration Plan
MEG	Monoethylene glycol
MIGA	Multilateral Investment Guarantee Agency
MPC	Maximum permissible concentration
MTO technology	Methanol to olefin technology
NGO	Non-governmental organisation
NTS	Non-Technical Summary

OHL	Overhead power line
OHS	Occupational Health and Safety
PAPs	Project affected persons
PET	Polyethylene terephthalate
PP	Polypropylene
PR	Performance Requirements
Project	Gaz Chemical Complex in Bukhara Region of Uzbekistan utilising methanol to olefin technology
PS	Performance Standards
RoU	Republic of Uzbekistan
SEP	Stakeholder Engagement Plan
SIA	Social Impact Assessment
SPZ	Sanitary Protection Zone
TMP	Traffic Management Plan
ToR	Terms of Reference
TPA	Terephthalic acid
UDHR	Universal Declaration of Human Rights
UN	United Nations
UNCCD	UN Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa
USD	United States dollars
Uzhydromet	Hydrometeorological Service at the Ministry of Emergency Situations of the Republic of Uzbekistan
UZS	Uzbekistani som
VOCs	Volatile Organic Compounds
WHO	World Health Organisation

Executive Summary

This ESIA Scoping Report considers the construction of a new gas chemical complex in the Karakul district of the Bukhara region of the Republic of Uzbekistan (the Project). The purpose of this report is to present the proposed scope and approach for the Project Environmental and Social Impact Assessment (ESIA) for agreement with the Project Proponents. This scope will then form the basis of the ESIA.

As part of this ESIA Scoping Report, a range of disciplines have been considered comprising hydrology and water resources, ground conditions, climate change, biodiversity, air quality, greenhouse gas emissions, noise and vibration, materials and waste management, landscape and visual amenity, social aspects, cultural heritage and cumulative impacts.

A baseline review has been undertaken, using a mix of desktop study, reconnaissance site visit, previous studies and stakeholder consultation. This information has been used to understand what the potential environmental and social effects are for the scheme. This then forms the basis of what is proposed to form the scope of the ESIA. This is shown in the table below.

Table 0.1: ESIA scope of work

Impact/Aspect	Construction	Operation	Decommissioning	Justification for scoping out (if applicable)
Hydrology and Water Quality	Scoped In	Scoped In	Scoped Out	Scoped out of decommissioning on the basis that hydrology and water quality issues will be effectively managed in a detailed decommissioning plan. Mitigation will be included in the ESIA suggesting that a full and detailed decommissioning plan should be developed prior to decommissioning
Ground Conditions	Scoped In	Scoped In	Scoped Out	Scoped out of decommissioning on the basis a detailed decommissioning plan will be developed prior to decommissioning to manage ground condition issues.
Climate Change	Scoped Out	Scoped In	Scoped Out	Scoped out of construction phase as climate impacts would be at the longer-term scale.
Biodiversity	Scoped In	Scoped In	Scoped Out	Scoped out of decommissioning on the basis that a detailed decommissioning plan will be developed prior to decommissioning, including requirements for soil reclamation, habitats rehabilitation and compensatory planting measures.
Air Quality	Scoped In	Scoped In	Scoped Out	Scoped out of decommissioning on the basis that air quality issues will be effectively managed in a detailed decommissioning plan
Greenhouse Gases	Scoped In	Scoped In	Scoped Out	Scoped out of decommissioning due to high uncertainties surrounding available technologies and processes at the end of the Project life.
Noise and Vibration	Scoped In	Scoped In	Scoped Out	Scoped out of decommissioning as any works required will be subject to relevant consent applications, associated environmental assessments and a decommissioning plan.

Impact/Aspect	Construction	Operation	Decommissioning	Justification for scoping out (if applicable)
Material resources and Waste	Scoped In	Scoped Out	Scoped Out	Scoped out of operation as no significant material resources consumption is predicted at operation. Scoped out of decommissioning on the basis that the decommissioning phase will not require the use of materials as opposed to construction.
	Scoped In	Scoped In	Scoped Out	Scoped out of decommissioning on the basis that a detailed decommissioning plan will be developed prior to decommissioning, including requirements for waste management at decommissioning.
Landscape	Scoped Out	Scoped Out	Scoped Out	Scoped out as landscape and visual impacts are predicted to be insignificant during construction and operation. A detailed decommissioning plan will be developed prior to decommissioning.
Land use and livelihoods	Scoped In	Scoped In	Scoped Out	Scoped out of decommissioning as no additional impacts on land tenure are expected at this phase on anyone other than the Project Proponent and any potential buyer.
Economy and Employment	Scoped In	Scoped In	Scoped In	
Access to social infrastructure	Scoped In	Scoped In	Scoped Out	Scoped out as it is not predicted that the impact from decommissioning on social infrastructure will be significant.
Cultural Heritage	Scoped In	Scoped In	Scoped Out	No significant decommissioning impacts to cultural heritage resources are foreseen for the decommissioning phase.
Cumulative Impacts	Scoped In	Scoped In	Scoped Out	Scoped out as it is not possible to assess cumulative effects at 30 years Project life span.

Source: Mott MacDonald scoping study, 2021

The ESIA Scoping Report outlines the proposed methodological approach for undertaken the ESIA. In addition, the Scoping Report states that an Environmental and Social Management and Monitoring Plan, including integrated Community and Social Risk Management Plan and Stakeholder Engagement Plan will be produced to outline the environmental and social measures that are to be implemented to mitigate both construction and operational activities.

To manage impacts on livelihoods resulting from the land acquisition process, a Livelihood Restoration Plan needs to be developed and will be included in the ESIA scope if agreed with the Project Proponents or developed by the Project independently.

1 Introduction

1.1 Background

Jizzakh Petroleum JV LLC (JP, the Project Owner or the Project Company) plans to invest in the construction of a new gas chemical complex (GCC) in the Karakul district of the Bukhara region of the Republic of Uzbekistan (the Project). Using natural gas as feedstock, the GCC will apply methanol to olefin (MTO) technology to produce olefins, which will be further polymerised to the following products:

- Low density polyethylene (LDPE) – 160,000 tonnes per year
- Ethylene vinyl acetate (EVA) – 200,000 tonnes per year
- Polyethylene terephthalate (PET) – 300,000 tonnes per year
- Polypropylene (PP) – 270,000 tonnes per year

The approximate volume of natural gas processing at the complex will be ~ 1.1 billion m^3 per year.

The GCC site will accommodate an operational process area, in addition to administrative and utilities management areas. Natural gas will be supplied to the Project via a new 95km gas pipeline and ancillary components will include power supply, water supply and wastewater treatment infrastructure. A description of the GCC and ancillary components is provided in Chapter 2.

International finance for the Project investment is sought by JP from international lenders which adhere to the International Finance Corporation (IFC) and European Bank for Reconstruction and Development (EBRD) environmental and social standards and requirements.

Mott MacDonald Limited (UK), supported by Uzbek firm Ekostandart Ekspert LLC (jointly referred to as the "Consultant"), has been appointed by JP to undertake an Environmental and Social Impact Assessment (ESIA) in line with applicable international lender standards to determine the potential impacts, and subsequent effects, of the Project. This document represents the Scoping Report for the ESIA to define the proposed approach and contents of the ESIA.

1.2 Purpose of the ESIA

ESIA is a process that enables the environmental and social effects of the Project to be understood. Through this, appropriate mitigation is developed, and the level and nature of the effect can be determined. An understanding of the environmental and social baseline of the Project affected area is required, and this is compared with the Project design and construction works proposed. The ESIA will evaluate alternatives, including the no project scenario. Using professional judgement and using the assessment methodology presented in Chapter 6, a conclusion can therefore be made regarding the level of likely impacts and effects that the Project will have on the existing environmental and social baseline. Appropriate mitigation, management and monitoring measures can then be put in place.

1.3 Purpose of this Scoping Report

1.3.1 Overview

For the ESIA to be appropriate to the Project and its location, a process of initial screening and scoping for potential interactions between the proposed Project and receptors (physical, biological) is undertaken to determine the extent of the ESIA and what topics are to be studied in detail, as well as the methodologies to be employed during the ESIA process. By using initial environmental and social baseline information from

desktop, site studies and current information on the scheme design, the key environmental and social issues can be determined, and from this a scope of the ESIA proposed.

This ESIA Scoping Report is intended to document the scoping process and set out the scope, or terms of reference (ToR) for the full ESIA for the Project. The document provides an overview of the nature of the planned Project works and outlines the proposed scope and methodology of the future ESIA based on the Project's potential for significant environmental and social effects.

Once agreed with the Project Owner and potential international lenders (yet to be identified), the Scoping Report defines the extent to which the environmental and social impacts will be assessed in the ESIA.

This Scoping Report and the subsequent ESIA are focussed on the international requirements laid down by the international lenders. It is not intended to act as a national Environmental Impact Assessment (EIA); a national EIA will also be required to obtain the environmental authorisation/permit required under national legislation, which would be submitted separately to this document to the local environmental regulatory authorities in Uzbekistan.

1.3.2 Scoping Process

This Scoping Report is informed by available information regarding the Project and the environmental and social baseline obtained through desk-based review, a reconnaissance site visit undertaken between 2-5 March 2021, and initial consultation with Project stakeholders. This represents initial information, and further information will be gathered and used to inform the ESIA.

Discussions took place during the reconnaissance site visit with JP and its Environmental Advisor (O'ZLITINEFTGAZ JSC) in order to fully understand the Project, the available and future environmental and social baseline studies of the national EIA process and the site selection rationale. A list of information reviewed is provided in Appendix E.

1.4 The Project Proponents

The Project Sponsors are Jizzakh Petroleum JV LLC (Uzbekistan), Air Products (USA), Uzkimyosanoat Joint Stock Company (JSC) (Uzbekistan) and Uzbekneftegaz JSC (Uzbekistan). Jizzakh Petroleum JV LLC acts as the Project Owner and is the main investor of the Project. JP was established in June 2017 by Gas Project Development Central Asia (40%) and Uzbekneftegaz JSC (60%).

JP as the lead investor, is responsible for the development of the Project, commissioning of front-end engineering design (FEED) works, and engaging financing consultants and the engineering, procurement and construction (EPC) contractor for the Project.

1.5 The Need for the Project

The Project has been developed under the Government's programme for further development of the petrochemical industry in the Republic of Uzbekistan and the 2030 National Development Concept for Oil and Gas Industry[1]. The construction of the GCC is the second largest gas processing plant in Karakul and across Uzbekistan.

The Project will convert approximately 1.1 billion tonnes per annum of natural gas into LDPE, EVA, PET and PP. These products are used in a wide variety of applications, including packaging, textiles, stationery, plastic parts, bottles, sports and laboratory equipment, automotive components and insulating material and therefore are higher-value products. The processing of natural gas to a saleable product with added value

[1] Presidential Decree No.PP-4388 of 09.07.2019 "On Measures to Secure Energy Resources Supplies to the Economy and Population, Financial Recovery and Improvements in Managing the Oil and Gas Industry".

will have a positive effect on the economy of Uzbekistan and will satisfy growing demand for these products in the country and overseas.

The Project will also create a number of permanent jobs within the Bukhara region. Employment opportunities will be created in both the construction and operational phases with the peak construction workforce expected to be over 2,000. During operation the Project will directly employ approximately 1,300 people, although it is estimated that with the associated jobs from the Project supply chain and other associated manufacturing industries, permanent employment during operations will be much higher.

The Project will diversify the economy of the region and be a driver for economic development of the area, enabling growth of textile, chemical para-pharmaceutical industries as well as car manufacturing and building sectors.

1.6 Structure of this Report

This report is structured as follows:

- **Chapter 1– Introduction** (this chapter): Describes the Project background, the ESIA process, Project Proponents and the structure of this report
- **Chapter 2 – Project Description:** Briefly describes the key activities associated with the development of the Project and its infrastructure
- **Chapter 3 – Legal and Policy Framework:** Outlines the national and international requirements and guidelines that the Project is to follow
- **Chapter 4 – Scoping: Baseline Conditions and Potential Environmental and Social Impacts:** Reviews the environmental and social baseline of the Project site and surrounding area on a topic by topic basis and presents potential environmental and social effects, with a summary of the proposed scope for the ESIA
- **Chapter 5 – Stakeholder Consultation and Participation:** Defines stakeholder consultation objectives and engagement activities as part of the ESIA process
- **Chapter 6 – Terms of Reference for the ESIA Phase:** Outlines the technical scope, as well as presenting the proposed general approach and methodology of the ESIA and describes any supporting studies that will sit alongside it.
- **Appendices:** Appendix A depicts the proposed gas pipeline route and maps the land users and tenants in the vicinity of the Project site; Appendix B lists species recorded at the Dengizkul Lake; Appendix C provides records of meetings undertaken during scoping phase consultation; Appendix D details the preliminary ESIA stakeholders engagement programme and Appendix E references information reviewed in preparation of this Scoping Report

2 Project Description

2.1 Overview of the Project

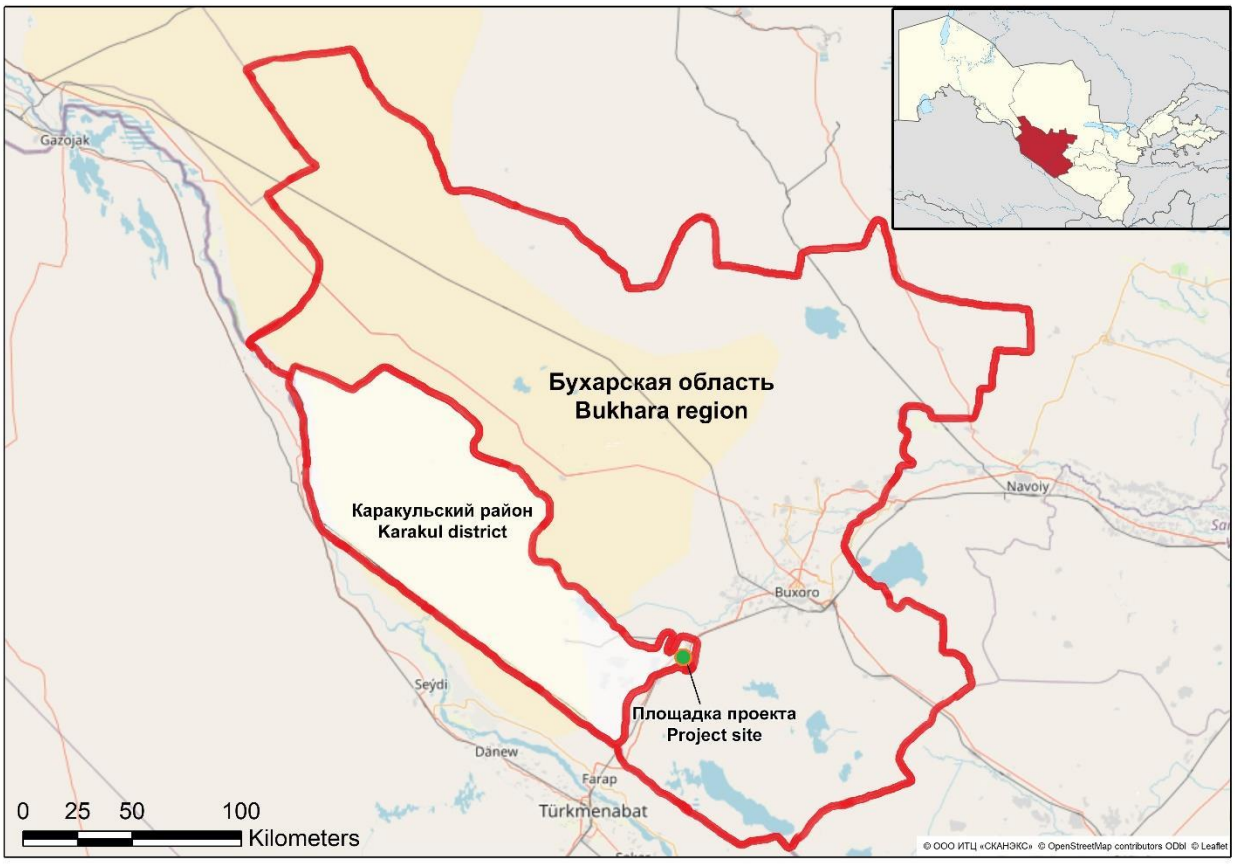
The Project will be located near Karakul city within the Republic of Uzbekistan. Further Project details are provided in this chapter. FEED design works have recently been commissioned for the Project and the level of currently available design detail is considered suitable to inform the scoping process; more detailed design information will be sought during the ESIA phase to inform the assessment process.

The Project consists of the following main components:

- Gas chemical complex
- Natural gas feedstock pipeline (95km)
- Overhead transmission line (1km) to provide power supply from local substation
- Water supply infrastructure, including water intake and water pipeline (23km)
- Wastewater treatment and discharge infrastructure

The GCC site is located in greenfield land out of the populated area boundary. Land is state owned and 250ha has been allocated to the Project by the Government. Figure 2.1 shows the proposed location of the GCC. Appendix A provides further context on proposed routing of the natural gas pipeline.

Figure 2.1: Project location



Source: kosmosnimki.ru, 2020

2.2 Project Location

2.2.1 GCC

The GCC site is located in the south-west of the Republic of Uzbekistan, in the Karakul district of Bukhara region, approximately 33km south-west of the border with the Republic of Turkmenistan. The distance from the district's administrative centre, Karakul town, to the city of Bukhara is about 60km.

The GCC site is an area of desert land with sparse herb and shrub vegetation disturbed by regular grazing. The land shows signs of historical pollution by household waste carried by wind from a waste landfill located 2km to the south-west.

The main drivers of the site selection are the vicinity of water sources, access to power supply, the proximity to the interregional motorway and railway, and the availability of workforce required for the operational phase of the Project. The proximity to key markets in Europe and Asia also provides benefits for exporting end products.

The nearest protected areas are the National Reserve "Dengizkul Lake" located 35km to the south-west of the GCC site, National Reserve "Qumsulton" located approximately 20km to the south-east from the natural gas pipeline route, and the cultural heritage object "Paykent" located 500m from the natural gas pipeline route.

Figure 2.2: Site location plan

Source: kosmosnimki.ru, 2021

2.2.2 Project Facilities

Natural gas is the main feedstock for the GCC. It is intended that natural gas will be supplied by a new 95km dedicated branch pipeline which will connect from an existing gas distribution station in the Gazli region. It is anticipated that 65km of the pipeline will be constructed within the corridor of the existing Trans-Asian gas pipeline. Refer to section 2.4 for further details.

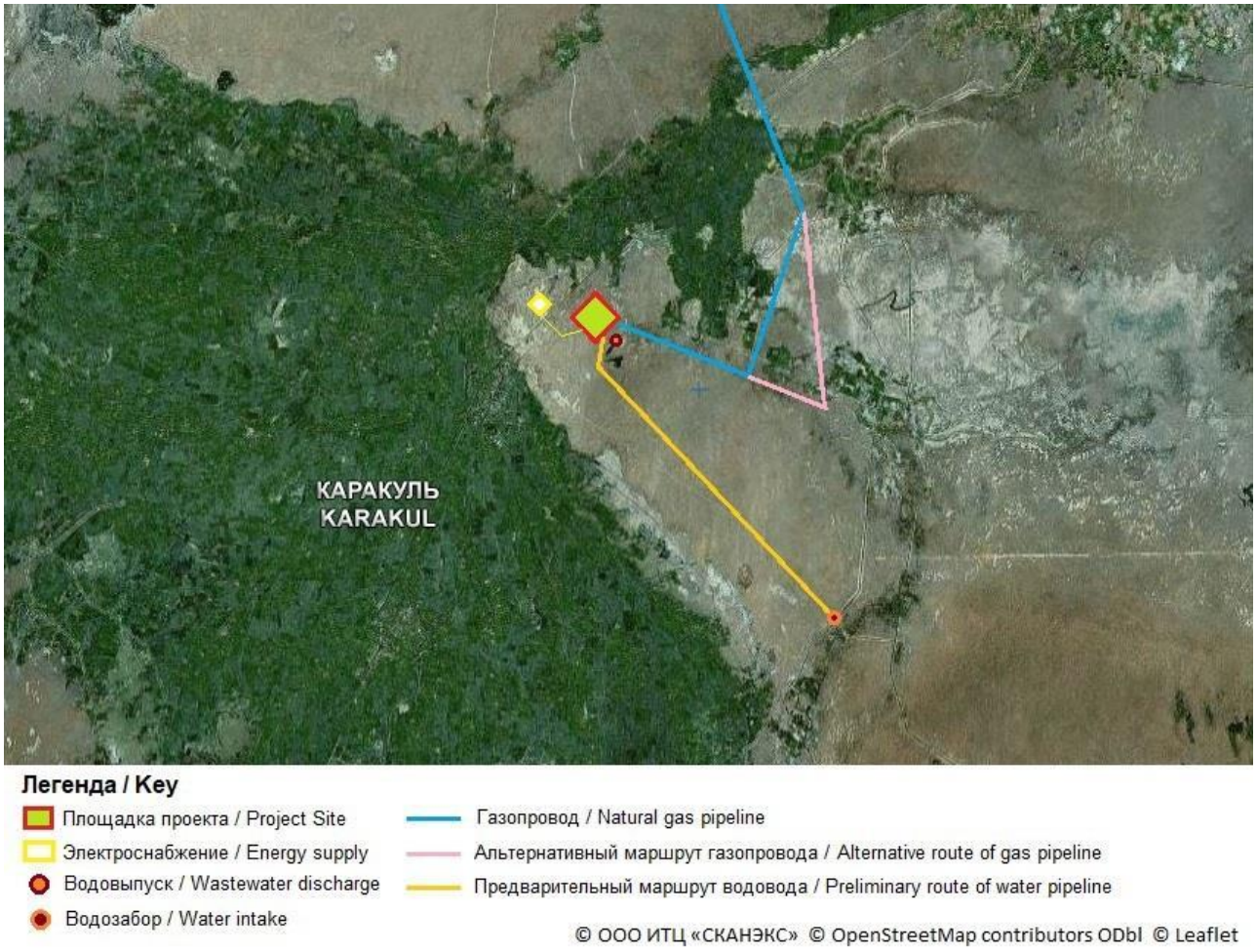
Power supply for the GCC will be provided via overhead power line (OHL) from an existing substation located 1km west of the Project site.

Process water will be supplied to the GCC from the Amu-Bukhara canal which is fed by the waters of the Amu-Darya River. A water intake facility will be located 23km south-east of the Project site and a new water pipeline will transport water from the water intake to the GCC.

It is currently proposed that treated wastewater from the GCC will be discharged into a drainage canal located 650m to the south-east of the Project site. This canal subsequently discharges into Dengizkul Lake located 35km from the Project site.

The preliminary location of the proposed location of the Project facilities are shown in Figure 2.3 below. Further details of the natural gas pipeline route are provided in Appendix A.

Figure 2.3: Proposed Project facilities



Source: Jizzakh Petroleum LLC, JV, kosmosnimki.ru, 2020

2.3 GCC Production Process

Layout of the site buildings and equipment is not available at the time of reporting. Current information shows that the GCC production plant will occupy the southern part of the Project site, with administrative and utility buildings and facilities to be located in the northern portion.

The GCC will annually receive 1.1 billion m^3 of treated and dehydrated natural gas through the new designated pipeline branch.

The GCC will include several process stages for sequential production of syngas, methanol, light olefins, low-density polyethylene (LDPE), monoethylene glycol (MEG), polyethylene terephthalate (PET), and polypropylene (PP).

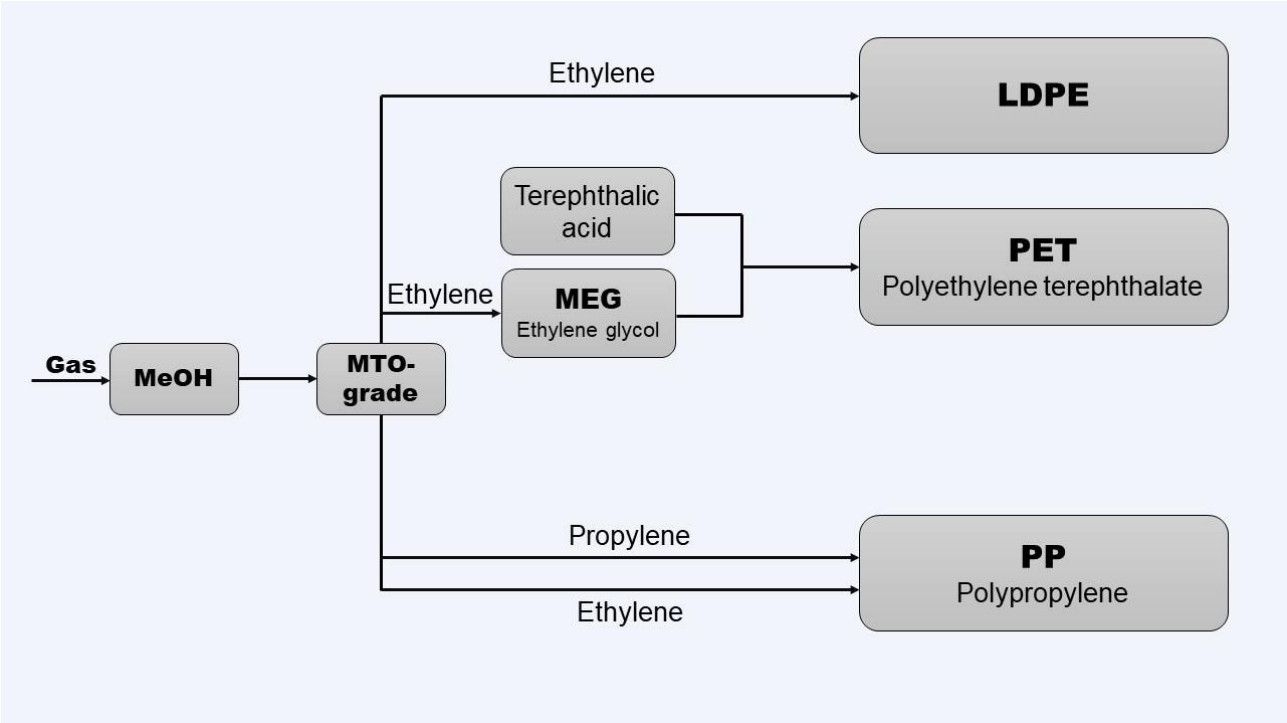
The tentative flow diagram of the methanol at the olefin (MTO) process is shown in Figure 2.4.

The olefin production process will consist of a sequence of operations:

- Commercial gas is fed to the syngas block of the methanol unit (hereinafter referred to as MeOH), where synthetic gas is generated in the presence of hydrogen, carbon monoxide and carbon dioxide
- Syngas then enters the methanol block, where it is converted into methanol to produce MTO-grade olefins
- Light olefins (ethylene and propylene) are produced from the MTO unit and are subsequently polymerized into LDPE, PET and PP.
- PET is produced by interacting ethane with terephthalic acid (TPA) and MEG.

Products from the GCC process will be transported from the complex via motorway for the local market and via railway abroad.

Figure 2.4: Proposed MTO process



Source: Mott MacDonald scoping study, 2021

2.4 Feedstock

Natural gas, hydrogen, carbon monoxide and carbon dioxide, and water are the main feedstock for the GCC. The gas will be supplied from an existing gas distribution station located in Gazli region via a new dedicated pipeline. The 95km underground pipeline will be constructed by the Project, of which 65km will be constructed within the corridor of the existing Trans-Asian gas pipeline. The gas pipeline route will pass through the southern area of the Kyzyl Kum Desert and cross Yangi-Mazar and Dzhanafar communities located near the GCC site. Refer to Appendix A for further information on the proposed pipeline routing. Hydrogen, carbon monoxide and carbon dioxide will be produced locally at the Project site.

The natural gas feedstock for the Project will be supplied by Uzbekneftegaz JSC. Uztransgaz JSC will become the operator of the pipeline once it has been constructed by the Project.

2.5 Water demand

Technical water for the GCC process needs will be supplied from the Amu-Bukhara pumping canal, which is fed by the water of the Amu-Darya River. The water intake facility will be located 23km south-east of the Project site, and water will be supplied via a new pipeline as set out in Figure 2.3.

The tentative demand of the Project for technical water is 1000 m^3/h or 24,000 m^3 daily, including:

- MeOH unit – 16 m^3/h or 384 m^3 per day (to be reused in other processes after treatment)
- MTO unit – 78 m^3/h or 1872 m^3 per day (to be reused in other processes after treatment)
- Feed (demineralized) water system – 86 m^3/h or 2064 m^3 per day
- Cooling (make-up) water system – 820 m^3/h or 19,680 m^3 per day

Drinking water for the facilities will be supplied from the municipal network of Karakul town, estimated at 672m^3/day. Fire water requirements are estimated at 26,000m^3/year. Water supply arrangements will be confirmed during the ESIA process.

2.6 Wastewater

During the operation, the GCC will produce wastewater of four different types: conditionally clean effluent from the cooling system; domestic wastewater; industrial process wastewater; and contaminated rainwater drainage from the territory.

The approximate volume of wastewater is 2400-3600 m^3/day.

Wastewater is currently proposed to be treated in a wastewater treatment plant and disposed into a drainage canal located 650m from the site. The canal ultimately discharges to Dengizkul Lake.

2.7 Solid waste

During operation of the GCC plant, waste generation will primarily relate to the use of various adsorbents and catalysts, which require to be recharged once used. Such wastes are generated mainly in the final stages of the production process. Operational wastes will also include product from the extruder during start-up, sampling, maintenance wastes or accidental leaks. At the auxiliary facilities, waste is generated during the replacement of filter material at the water treatment and steam production units, and at the mechanical wastewater treatment facilities.

Other Project wastes will include construction wastes, fuel oil, waste oil, pipeline scale, packaging waste, ferrous and non-ferrous metals, cleaning material, used lamps, and municipal waste.

2.8 Power supply and demand

Power supply will be provided from the Karakul power substation located 1km west of the Project site via overhead power lines. The estimated power demand is 100-110MW.

2.9 Emissions

Pollution emissions such as oxides of nitrogen and particulate matter are expected at all stages throughout the Project construction and operation. The sources of impact on air quality during the Project construction include materials handling operations, excavation, storage of inert materials, fuels and lubricants, electric welding equipment, paint works and diesel generators.

During the Project operation, permanent emission sources will be the heating furnaces, steam generation boilers, gas condensate storage tank, and the flare system.

2.10 Sanitary Protection Zone

According to SanPiN No.0246, the width of the sanitary protection zone (SPZ) for the GCC is 1,000m from the production area border. As part of the national ESIA process, the air pollution level in relation to the projected emissions has been preliminary estimated using the “UPRZA Ecolog” software (Russia). These calculations indicate that levels of emissions at the 1,000m SPZ boarder will meet national requirements on the air quality at the territory of populated areas.

2.11 Programme for Development

The programme of construction works for the Project is currently proposed to take a period of three years. The current schedule assumes construction commencement in 2022 and will be further defined during the ESIA process.

2.12 Construction and decommissioning

Project construction and decommissioning activities and methods will be described as part of the ESIA, including consideration of the pipeline routing and installation techniques, land clearance and excavation methods, material handling and storage, traffic and transportation requirements, waste and wastewater generation and disposal, workers accommodation arrangements, and commissioning arrangements, amongst others.

3 Legal and Policy Framework

3.1 Introduction

This section sets out the range of environmental and social topics to be addressed and reported in the ESIA, as required by relevant national and international legal and policy frameworks.

3.2 National Requirements

The ESIA is to be conducted in accordance with the applicable national legislation. Relevant policies, laws and institutional arrangements will be reviewed during the ESIA process to establish linkages to all phases of construction, operation and decommissioning, as follows:

Table 3.1: Relevant Regulations and Standards

Framework	Policy
Policy Framework	Constitution of Uzbekistan, 1992
Legal Framework	Law “On nature protection”, 1992
	Law “On water and water use”, 1993
	Law “On environmental expertise”, 2000
	Law “On Specially Protected Areas”, 2004
	Law “On protection and use of flora”, 1997
	Law “On protection and use of fauna”, 1997
	Law “On air safety”, 1996
	Law “On wastes”, 2002
	Law “On environmental control”, 2013
	Decree of the Cabinet of Ministers of the Republic of Uzbekistan of 22.11.2018 No.949 "On Approval of the "Regulation on State Environmental Expertise in the Republic of Uzbekistan"
	Decree of the Cabinet of Ministers of the Republic of Uzbekistan of 21.01.2014 No. DCM14 "On Approval of the "Regulation on the Procedure for development and approval of draft environmental standards”
	SanPiN RUz No.0179-04 Hygiene standards. List of Maximum Permissible Concentrations (MPCs) of Pollutants in the Air of Residential Areas in the Republic of Uzbekistan
	SanPiN RUz No.0267-09 Permissible noise level in the residential area, both inside and outside the buildings
	Land Code, 1998
	Civil Code of Uzbekistan, 1996
	Tax Code, 2007
	Law on Lease, 1991
	Decree of the RoU Cabinet of Ministers No.97 “On Compensation of Losses to Individuals and Legal Entities as a Result of Land Plots Expropriation for State and Public Needs”, 2006
	Decree of the RoU Cabinet of Ministers No.3857 “On Measures to Improve the Efficiency of the Preparation and Implementation of Projects Involving International Financial Institutions and Foreign Public Financial Organizations”, 2018
	Regulation on the Procedure for Compensation Payable to Citizens and Legal Entities in Connection with the Expropriation of Land for Public Purposes, approved by Decree of the Cabinet of Ministers of the Republic of Uzbekistan No.97, 2006
	Employment Act Law No.510-XII dated 13.01.1992
	Labour Code of the Republic of Uzbekistan (1995) – Article 7 clearly prohibits forced labour

Framework	Policy
	RoU Law No.210 of 16.04.2009 “On Compulsory Insurance of Third-Party Liability of Employers”
	RoU Law No.410 of 22.09.2016 “On Occupational Health and Safety”
	RoU Law No.174 of 10.09.2008 “On Compulsory Industrial Accident and Occupational Disease Insurance”
	RoU Law No.938-XII of 03.09.1993 “On Public Pension Provisions”
	Decree No.5723 dated 21.05.2019 “On Improving the Procedure for Determining the Size of Wages, Pensions and Other Payments”
	Decree No.5291 dated 28.12.2017 “On Additional Measures to Create Favourable Conditions for Certain Categories of Pensioners Engaged in Labour Activities”
	GoU Resolution No.4235 dated 07.03.2019 “On Measures to Further Strengthen Guarantees for Labour Rights and Support of Women's Entrepreneurship”
	Decree of the Ministry of Employment and Labour and the Ministry of Health of the Republic of Uzbekistan No.22-14-02019k/k No.48 of 22.07.2019 “On Approval of the List of Hazardous Occupations for Women not Recommended to be Used to Employ Women”
	GoU Resolution No.4008 dated 07.11.2018 “On Measures to Create Favourable Conditions for Labour Activity in the Republic of Uzbekistan for Qualified Foreign Specialists”
	GoU Resolution No.3839 dated 05.07.2018 “On Additional Measures to Improve the System of External Labour Migration in the Republic of Uzbekistan”
	GoU Resolution No.3439 dated 20.12.2017 “On Measures to Improve Cooperation with International and Foreign Financial Institutions”
	Family Code, 1998
	Law on Cultural Heritage, 2018
Institutional Framework	State Committee on Ecology and Environmental Protection
	Ministry of Water Resources
	Department for ecology and environmental protection of Bukhara region
	Regional Directorate of the Cultural Heritage Department of the Bukhara Region
	Centre for Sanitary and Epidemiological Surveillance of Bukhara Region
	State scientific and design institute for planning “Uzdaverloyiha”
	Bukhara Region Hokimiyat
	Karakul District Hokimiyat
	Alat District Hokimiyat
	Zhondor District Hokimiyat

3.3 Regional and International Standards and Guidelines

International legislation considered relevant for this ESIA is as follows:

Table 3.2: Relevant International Legislation

Topic	Legislation
International Safeguards and Best Practices	Universal Declaration of Human Rights (UDHR)
	International Covenant on Economic, Social and Cultural Rights (ICESR)
	International Covenant on Civil and Political Rights (ICCPR)
	Optional Protocol to the International Covenant on Civil and Political Rights
	Second Optional Protocol to the International Covenant on Civil and Political Rights (focussed on the abolition of the death penalty)
	OP-CEDAW Optional Protocol to the United Nations (UN) Convention on the Elimination of All Forms of Discrimination against Women (2000)
	CRC UN Convention on the Rights of the Child (1989)
	Convention on Indigenous and Tribal Peoples
	International Convention on the Elimination of All Forms of Racial Discrimination

Topic	Legislation
	Convention on the Rights of Persons with Disabilities
	International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families
ILO Conventions ratified by Uzbekistan	Forced Labour Convention, 1930 (No.29), ratified by Uzbekistan in 1992 and Protocol of 2014 to the Forced Labour Convention (1930), ratified by Uzbekistan in 2019
	Freedom of Association and Protection of the Right to Organise Convention, 1948 (No.87), ratified by Uzbekistan in 2016
	Right to Organise and Collective Bargaining Convention, 1949 (No.98), ratified by Uzbekistan in 1992
	Equal Remuneration Convention, 1951 (No.100), ratified by Uzbekistan in 1992
	Abolition of Forced Labour Convention, 1957 (No.105), ratified by Uzbekistan in 1997
	Discrimination (Employment and Occupation) Convention, 1958 (No.111), ratified by Uzbekistan in 1992
	Minimum Age Convention, 1973 (No.138), ratified by Uzbekistan in 2009
	Worst Forms of Child Labour Convention, 1999 (No.182), ratified by Uzbekistan in 2008
	Forty-Hour Week Convention, 1935 (No.47), ratified by Uzbekistan in 1992
	Holidays with Pay Convention, 1936 (No.52), ratified by Uzbekistan in 1992
	Maternity Protection Convention (revised 1952) (No.103), ratified by Uzbekistan in 1992
	Employment Policy Convention, 1964 (No.122), ratified by Uzbekistan in 1992
	Workers' Representatives Convention, 1971 (No.135), ratified by Uzbekistan in 1997
	Collective Bargaining Convention, 1981 (No.154), ratified by Uzbekistan in 1997
	Tripartite Consultation (International Labour Standards) Convention 1976 (No.144), ratified by Uzbekistan in 2019 (not yet in force).
Other international conventions ratified by Uzbekistan	UN Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (UNCCD) (Paris, 1994)
	UN Framework Convention on Climate Change (New York 1992)
	The Agreement on the Conservation of African-Eurasian Migratory Waterbirds (The Hague, 1995)
	Convention on Biological Diversity (Rio de Janeiro, 1992)
	Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 1979)
	Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington, 1973)
	Convention on Wetlands of International Importance Primarily for Waterfowl Habitat (Ramsar, 1971)
	Stockholm Convention on Persistent Organic Pollutants (Stockholm, 2001)
Applicable EU Regulations	SEA Directive 2001/42/EC
	EIA Directive 2014/52/EU
	Birds Directive 2009/147/EC
	Habitats Directive 92/43/EEC
	Water Framework Directive 2000/60/EC
	Groundwater Directive 2006/118/EC
	EU Waste Framework Directive (2006/12/EC)
	EU Directive 2008/98/EC on Waste and Repealing Certain Directives
	EU Directive Indicative Occupational Exposure Limit Values (2017/164/EU)
	EU Council Directive 82/501/EEC on the major-accident hazards of certain industrial activities.

Source: Mott MacDonald, 2021

3.4 International Lender Requirements and Standards

The Project will be developed in accordance with relevant international lender standards. The applicable lender standards and guidelines for the Project are:

- EBRD Environmental and Social Policy (ESP) and Performance Requirements (PR) (2019)
- IFC Performance Standards on Environmental and Social Sustainability (2012)

- IFC Environmental, Health, and Safety (EHS) Guidelines: General Guidelines (2007)
- IFC General Environmental, Health and Safety Guidelines
- IFC EHS Guidelines for Large Volume Petroleum-Based Organic Chemicals Manufacturing (2007)
- IFC EHS Guidelines for Petroleum-based Polymers Manufacturing (2007)
- IFC General EHS Guidelines: Construction and Decommissioning (2007)
- Performance Standards for Environmental and Social Sustainability of the Multilateral Investment Guarantee Agency (MIGA) (2013)

3.4.1 IFC/MIGA Performance Standards

The IFC/MIGA Performance Standards (PS) apply to many projects which are funded by international donors. There are eight PS and the applicability of each PS for the Project is shown in Table 3.3.

Table 3.3: Applicability of IFC/MIGA PS to the Project

Performance Standard	Scope and Triggers	Potentially Applicable to the Project?
PS1 – Assessment and Management of Environmental and Social Risks and Impacts	PS1 establishes the importance of: (i) integrated assessment to identify the environmental and social impacts, risks and opportunities of projects (ii) effective community engagement through disclosure of project-related information and consultation with local communities on matters that directly affect them; and (iii) the client's management of social and environmental performance throughout the life of the project.	Yes
PS2 – Labour and Working Conditions	PS2 recognises the need for economic development to be balanced with workers' rights. PS2 aims to: establish, maintain and improve the worker-management relationship; promote the equal opportunity of workers, and compliance with national labour and employment laws; protect the workforce by addressing child labour and forced labour; protect vulnerable workers; and, promote safe and healthy working conditions and the health of workers.	Yes
PS3 – Resource Efficiency and Pollution Prevention	PS3 recognises that economic activity and urbanisation often generate increased levels of pollution to air, water, and land, and consume finite resources in a manner that may threaten people and the environment at the local, regional, and global levels. PS3 aims to: avoid or minimise adverse impacts on human health and the environment by avoiding or minimising pollution from project activities; promote more sustainable use of resources including energy and water; and reduce project-related emissions that contribute to climate change.	Yes
PS4 – Community Health, Safety and Security	PS4 recognises that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. PS4 aims to: anticipate and avoid adverse impacts on the health and safety of the affected community during the project life cycle; and ensure that the safeguarding of personnel and property avoids or minimises risks to the community's safety and security.	Yes
PS5 – Land Acquisition and Involuntary Resettlement	PS5 recognises that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons who use this land. PS5 aims to: avoid or at least minimise involuntary resettlement wherever feasible by exploring alternative project designs; mitigate adverse social and economic impacts from land acquisition by (i) providing compensation for loss of assets and (ii) ensuring that resettlement activities are implemented with appropriate consultation and disclosure; and improve or at least restore the livelihoods, standards of living and living conditions of displaced persons.	Yes. Risk of economic displacement of farmers whose land might be allocated by the Government for the Project site, construction of pipelines (temporary) and their subsequent operation (permanent)
PS6 – Biodiversity Conservation and	PS6 encourages sustainable development while recognising that the protection and conservation of biodiversity and sustainably managing	Yes

Performance Standard	Scope and Triggers	Potentially Applicable to the Project?
Sustainable Management of Living Natural Resources	living natural resources are fundamental to sustainable development. PS6 aims to: protect and conserve biodiversity; maintain the benefits from ecosystem services; and promote the sustainable management and use of natural resources through practices that integrate conservation and development.	
PS7 – Indigenous Peoples	PS7 aims to: ensure that the development process fosters full respect for Indigenous Peoples; anticipate and avoid, minimise or compensate adverse impacts of projects on Indigenous Peoples and provide opportunities for development benefits; establish and maintain an ongoing relationship with affected Indigenous Peoples throughout the life of the project; ensure free, prior and informed consent of Indigenous Peoples; and respect and preserve their culture, knowledge and practices.	No. Indigenous communities have not been identified in the area around the Project.
PS8 – Cultural Heritage	PS8 recognises the importance of cultural heritage for current and future generations. PS8 aims to: protect cultural heritage from the adverse impacts of project activities; support its preservation; and promote equitable sharing of benefits from cultural heritage.	Yes

Source: Mott MacDonald scoping study, 2021

3.4.2 EBRD Performance Requirements

There are ten EBRD PRs and the applicability of each PR for the Project is shown in Table 3.4.

Table 3.4: Applicability of ERBD PRs to the Project

Performance Standard	Scope and Triggers	Potentially Applicable to the Project?
PR1 – Assessment and Management of Environmental and Social Impacts and Issues	This Performance Requirement establishes the importance of integrated assessment to identify the environmental and social impacts and issues associated with projects and the client's management of environmental and social performance throughout the life of the project.	Yes
PR2 – Labour and Working Conditions	This Performance Requirement recognises that for clients and their business activities, the workforce is a valuable asset, and that good human resources management and a sound worker-management relationship based on respect for workers' rights, including freedom of association and right to collective bargaining, are key ingredients to the sustainability of business activities. By treating workers fairly and providing them with safe and healthy working conditions, clients may create tangible benefits, such as enhanced efficiency and productivity of their operations.	Yes
PR3 – Resource Efficiency and Pollution Prevention and Control	This Performance Requirement recognises that increased economic activity and urbanisation can generate increased levels of pollution to air, water, and land, and consume finite resources in a manner that may threaten people and the environment at the local, regional, and global levels. Therefore, resource efficiency and pollution prevention and control are essential elements of environmental and social sustainability and projects must meet good international practice (GIP) in this regard.	Yes
PR4 – Health and Safety	This Performance Requirement recognises the importance of avoiding or mitigating adverse health and safety impacts and issues associated with project activities on workers, project-affected communities and consumers.	Yes
PR5 – Land Acquisition, Involuntary Resettlement and Economic Displacement	Involuntary resettlement refers both to physical displacement (relocation or loss of shelter) and economic displacement (loss of assets or resources, and/or loss of access to assets or resources that leads to loss of income sources or means of livelihood) as a result of project-related land acquisition and/or restrictions on land use.	Yes. Risk of economic displacement of farmers whose land might be allocated by the Government for the Project site, construction

Performance Standard	Scope and Triggers	Potentially Applicable to the Project?
		of pipelines (temporary) and their subsequent operation (permanent)
PR6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources	This Performance Requirement recognises that the conservation of biodiversity and sustainable management of living natural resources are fundamental to environmental and social sustainability.	Yes
PR7 – Indigenous Peoples	This Performance Requirement recognises that projects can create opportunities for Indigenous Peoples to participate in and benefit from project-related activities that may help them fulfil their aspiration for economic and social development. As government often plays a central role in the management of issues related to Indigenous Peoples, clients should cooperate and collaborate, as appropriate, with the responsible authorities and relevant communities in managing the risks and impacts of their activities.	No. Indigenous communities have not been identified in the area around the Project.
PR8 – Cultural Heritage	This Performance Requirement recognises the importance of cultural heritage for present and future generations. The aim is to protect cultural heritage and to guide clients in avoiding or mitigating adverse impacts on cultural heritage in the course of their business operations. The clients are expected to be precautionary in their approach to the management and sustainable use of cultural heritage.	Yes
PR9 – Financial Intermediaries	This Performance Requirement recognises that Financial Intermediaries (FIs) are a key instrument for promoting sustainable financial markets and provide a vehicle to channel funding to the micro, small and medium-sized enterprise (SME) sector. Such FIs include a variety of financial service providers, including private equity funds, banks, leasing companies, insurance companies and pension funds. FIs are engaged in a wide range of activities, such as microfinance, SME lending, trade finance, largescale infrastructure finance, medium to long-term corporate or project finance, and housing finance.	No – as this Project does not use financial intermediaries.
PR10 – Information Disclosure and Stakeholder Engagement	This Performance Requirement recognises the importance of an open and transparent engagement between the client, its workers, local communities directly affected by the project and, where appropriate, other stakeholders as an essential element of good international practice (GIP) and corporate citizenship. Such engagement is also a way of improving the environmental and social sustainability of projects. In particular, effective community engagement, appropriate to the nature and scale of the project, promotes sound and sustainable environmental and social performance, and can lead to improved financial, social and environmental outcomes, together with enhanced community benefits. Stakeholder engagement is central to building strong, constructive and responsive relationships which are essential for the successful management of a project's environmental and social impacts and issues. To be effective, stakeholder engagement should be initiated at an early stage of the project cycle.	Yes

Source: Mott MacDonald scoping study, 2021

4 Scoping: Baseline Conditions and Potential Environmental and Social Impacts

4.1 Introduction

To predict and assess the potential environmental and social impacts of the Project, it is important to understand how receptors and the natural and human environment of the area could be affected by the proposed Project. This chapter provides a summary of the environmental and social characteristics of the Project area, seeks to look at expected impacts and identifies whether further investigation is required as part of the main ESIA.

The proposed activities over the Project lifetime (construction, operation and decommissioning) have been reviewed at a high level against the current baseline information to identify potential impacts on people and the environment. Where there is potential for these impacts to result in significant effects, the topic is proposed to be scoped in the ESIA, as summarised in Table 4.4.

Where a topic is proposed to be scoped in, an initial methodology is presented to show the topic areas that would be assessed in the ESIA. The ESIA proposed terms of reference are shown in Chapter 6.

4.2 Hydrology and Water Quality

4.2.1 Baseline conditions

The GCC site does not host any water bodies or irrigation channels. Two drainage channels, one irrigation channel, and watered relief depressions are located in the vicinity of the Project.

Water for the GCC operations process will be supplied from Amu-Bukhara irrigation channel which is fed by the water of the Amu-Darya River. No representative information on the water quality of the Amu-Bukhara channel at the water intake is available, but it is known that it may be highly saline and polluted by seasonal surface runoff. There is also no available information on the quantity of water in the irrigation channel, or about downstream users who might be adversely affected by water use diverted to the Project.

A drainage channel located to the east of the GCC site has been suggested for use for treated wastewater discharge. This channel is connected to Dengizkul Lake, a Ramsar site (see also Section 4.5), by the Dengizkul discharge channel. Drainage channels in the region are usually highly saline and contaminated by domestic and/or industrial waste, and surface runoff from fields.

Additional tests of waters of the Amu-Bukhara irrigation channel and the Dengizkul discharge channel may be required to inform the ESIA assessment, including potential impacts on the Ramsar site biodiversity.

Pipeline routings are still to be fully confirmed. Based on current design, no water crossings will be required for the proposed wastewater and water supply pipelines. Potential water crossings will be identified for all pipeline infrastructure, including the gas pipeline during the ESIA assessment.

The water table in the Project area is high and can reach 1m depth or the topsoil horizon during the winter-spring season. No groundwater quality data is available for the Project site, although there are known to be significant salinity issues. Groundwater quality sampling of the Project site location will be conducted to inform the ESIA.

4.2.2 Potential construction impacts

Construction period impacts would mainly be related to potential pollution of drainage channels/watercourses and groundwater, from causes such as accidental oil spills and poor management of construction materials and waste products. Whilst pollution of surface water is likely to be a temporary risk, pollution impacts on groundwater could be permanent.

Flood risk for the GCC site is unlikely to be a significant consideration because the Project is distant from any watercourses that might threaten the site.

It is intended that consideration of water quality effects during the construction phase will be scoped in for future assessment as part of the ESIA.

4.2.3 Potential operations impacts

During the operation phase there could be impacts related to regular operations (eg if the GCC plant processes lead to discharge of contaminated water) and potential accidents (eg related to vehicle movements or emergency events).

The increase in hard surface area on the GCC site will lead to increased runoff and potential flood risk to locations downstream. However, given the site location and low rainfall this is not likely to be a significant issue and could be addressed by means of appropriate site drainage.

There could be impacts from water use if wastewater is not properly managed. In addition, use of the water could impact other users or potential users of water further downstream, some of which are located in Turkmenistan. Potential impacts within Turkmenistan and other users will be investigated pending the requirements for additional water abstraction from Amu Darya river.

It is intended that consideration of water use and water quality effects during the operation phase will be scoped in for future assessment as part of the ESIA.

4.2.4 Potential decommissioning impacts

Potential impacts during decommissioning would be broadly similar to those during construction, though related to the management and disposal of materials rather than their use in construction. Land restoration methods aligned with good international industry practice (GIIP) will be required as part of a detailed decommissioning plan to minimise potential impacts to water bodies.

4.3 Ground Conditions

4.3.1 Baseline conditions

Soils in the Project area of influence (AoI) are sandy, takyr and saline, and vegetation is sparse and xerophytic (typical of dry lands). Within the vicinity of the GCC and water pipeline area, there is evidence of wind-blown plastic wastes from the domestic waste landfill located 2km to the west. There is potential for soils along the natural gas pipeline route to be contaminated by fertilisers from fields in the sections lying across the inhabited areas of the Karakul oasis.

Survey data on the soil quality at the Project site is not available to date, but it is known from the national EIA that the soils have a high salinity, as confirmed during the scoping site visit. Soil quality surveys of the GCC site location to test for contaminants will be carried out as part of planned geotechnical surveys.

Available baseline information on geological setting and soil types within the Project area and along the proposed gas pipeline route will be gathered via desk-based study during the ESIA.

4.3.2 Potential construction impacts

Construction of the Project has the potential to impact on local soils and mineral deposits. Construction impacts may include physical impacts due to earth moving, for example, or from the contamination of soil by spills and leaks of fuel, chemicals and waste. Given the sandy nature of the soil there is also potential for soil erosion impacts during construction and excavation works. If historical soil contamination is identified, appropriate mitigation may be required to address potential health and safety impacts to the construction workforce.

On this basis, consideration of effects to ground conditions during the construction phase will be scoped in for future assessment as part of the ESIA.

4.3.3 Potential operations impacts

Potential impacts to soils during operations relate primarily to contamination of soil by spills or leaks of fuel, chemicals, waste or wastewater, including during potential emergency events. Risk areas include storage tanks, pipework, waste management and drainage systems. Containment risks can be mitigated through design of the Project infrastructure in line with international standards and appropriate mitigations will be set out in the ESIA.

On this basis, consideration of effects to ground conditions during the operations phase will be scoped in for future assessment as part of the ESIA.

4.3.4 Potential decommissioning impacts

Potential impacts to ground conditions and soils during decommissioning would be broadly similar to those during construction, and therefore will not be further assessed in the ESIA. Land restoration methods aligned with GIIP will be required and the ESIA will include mitigation suggesting a detailed decommissioning plan should be developed prior to decommissioning.

4.4 Climate change

4.4.1 Baseline conditions

The region is arid with a continental climate with the Kyzyl Kum desert occupying a large portion of the territory. Uzbekistan has an arid, continental climate characterized by cold winters, hot summers and limited precipitation across most of the country. The primary climatic features are aridness, abundance of heat and sunlight, and sharp day-night and winter-summer temperature variations. Summer in Uzbekistan is long, dry and hot, spring is humid, and winter is irregular. Rainfall is highly varied depending upon area of the country and seasonal variation patterns[2].

Current average weather conditions in the Bukhara Region are as follows[3]:

Temperature: The hottest months of the year are June, July and August, with the highest average temperatures in July around 34°C. The coldest temperatures are recorded in the winter months of December, January and February, with average low temperatures reaching -0.5°C in February, the coldest month.

Rainfall: January and February are the wettest months in the year, with an average of 10 days with precipitation. August is the driest month with less than one day of precipitation on average.

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[2] World Bank Climate Change Knowledge Portal – Uzbekistan – Historical climate https://climateknowledgeportal.worldbank.org/country/uzbekistan/climate-data-historical [accessed March 2021]

[3] http://www.meteo.uz/#/en/forecasts/climate-in-samarkand Nearest 1981-2000 baseline climate data to the Bukhara region [accessed March 2021]

It is not currently known whether there has been an increase in extreme weather events or how climate change is affecting the region. This will be considered as part of the ESIA when considering potential risks of climate change on the Project.

4.4.2 Potential construction impacts

The construction phase will take place over the short-term (due to complete in 2024). Therefore, the effects of climate change are not relevant to the construction phase, as they impact on a longer timescale.

The construction contractor should take precautions in case of extreme weather events (such as drought and heatwaves) which are already observed in the current climate.

On this basis, it is intended that consideration of climate change effects during the construction phase will be scoped out of future assessment as part of the ESIA.

4.4.3 Potential operations impacts

Climate projections for the region include the following[4]:

- Changes in rainfall regime with high variability of rainfall, with the overall annual precipitation declining
- Increased heat and precipitation variability will lead to increased evapotranspiration in summer months resulting in a decrease in river flowing conditions
- Increased glacier melting in Central Asia is expected to impact water availability and river flow across Uzbekistan
- Increases in both average monthly maximum temperature and extreme temperatures (hot days and hot nights)

Potential risks to the GCC and facilities include:

- Increased risk of drought and water scarcity, as well as an increase in extreme precipitation weather events. This will be assessed within the Hydrology and Water Quality topic above.
- Increased risk of subsidence due to increased drought in some months of the year
- Potentially accelerated deterioration of materials due to an increase in average and extreme temperatures (heatwaves)especially with regard to the 95km gas pipeline.

On this basis, it is intended that consideration of climate change effects during the operational phase will be scoped in for future assessment as part of the ESIA.

4.4.4 Potential decommissioning impacts

The decommissioning phase will take place over the short-term (similar to the construction phase). Therefore, the effects of climate change are not relevant to the decommissioning phase, as they impact on a longer timescale.

The decommissioning contractor should take precautions in case of extreme weather events (such as drought and heatwaves) which are likely to be more intense and frequent at this point in the future climate.

On this basis, it is intended that consideration of climate change effects during the decommissioning phase will be scoped out of future assessment as part of the ESIA.

[4] World Bank Climate Change Knowledge Portal - Uzbekistan https://climateknowledgeportal.worldbank.org/country/uzbekistan/climate-data-projections [accessed March 2021]

4.5 Biodiversity

4.5.1 Baseline conditions

The Project site is located on the non-irrigated lands of the Karakul oasis on the southern border of the Kyzyl Kum Desert. The Project natural gas pipeline will consist of the following two parts:

- 65km to be constructed within the corridor of an existing gas pipeline through the Kyzyl Kum Desert
- 35km to cross undisturbed sand desert in the vicinity of the Project site, together with modified habitat areas, including agricultural crop production.

Soils in the Project area, AoI and within the central part of Central Asia between Amudarya River and Syrdarya River are sandy, takyr and saline, and vegetation is sparse and xerophytic (typical of dry lands). This type of habitat is most common in the southern part of Kyzyl Kum Desert. The Project area is used by local communities for seasonal (spring) graze livestock (sheep and goats).

4.5.1.1 Legally protected and Internationally recognised areas

The information provided by the World Database of Key Biodiversity Areas website[5] shows that there are no internationally recognised areas within 15km of the GCC site or the gas pipeline. The closest nationally and internationally protected areas created to protect local and migratory birds are:

- National wildlife sanctuary “Dengizkul lake” designated as a Key Biodiversity Area[6] (KBA) and Important Bird Area[7] (IBA), and Ramsar Wetland of International Importance (Ramsar Site No.1108[8]) located approximately 35km to the south-west (Figure 2.3)
- National wildlife sanctuary “Kumsulton” located about 20km to the south-east from the Project gas pipeline. It is expected that “Kumsulton lake” (IUCN[9] Category IV) will not be directly affected by the Project because of the distance to the Project site is more than 20km and to the Project underground natural gas pipeline is about 20km.

Dengizkul Lake is located in the vicinity of the Turkmenistan boarder and surrounded by the Kyzyl Kum Desert sands. It is proposed that Project treated wastewater will be discharged to the Dengizkul drainage channel from where it will ultimately be discharged to the Dengizkul lake and Amudarya river. The Dengizkul ecosystems could be potentially affected in case of emergency untreated wastewater discharge or increased effluent from the Project.

Dengizkul Lake is the largest saline wastewater closed water body in the south-west part of the Kyzyl Kum desert, with typical ecological conditions of natural lakes situated in the deserts of Central Asia. As noted above, the lake is designated as a State Wildlife Sanctuary (IUCN Category IV), a KBA, IBA and Ramsar Wetland of International Importance.

The lake dried up by the mid-1950s due to overuse for irrigation, has been refilled since 1966 and is important for maintaining a biodiversity of wetland-dependent species in a largely arid region. It is of particular importance for migrating and wintering waterfowl due to its situation on bird migration routes from Western Siberia and Kazakhstan to Indo-Pakistani wintering grounds. Dengizkul Lake hosts thousands of migratory birds every year. Lake Dengizkul is also the habitat of many vulnerable and endangered species, and it supports more than 1% population of the endangered White-headed Duck (Oxyura leucocephala Scop.) and therefore is classified as critical habitat for that species. Commercial exploration and production of gas in the vicinity of Lake Dengizkul is the main human activity, enabling the provision of fuel to the

[5] http://www.keybiodiversityareas.org

[6] KBA Data (keybiodiversityareas.org)

[7] http://datazone.birdlife.org/site/factsheet/20675

[8] https://rsis.ramsar.org/ris/1108

[9] IUCN: International Union for Conservation of Nature

population and thus helping preserve trees and shrubs, which are important components of the desert ecosystem. However, excessive inflow of drainage water has significantly influenced the water level in the lake and floods have recently destroyed some habitats.

Figure 2.3: Designated areas location

Source: kosmosnimki.ru, 2020

The species of animals recorded at Dengizkul Lake are provided in Table B.1, Appendix B[10].

4.5.1.2 Habitats and flora

Dry sand desert habitats within the Project AoI are represented by early spring ephemeral and ephemeroid species, shrubs, and tree-shrub communities. According to the initial baseline information[11], most common species of plants in the AoI are ephemeral Carex physoides, shrub and subshrub species of the Haloxylon, Calligonum, Salsola, and Artemisia genus and other. Wetland and aquatic habitats are found inside of the drainage and irrigation canals and small depressions across the Project AoI. These habitats are represented

[10] Lake Dengizkul | Ramsar Sites Information Service

[11] MTO Gas Chemical Complex ESIA – Baseline Report, Ekostandart Ekspert, 2021

by intrazonal vegetation and species that are resistant to the moderate water salinity, such as Phragmites australis, species of the Typha genus, and aquatic Ceratophyllum and Potamogeton species.

The natural gas pipeline will be constructed through some existing fields which host introduced species within the moderately fertile oasis. Based on current design, the pipeline will cross drainage branches of the Dengizkul and Amu-Bukhara canals at least seven times and will not cross any protected areas.

Threatened plant species

There are 314 threatened plant species included into the Red Data Book of the Republic of Uzbekistan[12] (2019), all of which are protected at national level. Despite many botanical studies of the region in the past, there is currently no information on protected and threatened plant species recorded at the Project site or AoI. This aspect will be addressed during the ESIA process and field botanical survey.

4.5.1.3 Fauna

No detailed information on the fauna of the Project site and AoI is currently available in the public domain. The fauna of the Kyzyl Kum desert in the vicinity of the Project is represented by the following animal species[13, 14]:

- Mammals – ground squirrels *(Spermophilus),* gerbils (Gerbillinae) and jerboas (*Dipodidae*), wolf (*Canis lupus*), corsac fox (*Vulpes corsac*), tolai hare (*Lepus capensis*), sand (*Felis lybica*) and steppe (*Felis margarita*) cats, jackal (*Canis aureus*), eared hedgehog (*Hemiechinus auritus*), and gazelle antelope (*Gazella subgutturosa*)
- Birds – crested lark (Galerida cristata), desert warbler (Acrocephalus), great bustard (Otis tarda), saxaul jay (Podoces panderi), steppe eagle (quila nipalensis), owls
- Herpetofauna – efa (*Echis carinatus*), gyurza (*Echis carinatus*), sandy boa (*Eryx miliaris*), lizards, monitor lizard (*Varanus exanthematicus*), steppe turtle (*Testudo horsfieldii*).
- Fishes – asp (*Aspius aspius*), sabrefish (*Perca fluviatilis*), carp (*Cyprinus carpio*), catfish (*Silurus glanis*), bream (*Abramis brama*), crucian carp (*Carassius carassius*), silver carp (*Carassius gibelio*), pike perch (*Hypophthalmichthys*)

Threatened fauna species

Information on threatened species that can be potentially found at the Project site is not available. Comprehensive information on species recorded at the closest national reserve “Dengizkul Lake” with the potential to be recorded at the Project AoI is provided in Section 4.5.1.1.

The latest edition of the Red Data Book of Uzbekistan[15] (2019) includes 202 threatened fauna species in Uzbekistan: 83 species of invertebrate animals; fishes – 17 species; reptiles – 20 species; birds – 52 species; and mammals – 30 species. Fauna species included in the IUCN Red List / CITES are: 73 / 88 total species: Invertebrates – 4 / 1 species; fishes – 11 / 4 species; reptiles – 3 / 5 species; birds – 31 / 58 species; and mammals - 24 / 20 species[f1].

4.5.2 Potential construction impacts

During the Project construction, the potential impacts will include:

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12 https://www.researchgate.net/profile/Natalya_Beshko/publication/334913462_Red_Book_Uzbekistan/links/5d450650a6fdcc370a76c16b/Red-Book-Uzbekistan

13 Across protected areas of the USSR. Vol. 3. Publisher “Isobrasitelnoe Iskusstvo”. Moscow, 1977

14 MTO Gas Chemical Complex ESIA - Baseline Report, Ekostandart Ekspert, 2021

15 Red Data Book of Uzbekistan. Academy of Sciences of the Republic of Uzbekistan, Beshko N.Yu. (Institute of Botany), Gritsina M. (Institute of Zoology), 2019

- Loss and damage of plant and animal species of conservation importance (threatened, restricted-range/endemic, migratory/congregatory)
- Loss and fragmentation of habitats hosting these species during the Project site clearance and levelling, and excavation works during pipelines laying
- Temporary or permanent habitat loss during construction of wastewater discharge and water intake facilities at the drainage and water channels and during pipeline laying
- Noise and light nuisance from construction activities affecting birds, mammals and reptiles
- Dust deposition around working areas affecting adjacent habitats
- Increased risk of local pollution events due to use of construction vehicles affecting adjacent habitats
- Local changes in air quality resulting from construction activities and increased vehicle movements
- Accidental introduction and dispersal of invasive species from construction activities

Due to the high sensitivity of threatened species of plants and animals which can be potentially recorded in the Project AoI, and greenfield status of the Project, botanical and zoological surveys and assessment of potential biodiversity effects will be scoped in as part of the ESIA.

4.5.3 Potential operations impacts

The Project proposes to discharge treated wastewater into a drainage canal located 650m to the south-east of the Project site. This canal subsequently discharges into Dengizkul Lake the internationally designated area which is located 35km from the Project site. Associated operational impacts include potential hazards arising from emergency events or accidental discharge of the untreated wastewater. On this basis the risks of associated impacts to or loss of sensitive habitat and/or threatened species is scoped in for future assessment as part of the ESIA. This risk also related to the wet depression located near of the planned wastewater treatment plant inhabited by different bird species.

Gridline, stacks and furnaces will cause the risk of collision and noise disturbance for birds inhabited the wet depression located near of the planned wastewater treatment plant in the vicinity of the Project site. This risk should be assessed within the ESIA scope.

The AoI has the potential to contain nationally and internationally threatened plant and animal species. In particular, internationally threatened bird species can use the temporary water bodies located approximately 500m to the south of the Project site and water channels as an area alternative to the Dengizkul Lake. Adverse impacts on these habitats and species could arise from potential accidental events such as spillage or loss of containment of chemicals or fuel from site or vehicles. In addition, habitat impacts could occur due to poor habitat reinstatement or during pipeline maintenance if appropriate mitigation is not adopted. Consideration of these potential impacts and associated mitigations will be included in the ESIA.

Ecosystem services in the AoI may be affected due to pastureland loss; however, considering that the Project site will occupy a small area (250ha) of pastures within the Project AoI, this aspect is scoped out. The Dengizkul lake is a key ornithological area and hosts thousands of birds during the migration period and could potentially be interesting for recreational tourism. However, this aspect is also scoped out from the ESIA because these services are not popular and Dengizkul lake is located within the state border area with restricted access.

4.5.4 Potential decommissioning impacts

Potential decommissioning impacts will be similar to the construction phase and include the direct impacts of heavy vehicles on undisturbed habitats along roads, emissions of dust and noise during demolition works, generation of wastes, and impacts of potential chemical and fuel leakage and spillage during dismantling of pipelines, tanks and vessels.

Positive impacts will be expressed in the reclamation of soil layer and rehabilitation of habitats after removal of all equipment and compensation measures provided by the Project Owner.

4.6 Air Quality

4.6.1 Baseline conditions

No existing baseline data representative of the Project area exists. The closest air quality monitoring station is located in Bukhara city at a distance of more than 40km from the GCC site. This monitoring station is operated by the Hydrometeorological Service at the Ministry of Emergency Situations of the Republic of Uzbekistan (Uzhydromet).

Monitoring data for 2019 is available for the daily average concentrations of the following pollutants relevant to the Project:

- Dust – 0.2 mg/m^3 (MPC[16] $_{\text{daily average}}$ = 0.15 mg/m^3)
- Nitrogen dioxide (NO_2) – 0.03 mg/m^3 (MPC $_{\text{daily average}}$ = 0.04 mg/m^3)

Given the natural conditions at the Project location, it would be expected that dust concentrations would be high and potentially above the national air quality standards. However, the Project would only be expected to generate dust during construction and this will managed through mitigation as described in section 4.6.2 Therefore, no additional dust monitoring is proposed.

Concentrations of NO_2 at the GCC site and the surrounding area are likely to be lower than those monitored within Bukhara as the GCC site is located away from major emission sources and the closest town is smaller than Bukhara itself. As described in section 4.6.3, emissions of oxides of nitrogen (NOx) will be the main operational emissions and therefore additional air quality monitoring for NO_2 will be undertaken using passive diffusion tubes to determine long term pollutant concentrations.

4.6.2 Potential construction impacts

Construction effects will be localised and temporary and are likely to include emissions associated with construction site plant and equipment[17] and dust arising from construction activities and vehicle movements.

Construction activities associated with GCC and natural gas pipeline are expected to result in temporary dust and combustion emissions arising due to:

- Site clearance and enabling works
- Excavation and foundation works
- Services and drainage work
- Building construction
- Associated construction traffic

The GCC has minimal sensitive receptors located within 500m and therefore impacts from dust are unlikely to be a significant risk. Nevertheless, the ESIA will confirm this and suggest good practice dust mitigation in accordance with international best practice to minimize construction dust emissions. Given the Project location and the sandy nature of the soil, special consideration will be given to dust raising activities during construction and the health and safety of the construction workforce especially if there is a risk of historical contamination.

[16] MPC = Maximum Permissible Concentration

[17] These often use diesel which leads to the emission of particulate matter (PM_{10}) and nitrogen oxides (NOx)

Along the route of the gas pipeline there is the potential for sensitive receptors to be located within 500m of the construction activities. Whilst impacts from dust are unlikely to be significant due to the temporary and linear construction route the ESIA will assess this and suggest appropriate mitigation.

Emissions from construction plant and construction traffic will be considered qualitatively within the ESIA and where appropriate mitigation in accordance with international good practice will be included.

On this basis, it is intended that consideration of air quality effects during the construction phase will be scoped in for future assessment as part of the ESIA.

4.6.3 Potential operations impacts

During the operational phase the GCC will emit emissions from combustion processes, primarily associated with the production of methanol from natural gas using thermal cracking and any additional steam or heat requirements to produce the various olefins being manufactured. In addition, there will be a flare system associated with the Project.

The primary emission of concern from the combustion process with regard air quality will be NOx and these will be assessed quantitively using an internationally approved dispersion model to calculate future pollutant concentrations at nearby sensitive receptors and will be compared against both national and international ambient air quality standards. The proposed emission sources will be, where possible, designed to minimise emissions and their emissions will be compared to appropriate national and international emission limits. Considering that natural gas will be used to generate the heat and steam required for the GCC there will be negligible emissions of other pollutants such as particulate matter and therefore these will not be assessed quantitively.

The Project has the potential to emit fugitive releases of Volatile Organic Compounds (VOCs) from pipes and other associated infrastructure. The ESIA will provide best practice mitigation in accordance with international requirements to minimise fugitive releases and to set out the appropriate management requirements.

The ESIA will include further detailed assessment of air quality impacts from the operation of the Project.

4.6.4 Potential decommissioning impacts

At this stage there are no plans or procedures for likely decommissioning given the operational life of the Project. Decommissioning impacts would be similar to those associated with construction and therefore will not be assessed within the ESIA. Mitigation suggesting that a full and detailed decommissioning plan should be developed prior to decommissioning will be included.

4.7 Greenhouse Gases (GHG)

4.7.1 Baseline conditions

The Project aims to support Uzbekistan as an energy leader within the region. According to the Intergovernmental Panel on Climate Change (IPCC), 2014, the energy sector was estimated to account for approximately 35% of total CO_2 equivalent (CO_{2e}) emissions globally, based on 2010 data[18]. Within Uzbekistan's latest national inventory of GHG emissions to the UNFCCC[19], 83% of the disclosed annual emissions of 202 $MtCO_2e$ originated from the energy sector (according to 2012 data[20]). The energy sector as a whole is a priority sector in terms of GHG emissions reduction for Uzbekistan. The Strategy for the

[18] US EPA (no date) Global Greenhouse Gas Emissions Data. Available at: Global Greenhouse Gas Emissions Data | Greenhouse Gas (GHG) Emissions | US EPA. Accessed March 2021.

[19] United Nations Framework Convention on Climate Change

[20] United Nations Climate Change (no date). GHG Profiles – Non-Annex I. Available at: Greenhouse Gas Inventory Data - GHG Profiles - Non-Annex I (unfccc.int). Accessed March 2021.

Transition of the Republic of Uzbekistan to the Green Economy for the Period 2019-2030 was approved in 2019, setting out various key goals to improve the efficiency of the energy sector and reduce GHG emissions, including through the reduction of natural gas losses and introduction of alternative energy sources[21].

Within the latest national GHG inventory of Uzbekistan, 41% of total energy sector emissions were from fugitive emissions from fuels. In the context of the Project, fugitive emissions are likely to arise from various operational activities, some examples being gas leakage from the natural gas pipeline and possible gas flaring activities. In addition, 5% of total energy sector emissions in Uzbekistan were emitted as a result of manufacturing industries and construction, noting that the Project aims to manufacture gas-chemical products for use across many sectors.

The Project is also expected to contribute to growth of the industrial sector, as a result of the products from the MTO process (olefins). When considering this Project from an industry perspective, the industrial processes sector is responsible for 4% of total emissions within the latest GHG inventory of Uzbekistan (46% of which derived from the chemical industry). The industrial sector of Uzbekistan therefore has a smaller contribution towards national GHG emissions at a national level compared to industrial emissions at a global level (21% of global GHG emissions were from industry within 2010).

Results of the future assessment as part of the ESIA will be contextualised alongside Uzbekistan's national GHG emissions inventory and emissions reduction targets (where available).

4.7.2 Potential construction impacts

GHG emissions associated with the Project are likely to arise from the construction of the various facilities and infrastructure required (such as the pipeline, MTO production plant and other processing facilities, and all associated administrative and utility buildings). The following sources of emissions will emerge during the construction phase:

- Manufacture and supply of raw materials
- Transport of materials to site
- Construction installation processes, including excavation and land preparation where applicable
- Fuel/ energy consumption from worker accommodation or buildings
- Transport and disposal of waste arisings

On this basis, it is intended that consideration of GHG effects during the construction phase will be scoped in for future assessment as part of the ESIA.

4.7.3 Potential operations impacts

The operation of the proposed scheme is likely to lead to associated GHG emissions from the following emissions sources:

- Energy consumption from electricity, gas, heat, steam, and cooling where applicable
- On-site combustion of fuel (eg from boilers)
- Chemical processes
- Fleet requirements and solid wastes (eg ferrous and non-ferrous metals) as a result of maintenance activities
- Fugitive emissions
- Water supply and wastewater treatment

[21] IEA (2020) Uzbekistan energy profile. Available at: Uzbekistan energy profile – Analysis - IEA. Accessed March 2021.

On this basis, it is intended that consideration of GHG effects during the operational phase will be scoped in for future assessment as part of the ESIA.

4.7.4 Potential decommissioning impacts

The end of life and decommissioning stages of the proposed scheme are likely to lead to associated GHG emissions. Emissions from decommissioning stages will be scoped out for future assessment as part of this ESIA, due to high uncertainties surrounding available technologies and processes at the end of the Project life.

4.8 Noise and Vibration

4.8.1 Baseline conditions

The closest sensitive receptors to the proposed GCC are residences at a minimum of 550m from the north-west part of the perimeter. It is proposed that some baseline noise measurements will be made in this area to inform the ESIA. The noise climate in this area is expected to be mainly affected by road traffic on the M37 road and the railway. There are some large industrial premises to the south of the residential area which may generate noise from machinery and vehicles on site.

The proposed pipeline route lies within a minimum of 400m from residences at Dzhanafar and is generally remote from existing sources of man-made sound.

4.8.2 Potential construction impacts

The location of the proposed facilities and spatial extent of the pipeline works is within 400 to 550m of sensitive receptors of nearby communities and isolated dwellings. Therefore, temporary noise and vibration impacts arising during the construction phase have the potential to result in disturbance and/or annoyance. It is assumed that the majority of construction activity will be limited to normal daytime working hours. The limits on the times of day for undertaking noise-emitting activity is expected to the main method to control impacts due to noise and vibration. Measures for specific types of construction activity or the use of specific construction plant may also be required to reduce predicted impacts to acceptable levels. This can be indicated by an assessment of predicted impacts. On this basis, it is intended that consideration of noise and vibration effects during the construction phase will be scoped in for future assessment as part of the ESIA.

4.8.3 Potential operations impacts

Noise due to the operation of fixed plant to be installed at the proposed facilities has the potential to cause disturbance and annoyance within nearby communities and isolated dwellings. Furthermore, as the operation of some fixed plant items will be continuous then there is a potential risk of sleep disturbance. Therefore, the appropriate specification of mitigation is required from an early stage so that it is embedded in the Project design. On this basis it is intended that consideration of noise and vibration effects during the operation phase will be scoped in for future assessment as part of the ESIA.

4.8.4 Potential decommissioning impacts

The activities associated with the decommissioning phase will be similar to those associated with the construction phase. Provided that appropriate mitigation is used, the noise and vibration impacts of the decommissioning phase should be, as a worst-case scenario, similar to those at construction phase. Any works required to remove infrastructure as part of the decommissioning phase, will however be subject to relevant consent applications, associated environmental assessments and decommissioning plan. No further assessment of the decommissioning phase noise and vibration impacts will therefore be undertaken.

4.9 Materials and Waste Management

4.9.1 Baseline conditions

The baseline conditions will be centred on the demand for key construction materials and the national and local generation of waste. The baseline will also outline the capacity/availability of waste management infrastructure within the vicinity of the Project. It will be established to ensure the most up to date information is reported. This information will be determined through a desk-based study, using a range of readily available resources.

4.9.1.1 Materials resources

The Project design has not been completed yet and it is currently unknown what kind of materials and expected volumes will be required for the construction phase. At the same time, based on the information about analogue projects, it can be assumed that the main technological equipment will be produced by the technology supplier outside the Uzbekistan. Such materials as crushed stone and concrete for foundations, asphalt and bitumen, bricks, pipes and metal structures, plastic panels, glass, rock wool most likely will be produced and purchased locally.

A shortage of construction materials in the local market is not expected, since the high rates of construction activities keep the local production of these materials at the high level. During 2020 Uzbekistan produced 12.54 million tons of cement (an increase of 14% by 2019), while Kyzylkumcement, located 150 km from the Project site, produced 3.69 million tons of cement and 2.91 million tons of cement clinker. Ferrous metallurgy in Uzbekistan produces about 666k tons of steel and high value-added products (pipes, metal structures, metal profiles) annually. The largest producers are Uzmetkombinat and Tashkent Metallurgical Plant. In 2020 about 974 metallurgical enterprises were operating in Uzbekistan, producing high value-added products from local rolled steel. Governmental stimulation measures in cement production, taken in recent years, gave impulse to the development of the industry and an increase in production to 9 million tons per year, as well as minimized the import of cement from abroad. Also, the production of stone wool, glass, bitumen and asphalt is developed within Uzbekistan.

4.9.1.2 Waste generation

Uzbekistan currently operates 333 waste landfills. These include inter alia 235 municipal solid waste (MSW) landfills, 14 landfills for hazardous wastes, 20 landfills for industrial and construction waste and 5 landfills for radioactive and nonradioactive waste and 23 waste neutralization sites.

Most of MSW landfills are dump sites missing a protective layer, that prevents pollution of groundwater and a drainage system, while their locations were selected without appropriate assessment of environmental and public health impacts. The recycling is limited in Uzbekistan (9% in 2018). Most of the MSW landfills operate under control of the State Committee of the Republic of Uzbekistan on Ecology and Environmental Protection and the Republican Association of Specialized Enterprises for Sanitary Cleaning. Hazardous waste neutralisation and recycling facilities are operated by private companies.

By the information provided by the local authorities during the scoping site visit one of the regional MSW landfills located in 2km to the west from the Project site is currently closed. At the same time, results of the scoping site visit indicate that this landfill still accept wastes. Visual observation indicates that this landfill impacts the surrounding area. Light wastes such as plastic bags, paper and PET bottles are dispersed by wind up to a 1km distance as a result of inappropriate management of wastes on the site.

Detailed information on available regional and national waste disposal and management infrastructure will be gathered during the ESIA phase.

4.9.2 Potential construction impacts

4.9.2.1 Material resources

The construction phase is likely to require large quantities of material resources and therefore, has the potential for permanent, direct adverse effects on the environment through a reduction in the availability of material resources and potentially the depletion of natural resources. The use of material resources would also have the potential to generate adverse environmental effects through the transportation of materials (for use on-site), such as detrimental impacts to air quality and increase in local noise levels, however, the effects of these are more logically dealt with within other Chapters including Air Quality and Noise and Vibration.

As part of the ESIA the materials required will be identified in more detail and the potential for supplying these resources from primary or secondary sources (i.e. recycling or re-use) will be set out. Primary resources will be mapped against local, regional or national availability. Any particularly scarce resources will be identified, and the design team will be challenged as to whether these resources can be substituted by more sustainable material.

Types of materials likely to be required for the proposed development include steel constructions and pipes, aggregate, cement, glass, concrete and concrete panels, bitumen and asphalt, rock wool, wood and plastic panels.

The construction phase could generate resources during the initial excavations and levelling works for the site. A cut/fill balance calculation will be carried out for the Project and opportunities for re-use will be identified during the ESIA and design process. A key objective of the Project is to minimise the need to import or dispose of materials for construction.

4.9.2.2 Waste generation

The construction phase has the potential to generate large quantities of wastes and therefore, has the potential for permanent, direct adverse effects on the environment through the utilisation and depletion of the remaining local landfill capacity, and the temporary occupation of available waste management infrastructure. The generation of waste also has the potential to create adverse environmental effects through the transportation of waste (for disposal off-site), such as detrimental impacts to air quality and increase in local noise levels, however, as with material resources, the effects of these are more logically dealt with within other Chapters including Air Quality and Noise and Vibration.

As part of the ESIA the volumes of wastes generated during construction will be identified in more detail. Availability and suitability of waste management infrastructure will be identified against local, regional or national capacities.

During the construction phase typical waste generation will include the following:

- Excavated materials (soils, sand, clay) – requiring appropriate consideration in respect of storage, management and use
- Green waste (from vegetation removal or management)
- Waste packaging and out-of-spec, damaged or defective materials and components, including scrap metal wood and plastic
- Surplus construction materials (e.g. concrete, aggregates, asphalt)
- General solid and liquid waste from the site workforce
- Hazardous waste – oils, paints, oil contaminated materials and some waste electrical and electronic equipment

- Commercial waste from the day-to-day activities at the canteen, offices, administration building, including domestic/municipal type wastes such as food waste, paper/card, plastic bottles, and welfare and sanitary wastes
- Maintenance activities including re-fits and refurbishment works
- Litter and other debris.

The generation and management of waste arising from the construction phase has the potential for impacts on the environment, for example through the use of temporary occupation of waste management facility space (for the treatment of waste) and the permanent reduction of landfill capacity (from the disposal of waste).

Potential sources of contamination may lead to the production of hazardous waste. These include hazardous organic and/or inorganic contaminants (including metals, cyanides, nitrates, halogenated compounds, PCBs, fuel/oil, metals, pesticides, fertilisers, hydrocarbons and sewage treatment chemicals).

Key potential impacts of waste generation include contamination of receiving natural environments (eg water, land and air) due to leakage and spillage and other inappropriate management of wastes, fugitive emissions associated with waste/materials handling and storage, the use of landfills (a finite resource) and associated transportation impacts, plus potential visual amenity impacts due to poor waste storage. The assessment of effects on material resources and waste generation includes effects arising during:

- The construction of the Project up until the point when the Project is operational; and
- The operation of the Project in relation to maintenance for the Project's lifetime.

Significant environmental effects are more likely to arise from those materials or waste which:

- are associated with the largest quantities
- are primary/virgin materials
- have hazardous properties.

Impacts related with materials use and associated supply chain risks also require consideration. The ESIA will provide best practice mitigation in accordance with international requirements and the waste hierarchy to minimise and control waste and to set out the appropriate management requirements.

Due to the scale and nature of the Project as well as the unknown quantities and types of material resources required and waste types and volumes likely to be generated, consideration of materials and waste management during the construction phase will be scoped in for future assessment as part of the ESIA.

4.9.3 Potential operations impacts

4.9.3.1 Material resources

Once operational, materials would be required for the regular maintenance of the Project, as well as the general day-to-day operation of the facility. This would likely include localised repairs and refurbishment of plant and equipment as well as replacement of consumables.

Expected quantities of catalysts required for production process is expected in the following volumes:

- Zeolite – 144 tons annually
- Ceramic balls – 25 tons annually
- Waste catalysts – 252 tons annually.

Material resources are scoped out from further assessment as no significant material resources consumption is predicted at operation.

4.9.3.2 Waste generation

During the operation of the GCC, waste generation will primarily relate to the use of various adsorbents and catalysts, resulting in hazardous wastes such as spent zeolite, catalysts, ceramic balls and polymer waste.

The following volume of main wastes will be generated per year:

- Spent zeolite – 144 tons
- Ceramic balls – 25 tons
- Waste catalysts – 252 tons
- Polymer waste – 1600 tons
- Active sludge – 10,030 tons.

It is expected that production hazardous wastes will be transferred to the licensed landfill for neutralization and disposal at the landfill. Active sludge will be dried and inactivated during the 3-year period and can be sold as an organic fertilizer or disposed at the domestic waste landfill as a non-hazardous waste.

Operational waste for the gas pipeline will include waste generated during maintenance and pigging activities, including scales and oily wastes. Domestic wastes will also be generated.

As for the construction phase, impacts from operational waste can result from poor waste management and storage practices on site and during transportation and disposal. Materials use for the GCC process also increases potential for hazardous waste generation and particular attention is required in relation to the management of the wastes from the polymer production process. Best practice mitigation and management measures in accordance with international requirements, including the IFC EHS Guidelines for Petroleum-based Polymers Manufacturing (2007), IFC EHS Guidelines for Large Volume Petroleum-Based Organic Chemicals Manufacturing (2007) and the waste hierarchy will be set out in the ESIA. This will include consideration of design options to minimise waste generation. Potential supply chain risks associated with materials supply, and the availability of waste reuse/recycling and disposal facilities, in particular for hazardous wastes will also require assessment.

Due to the scale and nature of the Project as well as the unknown quantities of material resources and wastes likely to be generated, consideration of materials and waste management during the operational phase will be scoped in for future assessment as part of the ESIA.

4.9.4 Potential decommissioning impacts

4.9.4.1 Material resources

It is unlikely that significant material resources will be required for the decommissioning phase of the Project as decommissioning is likely to generate materials for any potential/future developments in the site or removal of the facility will generate waste streams requiring appropriate management, see below.

4.9.4.2 Waste generation

At this stage there are no plans or procedures for likely decommissioning given the operational life of the Project. Decommissioning of facilities at end of life usually includes removal of permanent facilities, including associated equipment, materials, and waste reuse, recycling or disposal. Opportunities for continued use of Project infrastructure may also be considered in the Project decommissioning plan. It is, however, important to consider deconstruction and flexibility, such as ensuring that there is potential for the site to be future-proofed, and any components can easily be reused or recycled. Consideration of this is most appropriately factored in during the design phase to ensure that there is potential for the site's continued reuse.

During removal of facilities, impacts will be similar to those experienced during the construction phase; in addition, wastes generated during cleaning of the plant and equipment prior to removal will also require

consideration. Prior to decommissioning, a decommissioning waste management plan will be required to be developed by the Project to identify options for the cleaning, removal and safe disposal of the various Project components in line with international standards and guidance, including the GCC, pipelines and related facilities.

The decommissioning phase of the Project will likely be subject to a separate ESIA prior to any decommissioning activities commencing.

The assessment will not consider the types and quantities of material resources required and wastes likely to be generated for the decommissioning of the Project at the end of its lifetime. Arrangements for the decommissioning process would be refined periodically, and a Decommissioning Waste Management Plan developed in line with regulatory requirements, prior to commencement of decommissioning, will provide detailed information on decommissioning waste and materials types and quantities and how this would be managed. On this basis, materials and waste management during the decommissioning phase will be scoped out for future assessment as part of the ESIA.

4.10 Landscape

4.10.1 Baseline conditions

The proposed Project is being developed in the Karakul district of the Bukhara region of Uzbekistan. The Project is set in a flat, arid landscape with predominately low-lying desert vegetation. Based on current information, it is understood that no protected landscapes are within the vicinity of the Project site.

The natural gas pipeline route will run 500m from the cultural heritage object “Paykent” but due to the surrounding relief features it will not be visible from the “Paykent” observation points.

The closest sensitive receptors to the proposed GCC site are located at a minimum of 550m from the north-west boundary of the site. The intercity road and inter-regional railway run approximately 150m and 520m to the north-west of the site boundary. Pipelines are proposed to be underground and a 1km overhead power line will be constructed to provide power to the GCC.

4.10.2 Potential construction impacts

Visual amenity impacts due to presence of construction works and equipment will occur during the construction phase of the Project; however, these will be temporary and short-term in nature. The ESIA will provide best practice mitigation in accordance with international requirements for construction activities, including those related to storage and handling of equipment, materials and wastes. On this basis, the potential for landscape and visual impacts from construction activities is insignificant and therefore will not be further assessed within the ESIA.

4.10.3 Potential operations impacts

The operational plant, buildings and facilities to be located within the GCC constitutes the main permanent Project infrastructure, along with 1km overhead power line which will be constructed adjacent to existing power lines. Pipelines will be buried, and associated pipeline infrastructure will generally be low lying with negligible associated visual impacts predicted.

The Project site located at the hills and lowland terrain and after levelling will be shielded from most receptors by the surrounding relief and buildings located between the motorway and railway. Two 51m furnace stacks, and a 111m flare stack should be visible from the motorway and residential houses located along the motorway.

On this basis and considering the Project setting adjacent to an urban setting, the potential for landscape and visual impacts from the presence of the Project is not considered to be significant; however, this understanding will be confirmed in the ESIA.

4.10.4 Potential decommissioning impacts

When the Project facilities are to be decommissioned, temporary visual impacts and mitigations will be similar to those experienced during the construction phase, and removal of facilities may be required. Mitigation will be included in the ESIA suggesting that a detailed decommissioning plan should be developed prior to decommissioning, including requirements for best practice methods for land reinstatement and restoration. On this basis, no further assessment of decommissioning landscape impacts will be conducted as part of the ESIA.

4.11 Social

4.11.1 Overview

Country and Regional Overview

Uzbekistan is Central Asia's most populous country. Having an area of 447,000 km^2 (and a population density of 79 per km^2, Uzbekistan is the only Central Asian state to border all the other four Central Asian countries, and one of the world's only two doubly landlocked countries, meaning that it is surrounded by landlocked countries. It shares a short border with Afghanistan to the south and with Turkmenistan to the south-west. It is the 56th largest country in the world by area and the 42nd by population. Most of the country's population is concentrated in urban areas.

Bukhara region borders Turkmenistan, Navoiy and Kashkadarya region, a small part of the Khorezm region, and the Karakalpakstan Republic. The Kyzyl Kum desert takes up a large portion of its territory, covering an area of 39,400 km^2. Bukhara region has significant natural resources, especially natural gas, petroleum, graphite, bentonite, marble, sulphur, limestone, and raw materials for construction. The most developed industrial activities are oil refining, cotton ginning, textiles, and other light industry. Traditional crafts such as gold embroidery, ceramics, and engraving have been revived. Bukhara Region is also a karakul sheep breeding centre for the manufacture of karakul pelts in Uzbekistan.

Having a territory of 40,322,860 km^2 Bukhara region is divided into 11 administrative districts. The city of Bukhara is the region's capital with the population of 280,187 at the start of 2020. The old city of Bukhara is a UNESCO World Heritage Site, famous as a "living museum" and a centre for international tourism. There are numerous historical and architectural monuments in and around the city and adjacent districts. Other major towns include Alat, Karakul and Gazli.

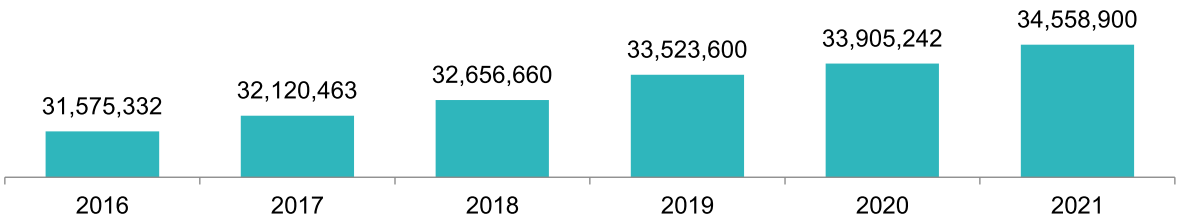
The Project site is within the administrative boundaries of the Karakul district in the immediate proximity of the Alat and Zhondor districts.

Demographics

The current population of Uzbekistan is 34,558,900 as of January 2021 or equivalent to 0.43% of the total world population. Since 2016 the country population has increased by over 9%. This trend is mainly due to natural population growth as net migration has remained negative over the past 20 years. 50.1 % of the population is urban. The average family in Uzbekistan consists of five people. The median age in Uzbekistan is 27.8 years.[22]

[22] Sourced from the State Committee of the Republic of Uzbekistan on Statistics

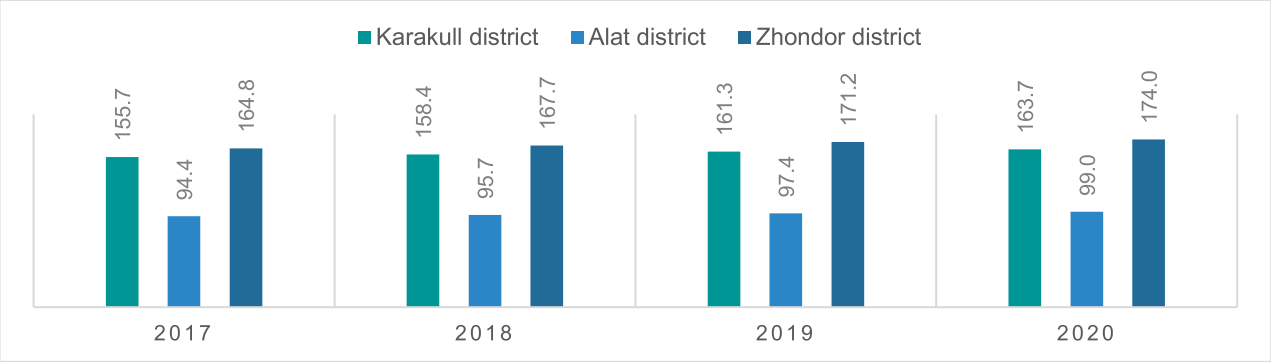
Chart 4.1: Resident population of Uzbekistan at the year start, people



Source: https://stat.uz/en/open-data

The population of Bukhara region is estimated at 1,923,934 (start of 2020 data), with 63% living in rural areas. The majority of population in the Project districts are rural as the regions are historically engaged in farming and livestock production. Karakul district population is growing and totalled at 163,700 people in 2020. The current population in Alat and Zhondor districts is 99,000 and 174,000 people respectively.

Chart 4.2: Resident population in the Project area, '000



Source: https://stat.uz/en/open-data

The life expectancy for Uzbekistan is estimated at 72.3 years for 2016 that gives the country a World Life Expectancy ranking of 100 out of 228 countries. For comparison Tajikistan is ranked 113 with life expectancy of 70.8 years while the United Kingdom is ranked 22 with life expectancy of 81.4 years. Male life expectancy was estimated at 69.7 years compared to 75.0 years for female population

According to the World Health Organisation (WHO), Uzbekistan reported 81,446 of registered COVID-19 cases and 622 deaths since January 2021. The vaccination programme has not yet started. Cumulative cases in Bukhara region as of 24 March is 1,650 people, which takes the 7th place in the country.

Ethnicity

Uzbekistan is made up of a number of traditional populations of Turkic (Uzbeks, Kazakhs, Karakalpaks), Semitic (Bukhara Jews) and Iranian origins (Tajiks), as well as more recent minorities which arrived in the country during the Russian and Soviet domination (Russians, Crimean Tatars, Meskhetian Turks, Koreans and some Ashkenazi Jews).

The Autonomous Republic of Karakalpakstan occupies 37% of the country's territory and ethnic Karakalpaks represent about a third of the Karakalpakstan' s population, and a very slight proportion of the country's total population (2.2%).

The ethnic Tajik population is widely thought to be much greater than official statistics indicate, given that many Tajiks and Tajik speakers may classify themselves as Uzbeks to improve their career opportunities.

The largest ethnic group in Uzbekistan are Uzbeks. The last census was conducted in 1989, but according to official estimates updated in 2017, the ethnic Uzbek majority totalled just over 26.9 million (83.8% of the population) while ethnic Tajiks made up 1,544,700 (4.8%).

According to national statistics there have been changes in the ethnic structure of the population since 1991. The share of Uzbeks increased by 11% and now accounts for 84% with the noticeable drop in the share of Russians (by 5.4%), Kazakh (by 1.6%), Tatars (by 1.4%) and Ukrainians (by 0.5%) between 1991 and 2017 (Table 4.1**Error! Reference source not found.**) resulting from the out-migration of these ethnic groups.

Table 4.1: Ethnicity in Uzbekistan, % of total population

Ethnicity	1991	2017	Ethnicity	1991	2017
Uzbeks	72.8	83.8	Tatars	2.0	0.6
Karakalpaks	2.1	2.2	Turkmens	0.6	0.6
Tajik	4.8	4.8	Koreans	0.9	0.6
Kazakhs	4.1	2.5	Ukrainians	0.7	0.2
Russians	7.7	2.3	Others	3.4	1.5
Kyrgyz	0.9	0.9			

Source: https://stat.uz/en/open-data

Uzbeks are the predominant ethnicity in the Project area. The scoping desktop study, consultation and interviews did not identify any indigenous communities or groups (i.e., Kyrgyz, Tartar, Turkmens) in the Project area who have a collective attachment to the land or natural resources, or whose identity is linked to distinct habitats or ancestral territories. Moreover, according to definitions in EBRD PR7 and IFC/MIGA PS7, existing minority groups do not display socio-economic or political features that make them distinct from the dominant groups in the Project area and they are well assimilated. EBRD PR7 and IFC/MIGA PS7 for Indigenous Peoples have therefore been scoped out of the further assessment.

Language

The national language of Uzbekistan is Uzbek. The second significant language is Russian which is widely known and used throughout the country. Besides Uzbek which has the status of official language in the country, several regions also use other languages. The Autonomous Republic of Karakalpakstan has Karakalpak as its second official language. Historically Tajiks populated the area around the city of Bukhara located on the Silk Road. The mother tongue of the majority of people of Bukhara is Tajik, a Persian dialect, although Uzbek is spoken as a second language by most people. Tajik-language media, schools, colleges and university departments also operate in Bukhara. Scoping consultations with community self-government units in the Project area (mahalla) were conducted in Uzbek and for most people in the affected communities (ACs) this is the mother tongue.

Religion

Main religions in Uzbekistan are Sunni Islam, Orthodox Christianity, and Judaism. The national profile by confession includes Muslims – 79% (mostly Hanafi Sunni with Shi'a minority of 1%, mainly in Bukhara and Samarkand regions), Orthodox – 4% (the share of Orthodox Christianity is shrinking due to emigration of Russians, Ukrainians, Belarusians, etc.), 3% are non-Orthodox Christians (including Roman Catholics, Korean Christians, Baptists, Lutherans, Seventh-Day Adventists, Evangelical Christians and Pentecostals, Jehovah's Witnesses), as well as Buddhists, Baha'is, Krishnaists, and remaining are atheists.

Human rights

On 22 June 2020 the President of Uzbekistan signed a decree "On the approval of the National Strategy of Uzbekistan on Human Rights". According to the decree, the main activities of the State bodies and organizations that are responsible for the implementation of international human rights treaties are the following:

- Ensuring the unconditional execution of national action plans (“roadmaps”) aimed at implementing the recommendations of international organizations on the protection of human rights
- Identifying, analysing and addressing the causes and conditions that hinder the implementation of the recommendations of the United Nations (UN) Charter bodies and treaty committees through the development and carrying out of measures to improve legislation and law enforcement practices
- Implementing effective cooperation with the Public Chamber under the President of Uzbekistan and civil society institutions in the field of fulfilling international obligations of the Republic on human rights.

The document also approved the National Strategy of Uzbekistan on Human Rights, the “Roadmap” for the implementation of the National Strategy, and the regulation on the procedure for cooperation between the State bodies of the Republic on consideration of notices and decisions of UN statutory bodies and treaty committees.

The decree stipulates the establishment of a badge “For the Protection of Human Rights”, which is awarded annually on International Human Rights Day for services in the protection and the promotion of human rights culture. It also states that every two years, the Samarkand Forum on Human Rights will be held at the highest level with the participation of representatives of international organizations, experts from foreign countries and guests of honour.

The Republic of Uzbekistan has now joined more than 80 international human rights documents, including six basic agreements and four optional protocols of the UN, on a permanent basis Uzbekistan submits national reports on their accomplishment to Human Rights Council and contractual UN committees.

Gender considerations

EBRD PRs and IFC PSs require that projects identify any potential gender-specific and disproportionate, adverse impacts, and undertake mitigation measures to reduce those. Where relevant, projects will be required to enhance the positive gender impact by promoting equality of opportunity and women’s socio-economic empowerment, particularly with respect to access to finance, services and employment.

The Presidential Decree dated 2 March 1995, ‘On measures to increase the role of women in state and public building in Uzbekistan, provides for larger representation of women at decision-making levels. In addition, in the Cabinet of Ministers there is a position of Deputy Prime Minister responsible for protection of women’s rights and interests; similar positions have been created at all subnational government levels. The Government of Uzbekistan focuses on both supporting the role of women in all areas of social life and social protection of women at work.

Uzbekistan is not included into the 2020 Gender Gap Index due to the lack of gender statistics. In Women, Business and the Law index Uzbekistan was given 67.5 by the World Bank Group, showing the lowest scores in pension, pay and workplace indicators. The average global score is 75.2, up from 73.9 as measured in 2017. Uzbekistan economy shows better index, than Jamaica, Indonesia and Egypt, but worse than all the CIS countries.

The key non-governmental organisations (NGOs) focusing on gender issues have been identified as stakeholders and will be continuously engaged throughout the Project in line with this SEP.

Poverty

Poverty in Uzbekistan was dropping before the COVID-19 crisis. Uzbekistan has seen sustained growth over the past several years and is targeting towards a country free from extreme poverty by 2030. Extreme poverty was defined by the UN as an income below the international poverty line of $1.90 per day, set by the World Bank. However, the World Bank forecasts that the extreme poverty is expected to rise due to the disruption of the COVID-19 pandemic.

Until recently, Uzbekistan did not regularly provide the international community with the official data needed to estimate internationally comparable poverty rates. Consequently, the latest official and internationally comparable estimates date from the early 2000s, when 62.1% the population lived under $1.90 per day.

However, in 2018 a new study was launched by the World Bank in consultation with the National Statistical Agency of Uzbekistan and other partners called Listening to the Citizens of Uzbekistan. This study included a comprehensive baseline survey that can be used to estimate comparable poverty rates. These estimates suggest that in 2018 the poverty rate measured at the $3.2/day line stood at 9.6% of the population, and 36.6% at the $5.5-a day line. The national plan of the development of the Republic of Uzbekistan in 2017-2021 contains the goal to increase the employment and real incomes of the population.

National Uzbekistan statistics (2019) indicate that the share of the population below the national poverty line[23] makes up 11% of the total population nationally and their number reduced by 6.7% over recent ten years (17.7% in 2010).

While Uzbekistan has experienced increased urbanization in recent years, the share of those living in poverty in Uzbekistan is higher in rural areas where 13.5% of population is below the national poverty line.

Vulnerable groups

The scoping study has identified that the following groups as the most deprived and vulnerable groups within the Project affected communities (ACs):

- Women: particularly those who are engaged in seasonal work, unskilled or unemployed with little opportunities in rural areas to have their own income, or those left alone by husbands migrated to earn incomes elsewhere
- Unskilled seasonal or farm workers: these are low-income workers with job and income insecurity
- Children in the local communities: who typically work seasonally and are at risk of exploitation and dangerous working conditions
- Young adults: these have little or no experience and limited opportunities to find employment in rural areas
- Families who have lost their main income provider.

The Social Impact Assessment (SIA) will focus on understanding the demography profile of the directly affected communities in the Project area of influence (AoI). It will develop tailored mitigation measures for impact minimisation and will propose other management actions for enhancing Project benefits for the deprived and vulnerable groups. SIA will also consider them in the planning stakeholder engagement and disclosure for the Project lifecycle.

4.11.2 Land use and livelihoods

4.11.2.1 Baseline conditions

All land in Uzbekistan is a state property. According to the Land Code (1998) land title for legal entities allows for permanent tenure, permanent use, fixed term (temporary) use, lease and ownership:

- **Permanent land tenure** is granted to enterprises, institutions and organizations for agriculture and forestry, as well as for other purposes if allowed by law
- **Permanent or fixed-term land use** may be granted to non-agricultural entities, international companies/associations/organisations

[23] The national poverty line is the minimum level of income deemed adequate in a particular country.

- **Land lease** is a fixed-term, chargeable tenure and use of the land is under the terms of a Lease Agreement. The land is leased by hokims of districts and cities to legal entities in the Republic of Uzbekistan
- **Land ownership** results, by law, from privatization of trade and service facilities together with the land plot on which they are located.

Agricultural land may be allocated to individual farmers to run a farm (treated as a legal entity) or companies involved in agricultural production. Land allocated to a farm may not be subject to privatization, sale, donation or exchange. Agricultural land may be leased only for agricultural production

With Bukhara being a region of rich natural resource and extensive mining operations, the Project area is mostly rural with land of agriculture used as pastures for livestock and for crop farming within the Karakul oasis of 4,500km^2.

The Government of the Bukhara region will allocate 250ha of greenfield land for the GCC site. The intention is that the Bukhara Region Hokimiyat will grant to the Project a permanent land use title. The allocated 250ha were originally designated forest land of the Dormon section of the Karakul State Forestry Administration. This land was planned for planting saxaul (*Haloxylon*) on non-cohesive soils of the area to prevent erosion. A conflict of interest was identified as part of the scoping with regards to Karakul State Forestry Administration because this land was previously allocated to them. As such this will need to be followed up upon in the ESIA.

Local community representatives in mahallas indicated that people in communities do not use the areas within or around the Project site as these lands are located beyond the railways and deserted. However, there are some formal land users and tenants next to the Project site, including residential houses as summarised in the table below and mapped in Figure A.2, Appendix A. The scoping site visit did find the land is being used informally, see below.

Table 4.2: Land users and tenants adjoining the Project site

Land user/tenant	Distance (m)	Location from GCC site boundary	Land use
Railway road	150	North-west	Land of industry, transport, communications, defence and other purposes
Road	520	North-west	Land of industry, transport, communications, defence and other purposes
Power transmission lines, 500MW	78	Along the south-west boundary	Land of industry, transport, communications, defence and other purposes
	85	Along the north-west boundary	
Warehouses	200	North west, between the railways and road	Commercial property
Military camp	560	North-west	Municipal land
Residential apartment blocks	570	North-west	Municipal land
Petrol station	650	North-west	Commercial property
Warehouses	670m	North	Commercial property
Residential houses	1,800	West	Municipal land
Sub-station	820	West, beyond the road	Land of industry, transport, communications, defence and other purposes
Brick yards	1,200	West, beyond the road	Land of industry, transport, communications, defence and other purposes
Residential houses (Tinchlik mahalla)	2,000	South-west	Municipal land

Land user/tenant	Distance (m)	Location from GCC site boundary	Land use
Solid domestic waste landfill	2,100	South-west	Land of industry, transport, communications, defence and other purposes
Open quarry	2,000	South-west	Land of industry, transport, communications, defence and other purposes

Source: Ecostandart Ekspert, Baseline Report, 2021

A reconnaissance drive along the proposed gas pipeline route identified that the major part of the route passes through the uninhabitable deserted areas with sandy soils and sparse natural vegetation. These lands are mainly used by local communities for cattle grazing. Two sections of the gas pipeline (0.5km and 2km in Zhondor and Karakul districts respectively) to be located within the existing corridor of the gas main pipeline, will cross irrigated agricultural lands used for cotton, rice and other types of farming, and for gardens. These land plots are partly within the buffer zone of the gas pipeline. The land in the buffer zone is used to farm annual crops. Any other types of farming in the buffer zone are prohibited by law.

The water pipeline route is not yet finalized. The water main corridor is proposed to cross the desert with no land users or tenants in this area.

The overhead power line will connect to the existing substation and will run the adjacent warehouses site located northwest of the site boundary between the railways and road.

4.11.2.2 Potential construction impacts

Economic displacement

In Uzbekistan, land expropriation is allowed for public needs under the Land Code. Expropriation in this context refers to the taking away of private land for a public purpose by the government with or without the owner's consent subject to laws of eminent domain, which stipulates recompense via prompt and adequate compensation.

From the scoping site visit no physical resettlement is anticipated. The nearest residential area in located 570m from the site boundary. The SIA will further investigate potential impacts on social receptors and respective mitigation measures will be incorporated in the Project design. Physical resettlement is proposed to be scoped out of the SIA assessment. Economic displacement is expected as a result of the establishment of the GCC site infrastructure based on the fact that the scoping site visit found the Project area is used for grazing, the collection of medical plants and wood for fuel. The overhead power line will be constructed in the existing corridor of the power transmission line and will cause neither physical nor economic displacement. No economic displacement will occur as a result of the OHL crossing the existing warehouses. Economic displacement is predicted in respect of the gas pipeline construction as it will cross irrigated fields leased by the local farmers in Karakul and Zhondor districts. No information is currently available on the affected farmers and the SIA will seek this data from the local Farmers Association to understand the Project affected people (PAPs), their social profile and the land plots to be lost (permanently and temporary) by each of the farmers.

The SIA will focus on understanding all the farmers and how many land plots may be affected by the land acquisition process. A Livelihood Restoration Plan (LRP) is required for the Project to manage this predicted impact in line with the applicable international requirements.

4.11.2.3 Potential operations impacts

No additional impacts on land tenure are expected from the operations phase.

4.11.2.4 Potential decommissioning impacts

No additional impacts on land tenure are expected from the decommissioning phase on anyone other than the Project Proponent and any potential buyer.

4.11.3 Economy and employment

4.11.3.1 Baseline conditions

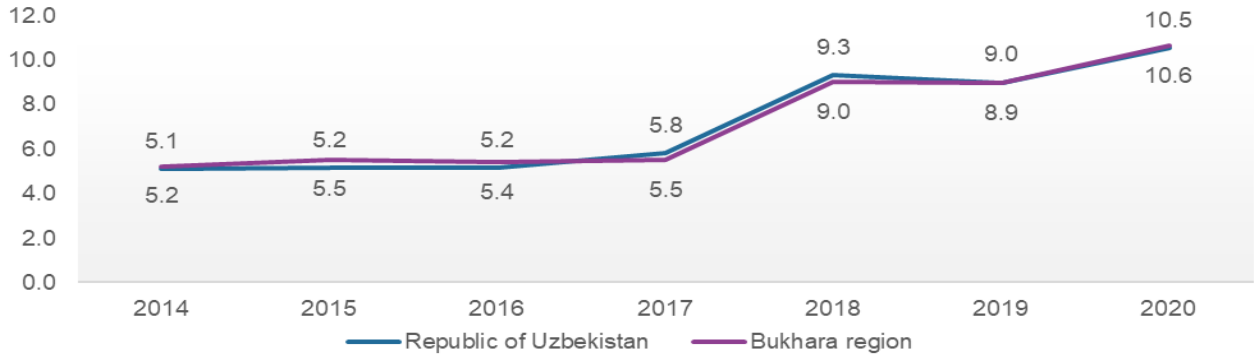
The Gross Domestic Product (GDP) in Uzbekistan was worth 57.92 billion US dollars in 2019, according to official data from the World Bank. The GDP value of Uzbekistan represents 0.05% of the world economy.

The workforce in Uzbekistan makes up 56% of the total population (end of 2020). About 66% of the available workforce is engaged in the country's economy. The workforce in the Bukhara region is about 1,158,100 people and about 68% of the available workforce is currently employed.

Registered unemployment in Uzbekistan is 10.5% (as of start of 2020), almost two-fold increase against 2016. Similar rates (10.6%) are reported by the Government in the Bukhara region with approximately 126,000 people in the Project region being out of work in 2020.

The dynamics in registered unemployment rates country-wide and in Bukhara region indicate their constant rise starting from 2017 (Chart 4.3). The COVID-19 crises most likely contributed to the most recent increase in unemployment in the region up to 10.6% (as of 2020).

Chart 4.3: Dynamics in unemployment rates in Uzbekistan and the Project region, %



Source: https://stat.uz/en/open-data

In 2018 the Ministry of Employment and Labour Relations of Uzbekistan clarified that significant increase of the unemployment rate compared to 2017 (3.5%) was mainly associated with improvements in the data gathering methodology on jobseekers, and not with drastic changes in the labour market.

It worth mentioning that the actual unemployment rates especially in rural areas may differ from official statistics as not all local people register with the employment agencies. So actual rates are most likely understated. There may also be underemployment, whereby people are employed in part-time roles where they could or would prefer to be employed in full-time roles.

About 249,500 people in the Bukhara region are engaged in agriculture. Among other sectors, the construction sector employs about 125,300 people and industries engage a total of 110,000 people. The local communities in the Project area are engaged in agriculture with a focus on cattle breeding, farming annual crops and haymaking.

Before the pandemic (as of March 2020) the average nominal monthly salary in Bukhara region was 2,398,100 Uzbekistani som (UZS) or approximately USD229[24]. The average nominal monthly salary is lower in rural Karakul, Alat and Zhondor districts and decreased against 2019 by 1% (UZS1,976,600), 3.9% (UZS2,039,400) and 1.2% (UZS1,911,500) respectively. No data is available on incomes of those who are engaged in agriculture.

In December 2020 the Federation of Consumer Rights Protection Associations estimated the minimum cost of living at UZS2,157,000 or approximately USD206.

During scoping consultation, the mahallas commented on high unemployment rates in their communities, especially among women. Women in rural areas are mostly involved in seasonal work in the farms growing vegetables or picking up cotton and therefore have limited opportunities to earn their own income and access to skilled jobs.

4.11.3.2 Potential construction impacts

Employment opportunities

Data provided by the mahallas in the scoping consultation indicate high unemployment rates among women and young adults in the ACs. For instance, in the Karakul mahalla that administer five communities the unemployment rate for young adults aged 18-30 is 18%. The SIA will focus on understanding further the unemployment rates in the ACs, including specifically of females and young adults.

The SIA will also focus on understanding livelihoods of the households in the ACs and incomes available for local women. A potential positive effect of the construction phase is predicted to be associated with the creation of temporary skilled and unskilled jobs in the EPC contractor's and subcontractors' organisations. These jobs could be potentially accessible to people in the ACs for a period of three years during the construction phase. Despite being temporary, these jobs may improve revenues of the vulnerable groups in the ACs such as low-skilled unemployed, seasonal workers, females and young adults looking for job opportunities in their rural neighbourhood. The SIA will consider employment effects, including worker rights and conditions as well as supply chain matters related to workers in further detail.

Localised economic development

The construction phase will offer procurement opportunities and will potentially increase the revenues both for local people engaged in the Project during the construction period, and local small and medium size businesses benefiting from the presence of the construction site and a large workforce; for example, local and regional suppliers selling goods, materials and equipment to the Project as well as local service providers offering catering, cleaning, laundry, transportation and other services.

Occupational health and safety

Potential occupational health and safety issues associated with the construction primarily include physical hazards (traffic, exposure to weather factors, noise, work in confined spaces, trenching, contact with power lines, falls from machinery or structures, and risk of falling objects), chemical hazards associated with exposures to dust during construction and paving activities; exhaust emissions from heavy equipment and motor vehicles during all construction and maintenance activities. These hazards will be applicable for unaccompanied visitors and unauthorised visitors.

Community health and safety

The hazards that the local communities may potentially be exposed as a result of Project construction activities may include physical trauma associated with falls, failure of structures, road accidents, injuries

[24] As of March 2021, UZS100,000 = USD9.5

suffered as a contact with heavy equipment, respiratory distress from dust, fumes, or noxious odours, exposure to hazardous materials and noise.

As this is a fairly self-contained site, outside of the populated areas the direct risks from accidents on site by local community members during construction would normally be considered low provided appropriate fencing and warning signs are in place including along the pipelines. However local mahalla indicated a risk of herders and livestock accessing the site.

Mitigation of potential hazards for occupational and public health are to be accomplished during the design phase when the structural design, layout and site modifications can be adapted more easily and during site preparation.

Worker in migration

The SIA will also study the Project arrangements for temporary worker accommodation from a range of aspects, considering both worker and community well-being. Depending on the number of workers who will move to the site and the time and money they have available to spend in neighbouring communities there will be various potential positive and negative effects of their presence within the established community. Very generally speaking male workers living without their families may pose a risk to women in the local communities and within the workforce. Gender based violence, the spread of sexually transmitted diseases and increases in prostitution are some of the more undesirable potential impacts.

The SIA will consider all the risks carefully and propose necessary mitigation measures for the construction phase, as required.

4.11.3.3 Potential operations impacts

Employment and skills development

A major social benefit of the Project is predicted to be from the operation phase employment that may offer permanent skilled jobs and permanent source of income for the people in the ACs, including women and young adults that have seasonal or no employment.

It is predicted that the Project may bring long-term skills development and capacity enhancement for the local workforce at the operation phase. Emerging training opportunities will help people in the ACs to find permanent job and earn incomes. There are currently a limited number of female jobs and largely low-skilled seasonal jobs are available for women in the rural areas.

Industrial development revenue and economic growth

The development of the Project will generate economic benefits through tax allocations to the national, regional and local budgets. Firstly, there predicted an increase in tax payments since the Project will incur income tax, environmental payments, land and property taxes and the profit tax. Secondly, the budget tax allocations will be sourced from the value added tax (VAT) and social insurance payments on salaries.

Purchase of supplies and materials, equipment, goods and various services during the operation phase can create opportunities for local businesses, especially for those who secure longer term contracts. Potential earnings during the operation phase may thus be available for a long-term period. Goods and services that the Project can procure locally or regionally include office equipment and furniture, stationaries and office supplies, catering, cleaning and laundry, vehicle maintenance, oil and fuel, transportation, security, printing and photography.

Workers health, safety, security and wellbeing

Operational health and safety risks and impacts for the staff working in the petrochemical industry are related to process safety, air emissions, exposure to chemical hazards, working in confined spaces, and fires and explosions, especially related to chemicals. The nature of the Project will involve the use and production of

potentially hazardous chemicals with risks for workers' health and safety in relation to inhalation, skin or eye contact, ingestion, fire and explosion.

Community health and safety

Due to the nature of the proposed plant, an emergency situation could lead to serious consequences for surrounding communities once the plant is operational. Emergency situations could occur in the operational phase, for example discharge or spill of hazardous chemicals to water or near residential areas or places of work, fire or explosion or injuries from road accidents. As such the ESIA will identify preventative measures for emergency situations (eg through design in line with good international industry practice) and propose an emergency preparedness and response plan as part of the community and social risk management plan.

The SIA study will further investigate on the health issues in the ACs and health implications of the COVID-19 crisis on local communities in the Project area and understand if any restrictions of COVID-19 pandemic may influence the ESIA consultation and disclosure.

There are also risks to community H&S from community members accessing the Project site, including the associated facilities of the Project such as the gas pipeline and overhead power line. Security measures need to be in place such as a perimeter wall, manned gates and CCTV which will only allow managed entry.

EBRD and IFC/MEGA compliant occupational and community health safety and security measures will be proposed to mitigate these hazards. Special attention will be given to considering the COVID-19 pandemic risks measures.

4.11.3.4 Potential decommissioning impacts

The life span for the Project is 30 years. Thereafter, as well as due to advances in technology which can reasonably be expected to have occurred over that period of time, it is likely the facility will either adapt or be put out of production. If the latter is the case this will impact employees working at the plant directly as well as any suppliers to the plant indirectly. The SIA will look into this in greater detail and propose mitigation measures where possible and appropriate.

4.11.4 Access to social infrastructure and utilities

4.11.4.1 Baseline conditions

There are 1,205 hospitals across the country (as of 2020) including 575 (or approximately 5% of the total) private hospital. Overall, 40 new hospitals have started operation since 2018. The hospitals have 153,400 beds and of these 18,700 (about 12% of the total) are in private hospitals. Overall, there are 45.2 beds in hospitals per 10,000 population – less than in Russia or Kazakhstan.

According to available national statistics (2020), 87.6% of the household in rural areas in Uzbekistan have access to at least basic drinking water services. The vast majority of rural settlements (90%) are not connected to sanitation systems.

Table 4.3: Percentage of population in Uzbekistan with access to safe drinking water

Description	2016	2017	2018	2019	2020
Households using at least basic drinking water services, urban area	93.9	94.1	91.1	91.4	92.8
Households using at least basic drinking water services, rural area	83.2	80.4	81.2	81.2	81.9
Households using at least basic drinking water	88.8	87.6	86.4	86.6	87.6
Households using safe drinking water services, urban area (% of urban households)	99.8	99.1	98.8	99.1	98.8
Households using safe drinking water services, rural (% of rural households)	96.1	97.2	96.7	98.0	98.7

Description	2016	2017	2018	2019	2020
Households using safe drinking water services (% of households)	98.0	98.2	97.8	98.6	98.7

Source: https://stat.uz/en/open-data

In Bukhara region potable water supply services are accessible for over 80% of the rural households. All communities in the region are connected to power supply grids.

Rural households in the ACs have different access to centralised services. According to consulted mahallas, households in the villages do not have access to gas supply networks and communities often use wood-fired ovens to cook. Community roads are deteriorated and often have no asphalt pavement. Centralised water supply services are not available in the ACs and local population uses boreholes or water pits to supply potable water in their houses.

4.11.4.2 Potential construction impacts

Influx of workers and population changes

During the construction phase, an anticipated influx of the construction labour force in the Project area may potentially create pressure on local health and social infrastructure, public transportation system and local community roads as well as increase the risk of communicable diseases including HIV/AIDS and sexually transmitted diseases), increase morbidity rates in COVID-19 pandemic situation, family breakdowns, conflicts, and gender-based violence as a result of absent parents and partners due to unsocial shift work. The SIA will assess the origin and number of the workforce to identify potential impacts and risks and propose mitigation.

Traffic and transport

Depending on the amounts of materials which need to be brought to site, the location where these are sourced and the frequency transport will go through populated areas will contribute to the risk to communities from construction traffic as well as disturbance to other road users. The SIA will assess the risks and propose appropriate mitigation measures. The SIA will investigate if any of the community roads will be affected by the Project during construction or operation and will propose mitigation measures to avoid community disturbance.

Reduced access to resources

Community members collecting wood for fuel may have to go further to find wood, fodder for animals and medicinal plants. The SIA will investigate this matter further and propose mitigation measures as appropriate.

4.11.4.3 Potential operations impacts

Community health and pressure on health infrastructure

Local mahalla[25] consulted during the scoping study expressed concerns that the air quality may potentially be impacted by the Project and requested that air quality studies are conducted in this respect. Potential health impacts from poor air quality are a concern for projects of this nature and further investigation as part of the main ESIA is required.

The rural communities adjacent to the Project site are not connected to centralised water supply services and use boreholes or water pits to supply potable water in their houses. Because of the presence of the Project drinking water may become less available and/or polluted. Further investigations will be undertaken in the main ESIA.

[25] Mahalla is a community self-government unit in Uzbekistan

4.11.4.4 Potential decommissioning impacts

Workers and employees who were not originally from the Project area may choose to relocate out of the Project area once operations cease. This would on the one hand reduce pressure on social infrastructure such as hospitals, schools and nurseries. On the other hand, this may reduce the incentive for regional and national investment in such social infrastructure. Overall, it is not thought the impact from decommissioning on social infrastructure will be significant.

4.12 Cultural Heritage

4.12.1 Baseline conditions

The region around Bukhara has a history of at least five millennia and numerous historical and architectural monuments are located in and around Bukhara and across the region. Overall, 777 historical monuments and 217 sites of cultural heritage located in Bukhara were inscribed on UNESCO World Heritage List in 1993 and are of great interest for tourists.

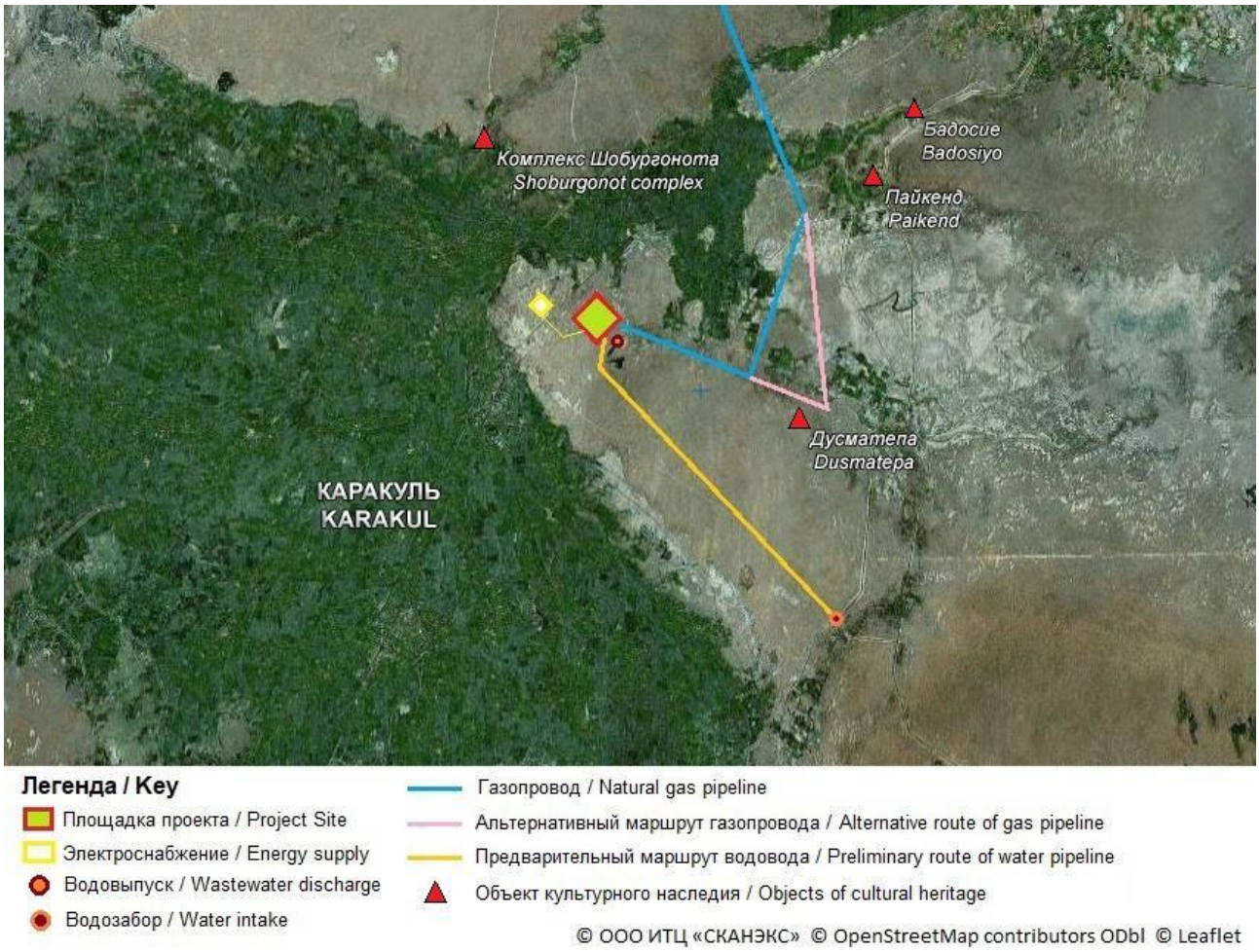
The history of Karakul dates back to antiquity. In the fifth and third centuries BC, the Karakul oasis was understood to be one of the most picturesque places in the valley. Previous excavations in Karakul district have found traces of people engaged in hunting and fishing, with the finds dating back to the Neolithic era and the early Bronze age.

No historical monuments of republican and regional status are listed within the direct site of the proposed Project infrastructure. The following historical monuments are located within the wider Project area which formed part of the Silk Road:

- Dusmatepa
- Ancient settlement of Paykent - located 10km from the proposed Project site and 500m from the proposed natural gas pipeline
- Archaeological monument Badosiyo
- “Complex of Shoburgonot” and important monument “Shoburgonot”

Location of these historical monuments is shown in Figure 4.1.

Figure 4.1: Cultural heritage monuments location



Source: Mott MacDonald scoping study, 2021

4.12.2 Potential construction impacts

Overall, the area has the potential to contain cultural heritage artefacts and sites which may be disturbed and or destroyed during construction activities. As a result, at a minimum, a chance find procedure will need to be put in place as part of the ESIA's environmental and social management plan. According to a letter received by the Project from the Head of Bukhara Regional Department of Cultural Heritage No.71 dated 26.01.21, construction works need to be conducted under the supervision of an archaeologist.

4.12.3 Potential operations impacts

Following construction completion, the potential for impacts to cultural heritage resources from the operation of the Project are significantly reduced. Considering the distance of the Project site to known historical monuments, impacts to these resources from operational emissions to air, water or land are not anticipated. This understanding will be assessed and confirmed as part of the ESIA.

4.12.4 Potential decommissioning impacts

No significant decommissioning impacts to cultural heritage resources are foreseen at this moment in time. The ESIA will confirm this and any required mitigations for decommissioning works.

4.13 Cumulative Impacts

Each of the environmental and social disciplines described above will also be considered for potential cumulative impacts cumulatively and, if applicable and appropriate, impacts from other existing and/or proposed operations in the Project area will be assessed.

4.14 Summary

Following the analysis above, Table 4.4 shows the proposed scope for the ESIA for the Project.

Table 4.4: Proposed ESIA Scope

Impact/Aspect	Construction	Operation	Decommissioning	Justification for scoping out (if applicable)
Hydrology and Water Quality	Scoped In	Scoped In	Scoped Out	Scoped out of decommissioning on the basis that hydrology and water quality issues will be effectively managed in a detailed decommissioning plan. Mitigation will be included in the ESIA suggesting that a full and detailed decommissioning plan should be developed prior to decommissioning
Ground Conditions	Scoped In	Scoped In	Scoped Out	Scoped out of decommissioning on the basis a detailed decommissioning plan will be developed prior to decommissioning to manage ground condition issues.
Climate Change	Scoped Out	Scoped In	Scoped Out	Scoped out of construction phase as climate impacts would be at the longer-term scale.
Biodiversity	Scoped In	Scoped In	Scoped Out	Scoped out of decommissioning on the basis that a detailed decommissioning plan will be developed prior to decommissioning, including requirements for soil reclamation, habitats rehabilitation and compensatory planting measures.
Air Quality	Scoped In	Scoped In	Scoped Out	Scoped out of decommissioning on the basis that air quality issues will be effectively managed in a detailed decommissioning plan
Greenhouse Gases	Scoped In	Scoped In	Scoped Out	Scoped out of decommissioning due to high uncertainties surrounding available technologies and processes at the end of the Project life.
Noise and Vibration	Scoped In	Scoped In	Scoped Out	Scoped out of decommissioning as any works required will be subject to relevant consent applications, associated environmental assessments and a decommissioning plan.
Material resources	Scoped In	Scoped Out	Scoped Out	Scoped out of operation as no significant material resources consumption is predicted at operation. Scoped out of decommissioning on the basis that the decommissioning phase will not require the use of materials as opposed to construction.
Waste	Scoped In	Scoped In	Scoped Out	Scoped out of decommissioning on the basis that a detailed decommissioning plan will be developed prior to decommissioning, including requirements for waste management at decommissioning.
Landscape	Scoped Out	Scoped Out	Scoped Out	Scoped out as landscape and visual impacts are predicted to be insignificant during construction and operation. A detailed decommissioning plan will be developed prior to decommissioning.

Impact/Aspect	Construction	Operation	Decommissioning	Justification for scoping out (if applicable)
Land use and livelihoods	Scoped In	Scoped In	Scoped Out	Scoped out of decommissioning as no additional impacts on land tenure are expected at this phase on anyone other than the Project Proponent and any potential buyer.
Economy and Employment	Scoped In	Scoped In	Scoped In	
Access to social infrastructure and utilities	Scoped In	Scoped In	Scoped Out	Scoped out as it is not predicted that the impact from decommissioning on social infrastructure will be significant.
Cultural Heritage	Scoped In	Scoped In	Scoped Out	No significant decommissioning impacts to cultural heritage resources are foreseen for the decommissioning phase.
Cumulative Impacts	Scoped In	Scoped In	Scoped Out	Scoped out as it is not possible to assess cumulative effects at 30 years Project life span.

Source: Mott MacDonald scoping study, 2021

For further details please refer to the Terms of Reference (ToR) for the ESIA, see Section 6.

5 Stakeholder Consultation and Participation

5.1 Stakeholder Consultation Objectives and Planning

Early and ongoing consultation, disclosure and meaningful stakeholder engagement are key requirements for projects financed by the international lenders. Stakeholder engagement need to be conducted throughout the Project lifecycle. The objectives of the stakeholder engagement are to:

- Disclose information about the Project
- Engage the key stakeholders by introducing the ESIA process
- Identify additional stakeholders
- Identify concerns and opportunities to be addressed during the ESIA process.

To fully inform the local communities and key stakeholders about the Project and all associated projects and to allow them to read and comment on the findings of the ESIA process, information will be disclosed throughout the ESIA process. A Stakeholder Engagement Plan (SEP) has been prepared to guide disclosure and consultation activities in line with the lenders requirements that this Project is being assessed to. The contents and scope of the Project SEP is discussed in Section 6.9.

5.2 Stakeholder Engagement Activities as part of the ESIA

ESIA engagement activities will continue throughout all phase of the ESIA process and will inform the ESIA report: during the scoping and assessment phases, as soon as the draft ESIA report is prepared and after the ESIA report is finalized and disclosed.

The scoping site visit took place between 02 and 05 March 2021. Three members of the Consultant's team travelled to the Project site in Bukhara region, inspected the Project site and the adjacent area and consulted with the regional and local government, environmental, archaeological, public health and employment authorities, local Farmers Associations and communities' representatives (refer to Appendix C). In addition, the Project was discussed with representatives of the Project Company. The detailed stakeholder disclosure programme is defined within Appendix D and the Project SEP.

All of these consultation activities were in the form of face-to-face meetings and involved representatives from the Project Company and Consultant. The scoping consultations identified interests and views on the Project and contributed to identifying suitable forms of stakeholder engagement and communication, as detailed in the Project SEP.

Engagement during the ESIA assessment phase, subject to potential COVID-19 restrictions for travelling, will include:

- Focus group discussions (FGDs) with the ACs
- Consultation with the regional and local government and Farmers Associations on land acquisition and economic displacement, socio-economic census of the PAPs, and compensation methods
- Discussions on Project design, including plant and process specifications with the Project Company
- Discussions on proposed mitigation measures with the Project Company

Upon completion, the draft ESIA report will be disclosed and public exhibition events in Karakul, Alat and Zhondor districts will be held in the ACs to share ESIA findings and collect comments and concerns of local people and other stakeholder. Final decision on having public events will depend on the pandemic situation in Uzbekistan and any restrictions imposed by the Government. Should these be in force, alternative methods for stakeholder engagement will be considered as discussed within the SEP.

6 Terms of Reference for the ESIA Phase

6.1 Introduction

The purpose of these Terms of Reference (ToR) is to set out the technical approach and methodology for addressing specific environmental and social aspects in the ESIA study for the Project.

As described by the regulations and standards outlined in Chapter 3, the ToR for the ESIA study must include:

- A description of the specialist studies to be conducted
- Description of feasible alternatives to be considered during the ESIA
- Impact assessment methodology for assessing environmental and social impacts (including residual impacts). The impact assessment will address impacts during construction and operation, and decommissioning considerations (where appropriate).

6.2 Overview of the ESIA Package

The ESIA package for the Project is proposed to be presented using the structure shown in Table 6.1. Further information regarding the content of the ESIA is presented in the subsequent sections.

Table 6.1: ESIA Contents

Section	Description of Content
Volume I	**Non-Technical Summary document**
Non-Technical Summary	The Non-Technical Summary document will include a concise description of the Project, objectives of the ESIA and methodologies used, baseline conditions of the area, alternatives considered in the assessment, potential environmental and social impacts, key mitigations/enhancement measures and monitoring programme. The Non-Technical Summary of the ESIA report will be in English and Russian.
Volume II	**Main Assessment**
Executive Summary	This presents a summary of the Project and its alternatives, ESIA process and its findings.
Chapter 1. Introduction	Description of the background to the Project, its location and extent of ESIA study, and brief outline of contents of the ESIA report.
Chapter 2. Project Description	Description of the proposed works that are expected for the proposed Project, its main elements and activities for design, construction and operation.
Chapter 3. Need for the Project and Analysis of Alternatives	The needs case for the Project in the context of economic, socio-economic and market factors will be discussed to evaluate whether there are sufficient drivers to justify development of the Project. It also provides analysis of the suitability of the site selection and potential alternatives, including the “no project” alternative.
Chapter 4. Policy, Legal and Institutional and Planning Framework	The key national and regional regulations in Uzbekistan, as well as international standards and lender guidelines applicable to the Project will be defined. This will include a high-level gap analysis where we will compare Uzbekistan legislation with relevant international standards, presenting the results in tabular form. The gap analysis will focus on the material gaps only.
Chapter 5. Information Disclosure, Consultation and Participation	Outlines the information disclosure, consultation and participation activities that will be undertaken as part of the ESIA process. It further summarises the outcomes of these activities, and defines those actions planned for future phases in the Project lifecycle, as detailed in the SEP.
Chapter 6. ESIA Process and Methodology	The stages of the ESIA will be set out, alongside key assumptions and general impact assessment methodology for undertaking the work. This forms the basis of the methodology followed in the technical assessments.

Section	Description of Content
Chapter 7. Impact Assessment	Each scoped-in environmental and social topic (as proposed in Section 4.14) will present baseline conditions and impact assessment before mitigation, as follows: Baseline The baseline environment social conditions will be developed from quantitative and qualitative primary and secondary data sources and fieldwork. The results of this baseline will be summarised in the ESIA report. Additional baseline information may be included in Volume III. Technical Appendices. Further details on baseline surveys undertaken for the Project ESIA are presented in Section 6.5. The AoI will be defined for each topic and presented to show the geographic area in which impacts will be considered, clearly stating why the chosen area size is appropriate. Impact Assessment Impact assessment sections will focus on the impacts identified previously at scoping. Direct and indirect impacts, temporary and permanent impacts of reversible or irreversible natures will be identified, along with a conclusion on the level of these effects, both positive and negative, as well as a comment on the significance of effect. The assessment will consider normal operating conditions, as well as potential unplanned or emergency events. Cumulative impact A section on cumulative impacts and effects will be included in the ESIA, as described in Section 6.6.5.
Chapter 8. Mitigation and Enhancement Measures	Each scoped-in topic (as proposed in Section 4.14) will present proposed mitigation measures. Identified mitigation will be informed by site visits and meetings with the Project Company to ensure that mitigation is both implementable and appropriate. Enhancement measures will also be proposed to strengthen identified benefits of the Project.
Chapter 9. Conclusion	This will present residual effects and conclusions of the ESIA study.
Volume III	**Technical Appendices**
Technical Appendices	This includes information of the Consultants team and their qualifications, references, records and technical documentations, meeting minutes, assignments and studies, reports and other technical documentation referenced in the ESIA report as well as any baseline date collected, maps and drawings produced during the ESIA process.
Volume IV	**Environmental and Social Management and Monitoring Plan (ESMMP)**
Project ESMMP	A robust ESMMP will be produced, as described in Section 6.7.
Volume V	**Community and Social Risk Management Plan (CSRMP)**
Project CSRMP	A robust CSRMP will be produced, as described in Section 6.8.
Volume VI	**Stakeholder Engagement Plan**
SEP	The Project SEP has been prepared along with the Scoping report as detailed in Section 6.9
Volume VII	**Livelihood Restoration Plan**
LRP	The LRP will guide land acquisition process and mitigate economic displacement of local farmers as detailed in Section 6.10.

Source: Consultant's Terms of Reference and scoping study

6.3 Delimitation of the ESIA Study Area

The study area will comprise the Project affected area and area of influence. These will be defined in the ESIA specific to each topic within scope.

6.4 Consideration of Alternatives

The ESIA will consider alternative design options for the various aspects of the Project. An alternative is a possible course of action, in place of another, that would meet the same general purpose and need defined by the development proposal, but which would avoid or minimise negative impacts or enhance Project benefits.

Alternatives must be practical, feasible, relevant, reasonable and viable. They can be in terms of:

- Activity (Project) alternatives (e.g. incineration rather than landfill)
- Location (e.g. a different site)

- Scheduling (e.g. timing or sequencing of certain activities)
- Technology (e.g. a different power generation process)
- Design (e.g. a different layout, capacity, scale)
- Inputs (e.g. use of different energy sources or materials)
- Routing (e.g. a different route for a road)

The alternatives for the Project may be categorised as follows:

- Site selection alternatives
- Processes and technology alternatives
- Design alternatives
- Water abstraction and drainage alternatives
- Waste management alternatives
- Transport routes alternatives
- Construction alternatives
- No-project alternative

6.5 Topic Scope and Surveys

Following the proposed ESIA scope shown in Table 4.4, the sub-sections below show the proposed methodology and baseline surveys proposed for scoped-in topics.

6.5.1 Hydrology and water quality

Proposed methodology

In order to assess potential impacts of the Project on water quantity and quality the demands and availability of water will be reviewed and analysed. The assessment would seek to confirm and assess:

1) The current level of abstraction from the Amu Darya river used for the irrigation channel and compare this to the consented volumes to determine if there is sufficient headroom available without the need for additional arbitration over and above licenced levels and the current flows on the Amu Daria river and irrigation channel.
2) If additional water, over and above licenced levels from the Amu Darya was required, the assessment would consider the additional volumes required in the context of existing flows by obtaining relevant information from nearby gauging stations.
3) Potential impacts on other users of water from the irrigation channel in the event the irrigation channel had a reduced flow. The potential likely significance would be determined considering the existing and future flows making use of gauging station data where available.
4) The volumes of water being discharged to the Dengizkul lake and the Amu Darya river and their impacts on the overall water balance in the catchment.

Available information on water quality in groundwater, the irrigation channel and in channels for discharges would be reviewed as part of the assessment of potential water quality impacts.

Although flood risk is not likely to be a major consideration, rainfall data and the area to be covered by impermeable surfaces will be reviewed. Baseline data will establish baseline conditions and the potential increase in flood runoff due to the Project.

To assess the potential impact of construction activities on groundwater and surface water, available information on the number, time and location of moving vehicles will be analysed. Best practice measures will be utilised to reduce spillages, including oil interceptors, drip trays, and keeping working areas clean and tidy. This will include works associated with the pipelines.

Baseline surveys

Consultation with local institutions and relevant government departments and a desk-based study will be undertaken using available information to determine existing abstraction limits and flow rates on the Amu Darya river and irrigation channel. Historic hydrological and meteorology data will be sought for the area in the form of rainfall, topography and flows in the river/irrigation channel to determine baseline hydrological conditions. Water quality information will also be sought from historical records or nearby monitoring.

Groundwater surveys in the vicinity of the GCC site to test for contaminants will be carried out as part of planned geotechnical surveys. It is proposed five samples will be taken and analysis will include the following parameters: arsenic, boron, barium, beryllium, cadmium, chromium (gross and IV valence), copper, iron, mercury, lead, magnesium, manganese, molybdenum, nickel, selenium, vanadium, zinc, pH, total hardness, sulphates (water-soluble), cyanides (free and complex), ammonium nitrogen, chlorides, nitrates, total amount of hydrocarbons in oil (petroleum products), suspended solids, total salts.

6.5.2 Ground conditions

Proposed methodology

An assessment will be undertaken as part of the ESIA, based on baseline monitoring data being undertaken as part of the ESIA and available baseline information, to determine the potential impacts on geological resources. The assessment will include geology, soils and contaminated land and it will consider how these aspects may affect or be affected by the construction and operation of the Project.

The assessment will consider relevant Uzbekistan standards and legislation, international standards and WBG General EHS Guidelines and applicable sector specific EHS Guidelines. The impact assessment will identify the sensitivity of receptors and magnitude of impacts to evaluate the effects and will recommend internationally accepted best practice mitigation measures to minimise adverse and maximise beneficial effects during the construction and operational phases.

Baseline surveys

Soil quality surveys at the GCC location to test for contaminants will be carried out as part of planned geotechnical surveys. It is proposed 20 samples will be gathered in a grid distance of 200m, and analysis will include the following parameters: arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, pH, phenols (total), total hydrocarbons in petroleum (petroleum products), sulphates (water-soluble), chlorides, total salts, gypsum.

6.5.3 Climate change

Proposed methodology

Historic meteorology data for the area (including temperature, rainfall records) will be obtained. A future baseline will be defined using climate change projections for the region and taking into account the lifetime of the Project. In addition, historic records and or local knowledge on impacts of extreme weather events, weather-related disruption to the local area, will be sought from the local stakeholders.

Based on the above data, key potential climate change impacts to the Project will be identified, for the operational phase only.

Baseline data

Baseline information will be compiled using the nearest available historic weather records for the area surrounding the Project from Uzhydromet[26].

The future climate baseline will be established using publicly available climate projections data for the country. If country-downscaled information for Uzbekistan is available, this will be used. If this is not available, information freely available through the World Bank's Climate Knowledge portal[27] will be used to define the future baseline.

The lifespan of the Project will influence the selection of the future baseline.

6.5.4 Biodiversity

Proposed methodology

The baseline conditions will be described through an initial desktop analysis and literature review and ecological walkover. The assessment criteria and methodology will be developed with reference to IFC Performance Standard 6 and IFC Guidance Note 6 and EBRD PR6 for the measurement, prediction and assessment of impacts arising during the construction and operation of projects of this nature.

The criteria for determining receptor sensitivity (conservation importance) in accordance with IFC PS6 will be defined in the ESIA along with the magnitude (nature (adverse/ beneficial), extent, duration, frequency, timing, reversibility) of the potential impacts upon each ecological receptor. The significance of biodiversity impacts will then be determined through consideration of sensitivity (conservation importance) of Project affected biodiversity receptors, and the magnitude of the impact experienced by them.

Baseline surveys

An initial desktop analysis and literature review will be conducted in line with IFC PS6 and EBRD PR6 to inform the biodiversity baseline. Integrated Biodiversity Assessment Tool (IBAT) data will be purchased and interpreted to inform the ESIA. This will include legally protected and internationally designated areas, and globally threatened species. Habitat mapping of the AoI will be undertaken using freely available satellite imagery. Field surveys will be conducted to ground truth the habitats in the study area, confirm category and condition of habitats (modified or natural), record flora and fauna observed within the Project site and adjacent areas, and identify if any species are globally/ nationally threatened, nationally protected, restricted-range species, migratory/congregatory or invasive.

Based on the results of the baseline data study and reconnaissance site visits, animal and plant species of conservation importance are likely to occur on the direct footprint of the Project development area, and also they could be present in the wider area that is likely to be affected by habitat loss, noise, flaring, artificial lighting, bird strikes, wastewater discharge and nitrogen deposition. A site survey will be carried out within 300-500m of the Project site and pipeline, which will include sensitive areas such as Dengizkul lake. Habitats, flora and fauna will be recorded together with habitat suitability for mammals, amphibia, birds, and reptiles.

6.5.5 Air quality

Proposed methodology

Construction effects will be localised and temporary and are likely to include emissions associated with construction site plant and equipment and dust arising from construction activities, and vehicle movements. It is proposed that in the ESIA, construction impacts will be assessed using a qualitative risk-based approach to determine effects of construction emissions and dust.

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[26] Centre of Hydrometeorological Service of the Republic of Uzbekistan (Uzhydromet) http://www.meteo.uz/#/en [accessed March 2021]

[27] https://climateknowledgeportal.worldbank.org/

Emissions from construction plant will be considered and assessed qualitatively but the ESIA would include specific mitigation to minimise impacts from these. Additional construction traffic numbers will be reviewed, if available, and will be assessed qualitatively.

Operational effects will be assessed using an internationally approved dispersion model to calculate future pollutant concentrations at nearby sensitive receptors and will be compared against both national and international ambient air quality standards where appropriate. Proposed emission sources will be, where possible, designed to minimise emissions and their emissions will be compared to appropriate national and international emission limits.

Potential emissions from VOCs associated with the gas pipeline and the GCC will be assessed qualitatively on the basis that the proposed Project will implement best international practice to manage VOC emissions.

Baseline surveys

A Project-specific baseline survey will be undertaken at the GCC. Monitoring will be undertaken at eight locations to be selected to represent the GCC location and nearby sensitive receptors. Monitoring will be undertaken for NO_2 using passive diffusion tubes for a period of two months as a minimum.

6.5.6 Greenhouse gases

Proposed methodology

Construction and operational emissions of the Project will be assessed through a desk-based quantitative and qualitative study. The ability to quantify these sources of emissions will be driven by the level of data available. Therefore, it may only be possible to assess some of these impacts in a high level or qualitative way, where insufficient data is available. The focus of the assessment will be on those sources with the greatest impact.

Guidance Notes for IFC PS3 (IFC, 2012) advise that the GHG assessment should provide the following where current and relevant statistics are available:

- The Project's GHG emissions relative to the host country's total national emissions (tonnes of carbon equivalent per year)
- The Project's GHG emissions performance relative to good international performance or the host country's national average performance (tonnes of carbon equivalents per MWh)
- The annual trend of the Project's GHG emissions performance over time
- Recommendation of opportunities to further improve the Project's GHG emissions performance

The ESIA will also consider the GHG emissions in the context of national policy commitments. -

Baseline data

Where available, desktop data will be analysed for the construction and operational GHG assessment. Where data is insufficient, it may be possible to present a qualitative assessment of impacts. Data will be required from a variety of sources as outlined in Table 6.2.

Table 6.2: GHG data sources

Emission Source	Typical data requirements
Construction emissions	
Raw materials	Bill of quantities or similar, or can be scaled from construction costs using benchmarks
Plant and equipment	Fuel consumption estimates (where estimates are unknown, emissions can be scaled from anticipated volumes of excavation and/or areas of land clearance, where applicable)

Construction traffic, including transport of raw materials, construction workers and waste to and from site	Estimates of vehicle kilometres travelled, and mode of travel (road/air etc.)
Worker accommodation/ buildings	Fuel/energy consumption estimates
Operational emissions	
Energy use	Energy consumption estimates (including electricity, gas, heat, steam, and cooling where applicable). In the absence of data, it may be possible to scale emissions from building energy requirements only, based on building use and floor area.
On-site combustion	Estimates of fuel consumption from on-site combustion (e.g. from boilers) where applicable.
Maintenance of assets	Estimates of vehicle kilometres travelled for maintenance activities, and mode of travel (diesel vehicle, van, etc). Estimated volume of waste materials from maintenance activities and raw materials used for replacements were necessary (e.g. ferrous and non-ferrous metals).
Chemical processes	A chemical process map to assist with carrying out a mass-balance equation. Where this information in not available, it may be possible to use a benchmark carbon intensity based on desk-based research. Clarification will be needed as to whether capture and storage technologies are in place, and the efficiency of these.
Fugitive emissions	Data on fugitive emissions such as quantity and type of gas leakage, and GHG quantities (e.g. CO_2/CH_4) released from gas flaring and/or blow down activities.
Water supply and wastewater treatment	Expected volume of water supply and wastewater.

Source: Mott MacDonald scoping study, 2021

6.5.7 Noise and vibration

Proposed methodology

The closest sensitive receptors to the Project are isolated residential properties to the west/north-west of the GCC site. The potential noise and vibration impacts arising during the construction and operational phases will be assessed in accordance with applicable national and international standards and requirements and relevant guidance. The assessment will identify the Area of Influence (AoI), its baseline and the sensitive receptors within it, and describe the potential impacts to identify where significant effects are expected to arise. The assessment will use quantitative and qualitative methods and be predominantly desk-based. It will be informed by the results of a baseline noise survey to be limited to the area of the closest sensitive receptors to the proposed GCC site. The assessment of impacts of the pipeline works will be based on fixed limits without reference to baseline. There are no significant existing sources of environmental noise in the area of the majority of the proposed pipeline route.

National noise requirements as set out in the Sanitary Norms and Rules to Ensure Acceptable Noise Levels in Dwellings, Public Buildings, and Surrounding Land SanPiN 0267-09[28] provides permissible noise limits for environmental noise for different receptors in Uzbekistan. The applicable national noise standards for outdoor noise in the area of residential properties will be referenced in the noise impact assessment, in addition to international noise standards and guidance as set out in the IFC World Bank Group EHS Guidelines[29], the WHO 'Guidelines for Community Noise' (1999)[30] and applicable European Union standards (as required by the EBRD ESP and PRs).

Baseline surveys

[28] Sanitary Norms and Rules to Ensure Acceptable Noise Levels in Dwellings, Public Buildings, and Surrounding Land SanPiN 0267-09 (Санитарные Нормы и Правила по Обеспечению Допустимого Шума в Помещениях Жилых, Общественных Зданий и На Территории Жилой Застройки СанПиН 0267-09)

[29] International Finance Corporation. World Bank Group. Environmental, Health and Safety (EHS) Guidelines. General EHS Guidelines: Environmental. Noise management. 1.7 Noise. 2007.

[30] Guidelines for Community Noise. World Health Organization. 1999.

A baseline noise survey is proposed and is to be representative of the closest sensitive receptors to the proposed GCC. Measurements should be undertaken over one-hour intervals with the fast time weighting. A minimum of two one-hour measurements should be conducted in the daytime (07:00 – 23:00) and a minimum of one one-hour measurement in the night-time period (23:00 – 07:00). The periods have been defined to be compatible with the definitions of daytime and night-time given the Uzbek Noise Standards and Control Regulations.

The survey procedure will be specified and undertaken in accordance with good industry practice and will comply with the requirements set out in the IFC EHS Guidelines for noise management. Noise monitoring will be carried out using a Type 1 or 2 sound level meter meeting all appropriate IEC standards[31,32], and noise monitoring programs will be designed and conducted by trained specialists.

6.5.8 Waste and Materials Management

Proposed methodology

Potential impacts arising from raw material consumption and generation of construction, operational and decommissioning wastes of the Project will be identified and assessed through a desk-based study. Relevant waste management national legislation and policy will be identified, along with a description of the baseline national and regional waste context, including waste management infrastructure and applicable waste management strategies. In addition, a description of the baseline national and regional context for material resources including availability and location will also be identified.

Anticipated material resources required and waste streams generated for all Project phases will be identified and quantified to the extent available information allows. Waste avoidance, minimisation, reuse, recycling and disposal options will be assessed in line the waste hierarchy and international standards and guidance, including options for minimisation of raw material consumption. An assessment of the significance of material resource use and waste arisings from each Project phase will be performed and mitigation measures for the appropriate management of these waste streams identified.

The decommissioning assessment will focus on identifying key waste management measures aligned with relevant international good practice guidance for the decommissioning and removal of Project facilities.

Baseline data

Desk-based research will identify data and information in relation to national/regional waste policy and infrastructure and availability of material resources required. Data on projected waste stream and volumes will also be collected.

6.5.9 Social

Proposed methodology

A detailed social impact assessment will be undertaken during the ESIA phase to determine the full scope and extent of potential effects of the Project on people, households and communities. The SIA will consider the key issues identified in the scoping study around land use and livelihoods, economy and employment and access to social infrastructure. Their related impacts will be outlined in the ESIA report along with an assessment of their significance and potential avoidance, mitigation and management measures.

The national EIA which was reviewed as part of scoping contains very limited social baseline data. As such the scoping team consulted with regional and local governments, local employment authorities and mahalla on the availability of demographic data and surveys at the ACs level. It was identified that such data is collected and available. Household level data which would assist in the understanding of incomes and

[31] International Standard IEC 60651 Standard for Sound Level Meters. with amendments 1&2. 2001.

[32] International Standard IEC 61672 Electroacoustics – Sound level meters – Part 1: Specifications. 2003.

livelihoods of the affected groups (local farmers, seasonal workers and women in the ACs) is not currently available.

To describe the potentially Project affected communities, the SIA will approach local governments (hokimiyats), employment authorities, social support offices and other authorities with information requests to address existing gaps in the social baseline. Information requests will be prepared by the Consultant. Support will be sought from the Project Company in communicating these information requests and collecting responses and provided information.

Likely conditions associated with worker and community health and safety aspects of the Project will be studied through a desktop review of the available Project documentation and assessed against the assessment criteria. The assessment criteria and methodology will be developed with reference to the following applicable standards, amongst others:

- National occupational and public health and safety legislation
- EBRD Environmental and Social Policy and Performance requirements (2019)
- IFC/MIGA Performance Standards on Environmental and Social Sustainability (2012/2013)
- IFC EHS Guidelines: General Guidelines (2007)
- IFC General EHS Guidelines: Construction and Decommissioning (2007)
- IFC EHS Guidelines for Large Volume Petroleum-Based Organic Chemicals Manufacturing (2007)
- EU Council Directive 82/501/EEC on the major-accident hazards of certain industrial activities (1982)
- EU Directive 2017/164/EU Indicative Occupational Exposure Limit Values (2017)

Social impacts will be reported with appropriate mitigation measures and management plans proposed.

A Community and Social Risk Management Plan will be developed to manage identified community and social impacts.

A Livelihood Restoration Plan (LRP) will be developed to manage economic displacement impacts of the Project if these are confirmed as part of the main ESIA.

Baseline surveys

Social baseline studies will be undertaken to inform impacts arising on:

- Land use and livelihoods
- Economy and employment
- Access to social infrastructure

Specific data collected will include:

- Demographic, ethnic and gender profile of the ACs, including characterisation of resource conditions and poverty, economic activities, employment sources and trends, infrastructure and service provision (education, transport, utilities, etc.)
- Current land uses - providing an indication of major trends in land use change, if any, which are taking place irrespective of the Project
- Profile of local businesses as well as local development needs, priorities, and planned or ongoing development interventions
- Identification of vulnerable and/or ethnic minority groups residing in the affected communities
- Existing health statistics
- Existing traffic
- Availability of clean drinking water, both in terms of quantity and quality

Data will be obtained through secondary research and use of existing census data, available in mahallas and District Hokimiyats as well as interviews with relevant special interest groups such as representatives of civil society and non-governmental organisations, as needed and as feasible to arrange within the reporting timescales.

To describe existing livelihood groups in the ACs in greater detail it is suggested that focus group discussions be conducted in three Project districts (farmers, seasonal workers and women). Taking into account the on-going COVID-19 pandemic strict social distancing and other protective measures will be applied in any physical meetings.

In order to develop an affected farmers census to inform the LRP, the following information on the farmers that will be impacted by land acquisition and the change in land use will be requested from the Farmers Associations and District Hokimiyats: place of residence, age, education, household size, terms and conditions of land lease, size of the affected plot(s), current income, number of permanents staff and seasonal workers in the farm.

Consultation meetings will be undertaken with JP and the Karakul and Zhondor District Hokimiyats to better understand the legal status of the land in question and the allocation and leasing process, and to identify existing gaps against international standards. Compensation methods and eligibility criteria in line with the applicable international requirements will also be discussed and proposed to the Project Company for its consideration and agreement.

For health indicators a baseline will be sought from the relevant health authorities. Workers and community health and safety hazards and risks related to the proposed development as well as existing practices of the Project Company will be assessed against the EBRD and IFC/MIGA requirements. For all identified issues, mitigation measures will be provided.

With regards to the potential impact on traffic during construction and operational phase, the types of movements for each phase will be identified and assessed. The assessment will be undertaken through a desk-top study and a traffic survey to understand existing road traffic near the Project site.

A traffic survey will involve quantitative survey of existing traffic loads on the key traffic route to the site to further inform the baseline description. The survey will include traffic counts of the following two vehicle types:

- Light vehicles – Cars, motorcycles, taxis and small vans
- Heavy vehicles – All lorries and other large vehicles, including buses

The survey will select locations taking into consideration the safety of surveyors and the distance from junctions. The survey will be undertaken manually during peak traffic periods of working hours and each surveyor focussed on a dedicated lane and direction of travel along the road.

The ESIA will then assess impacts associated with the additional traffic generated by the Project and will assess their significance.

6.5.10 Cultural heritage

Proposed methodology

To assess potential heritage impacts and effects during the construction phase, a more detailed desktop review and further consultations with the Bukhara Regional Department of Cultural Heritage will be undertaken as well as a walkover of the site in the company of a trained archaeologist during the development of the ESIA to as far as possible identify cultural artefacts and any local areas of cultural significance within the direct Project footprint.

Baseline surveys

A site survey of the direct Project area needs to be undertaken considering the significance of the Project location within the former Silk Road and proximity to cultural monuments such as Paikent. Intrusive investigation is not considered necessary currently; however, this will be reviewed as further information is ascertained.

Heritage specialists will also:

- Review any local field surveys or other available information about the development site and surrounding area
- Analyse the information in relation to the Project and prepare the Cultural Heritage chapter for the ESIA
- Identify potential mitigation requirements in line with regulatory and Lenders' guidance

6.6 Impact Assessment Methodology

The ESIA will identify impacts and report on the likely significant environmental or social effects that result from these impacts. The criteria for determining significance are specific for each environmental and social aspect and will be defined in the specialist chapters within the ESIA itself. For each impact the likely magnitude of the impact and the sensitivity of the receptor are defined which are then used to determine the impact significance. Generic criteria for the definition of magnitude and sensitivity are summarised below.

It is important to note that the approach for the assessment to be undertaken for GHG emissions deviates from the methodology presented in the following sub-sections as no significance can be assigned to the risks or impacts identified. This will be discussed in more detail in the ESIA report.

6.6.1 Magnitude of Change

The assessment of the magnitude of a change, or impact, resulting from the Project development is undertaken in two steps. Firstly, the identified impacts are categorised as beneficial or adverse. Secondly, impacts are categorised as major, moderate, minor or negligible based on consideration of parameters such as:

- Scale of the impact – how intense or severe the extent of the impact is likely to be
- Duration of the impact – ranging from 'beyond decommissioning' to 'temporary with no detectable impact'
- Spatial extent of the impact (for instance, within the site boundary, within district, regionally, nationally and internationally)
- Reversibility – ranging from 'permanent requiring significant intervention to return to baseline' to 'no change'
- Likelihood – ranging from 'occurring regularly under typical conditions' to 'unlikely to occur'

Table 6.3 presents generic criteria for determining impact magnitude (for adverse impacts). Each detailed assessment will define impact magnitude in relation to its topic.

Table 6.3: Criteria for determining impact magnitude

Category	Description (adverse impacts)
Major	Fundamental change to the specific conditions assessed resulting in long term or permanent change, typically widespread in nature and requiring significant intervention to return to baseline; would violate national standards or Good International Industry Practice (GIIP) without mitigation.
Moderate	Detectable change to the specific conditions assessed resulting in non-fundamental temporary or permanent change.
Minor	Detectable but minor change to the specific conditions assessed.
Negligible	No perceptible change to the specific conditions assessed.

Source: Mott MacDonald scoping study

6.6.2 Sensitivity Criteria

Sensitivity is specific to each topic and the environmental resource or population affected, with criteria generally defined on the basis of baseline information. Generic criteria for determining sensitivity of receptors are outlined in Table 6.4. Each detailed assessment will define sensitivity in relation to its topic.

Table 6.4: Criteria for determining sensitivity of a receptor

Category	Description
High	Receptor (human, physical or biological) with little or no capacity to absorb proposed changes or minimal opportunities for mitigation.
Medium	Receptor with little capacity to absorb proposed changes or limited opportunities for mitigation.
Low	Receptor with some capacity to absorb proposed changes or moderate opportunities for mitigation.
Negligible	Receptor with good capacity to absorb proposed changes or and good opportunities for mitigation.

6.6.3 Evaluation of Effects

Likely effects are evaluated through taking into account the interaction between the magnitude of an impact and the sensitivity of a receptor, as presented in the effect evaluation matrix in Table 6.5.

Table 6.5: Effect evaluation matrix

Sensitivity	Magnitude						
	Adverse			*Neutral*	*Beneficial*		
	Major	**Moderate**	**Minor**	**Negligible**	**Minor**	**Moderate**	**Major**
High	Major	Major	Moderate	Negligible	Moderate	Major	Major
Medium	Major	Moderate	Minor	Negligible	Minor	Moderate	Major
Low	Moderate	Minor	Negligible	Negligible	Negligible	Minor	Moderate
Negligible	Minor	Negligible	Negligible	Negligible	Negligible	Negligible	Minor

6.6.4 Determining Significance

The objective of the ESIA is to identify the likely significant effects of the Project on the environment and people. Effects that have been evaluated as being ‘Moderate’ or ‘Major’ (as set out in Table 6.5) are considered to be significant effects and identified as such in the specialist chapters. Consequently, effects that are ‘Minor’ or ‘Negligible’ are not significant.

6.6.5 Cumulative Impact Assessment

The assessment of cumulative effects considers the combination of multiple effects that may result when the Project is considered alongside other existing or proposed projects in the same geographic area or similar development timetable. The assessment of cumulative effects will identify where particular resources or receptors would experience significant adverse or beneficial effects as a result of a combination of projects (‘inter-project cumulative effects’). In addition, the interaction of multiple impacts from the Projects upon the same receptor can also result in cumulative effects (‘intra-project cumulative effects) and will also be presented in the ESIA.

Cumulative impacts will be assessed for each of the environmental and social topics scoped into the ESIA considering both construction and operations phases as applicable. The scoping study did not identify other existing or planned projects in the Project area, although the wider region is known to have operating oil and gas field operations, including in the vicinity of Lake Dengizkul. The Project natural gas pipeline will be running within the same corridor as an existing gas pipeline and may enlarge the current area of habitat disturbance and loss. The ESIA will further investigate the presence of existing or potential projects and conduct an assessment of cumulative impacts, as required.

6.6.6 Mitigation and Enhancement Measures

Where feasible the following hierarchy of mitigation measures will be applied:

- Avoid and reduce impacts and effects through design (embedded mitigation)
- Minimise impacts and effects at source or at receptor
- Repair, restore or reinstate to address temporary construction effects
- Compensate for loss or damage.

In addition to the above, community engagement and disclosure activities will play a key role in managing the extent of effects and consideration has also been given to the identification of enhancement measures. Enhancement measures are actions and processes that:

- Create new positive impacts and effects, or benefits
- Increase the reach or amount of positive impacts and effects, or benefits
- Distribute positive impacts and effects, or benefits, more equitably

Each technical chapter will identify relevant mitigation and enhancement measures. All the mitigation, management and monitoring measures to address likely Project effects will be reported in the ESMMP.

6.6.7 Residual Effects

Residual effects are those that remain after the application of mitigation and enhancement measures. Impacts considered ‘Major’ or ‘Moderate’ after application of mitigation and enhancement measures, are presented as significant residual effects.

6.6.8 Uncertainty

Any uncertainties associated with impact prediction or the sensitivity of receptors due to the absence of data or other limitations will be explicitly stated. Where applicable, the ESIA will make recommendations concerning measures that should be put in place with monitoring or environmental or social management plans to deal with the uncertainty so that they may be addressed. Where a worst-case scenario is used, this will be clearly stated in the ESIA.

6.7 Environmental and Social Management and Monitoring Plan (ESMMP)

Health, safety, environmental, social and security management and mitigation requirements will be identified during the ESIA process and collated in an ESMMP. The ESMMP will include:

- Summary of legislative requirements
- Proponent environmental health, safety and social management roles and responsibilities
- Summary of key requirements of environmental and social management system (ESMS)
- Framework environmental and social management and monitoring plan

The ESMMP will form the basis of environmental and social protection to be provided by the Project Construction Contractor/Site Operator to support delivery of environmental, health, safety and social performance in accordance with international standards and best practice. The framework ESMMP will guide the main Contractor’s and Operator’s production of more detailed ESMMPs based on their specific scopes of work.

The ESMMP produced during the ESIA will aim to deliver a framework for the following:

- Compliance – all work carried out on the construction of the Project will comply with national and international environmental legislative and regulatory requirements

- Minimisation of environmental and social risk – Project specific procedures will assist to identify environmental and social risk and implement management requirements.
- Delivery of best practicable environmental and social performance – all work undertaken on the Project will endeavour to prevent pollution and social conflict, minimise negative environmental and social effects wherever practicable and use materials efficiently through the use of best practice.

6.8 Community and Social Risk Management Plan

The ESMMP will include a Community and Social Risk Management Plan (CSRMP). Based on the findings of the ESIA the CSRMP will set out the framework to guide community and social impact management and risk prevention and mitigation throughout the various Project phases, including construction, operation and decommissioning.

Actions and budget for monitoring and compliance insurance through audits and inspection programmes as appropriate shall be included. The initial overarching CSRMP will be the basis for a living document to be continuously developed by the Project team as the Project progresses. The elements covered are as follows:

- General requirements
- Project company's community and social policy
- Planning, incorporating significant social and community aspects, legal and other requirements, objectives, targets and programme
- Implementation and operation covering everything from resourcing, over training, communication, documentation to emergency preparedness and response
- Monitoring and measurement
- Management review

6.9 Stakeholder Engagement Plan

6.9.1 Overview

The SEP is a strategic document for planning meaningful and appropriate engagement with the key stakeholders. It has been prepared to guide the Project consultation and disclosure activities up to the completion of the ESIA process and through the construction and operation phases of the Project. Specific objectives of the SEP are to provide a consultation strategy for the Project to:

- Ensure all legal and international requirements related to consultation are addressed
- Involve the full range of stakeholders in the planning of the Project to improve the Project design, implementation and monitoring
- Encourage an open dialogue with the affected communities (ACs) where the Project is located
- Keep all interested and affected stakeholders informed of Project progress
- Provide a grievance mechanism for the ACs to raise complaints and ensure that they are appropriately addressed by the Project

6.9.2 SEP structure

The SEP is structured in six chapters. After the introduction, the second chapter includes a brief description of the applicable national and international stakeholder engagement requirements. Chapter 3 includes a brief description of the stakeholder's analysis methodology and stakeholders identified during the ESIA scoping phase. Chapter 4 summarises the disclosure programme for the ESIA phase and going forward for the rest of the Project lifecycle. Chapter 5 illustrates the grievance mechanisms, while the final chapter presents the monitoring, reporting and evaluation procedures for SEP.

The SEP is a live document which evolves as the Project progresses. Therefore, a continuous approach is taken and the SEP will need to be reviewed periodically during Project implementation and updated as necessary prior to the Project major phases, any new or changed operations, modifications in the Project design or if new stakeholders are identified.

The SEP is underpinned by the principles that community engagement should be free of external manipulation, interference, coercion and intimidation and conducted on the basis of timely, relevant, understandable and accessible information. Consultation activities should always be well planned and based on principles of respectful and meaningful dialogue.

The Project SEP will be issued as a separate document and will need to be disclosed by the Project with the Scoping Report. It will be used to *inter alia* identify any new Project stakeholders should they express their interest in the Project.

6.10 Livelihood Restoration Plan

6.10.1 Overview

A livelihood restoration plan (LRP) was not originally included in the Consultant's scope of work. The need for this document has been identified by this scoping study and is driven by need for compliance with applicable international requirements for managing land acquisition and economic displacement EBRD PR5 and IFC/MIGA PS5. These requirements are triggered as the Project will affect land users during the construction and operation of the gas pipeline.

The LRP will be developed as part of the suite of ESIA documentation and will be based on the following guiding livelihood restoration and resettlement principles that the Project will adhere to:

- Livelihood restoration activities will be designed with the involvement of local communities to restore the livelihoods of economically displaced people in a long-term and sustainable way
- Land acquisition and involuntary displacement will be minimised or avoided where possible. Where acquisition of land use rights is unavoidable, management measures will be identified to minimise adverse impacts
- Livelihood restoration in kind is preferred over compensation in cash
- Negotiated settlements (willing buyer/willing seller or willing leaser/willing lessee) is the preferred Project approach
- Displaced persons (DPs), including untitled land users, will be meaningfully consulted.
- Lack of title will not hinder eligibility for livelihood restoration and resettlement. DPs without clear land titles can have access to entitlements for assistance and compensation for the loss of non-land assets and land
- Livelihood restoration measures will be managed as sustainable development activities
- Displacement or restriction to access should not occur before necessary support measures are in place, such as assistance required for relocation or livelihood restoration
- Monitoring of adherence to land agreements, leases and this LRP will be undertaken. An LRP evaluation close out report will be produced.

6.10.2 LRP Structure

The LRP is proposed to include as follows:

- Part A, Project Description and Livelihood Impact Assessment – to describe the Project, provide the socio-economic baseline and identify economic displacement impacts

- Part B, Regulatory Framework and Entitlements – to include regulatory framework and specify eligibility and entitlements
- Part C, Livelihood Restoration Implementation – to identify livelihood restoration activities, summarise stakeholder engagement, provide implementation framework, identify monitoring, evaluation and reporting arrangements and budget for livelihood restoration.

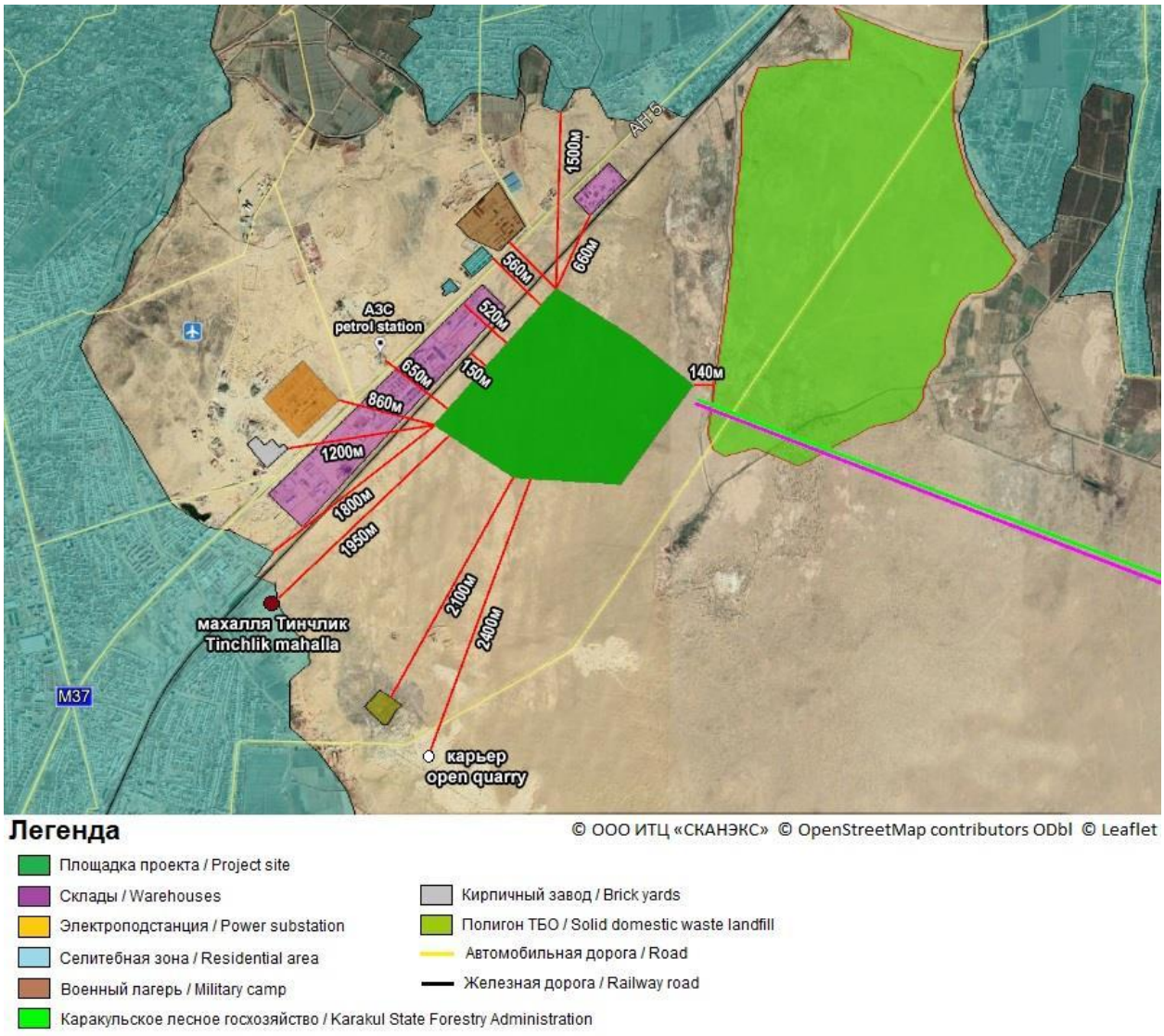
Appendices

A. Gas Pipeline and Land Users Location Plan

Figure A.1: Gas booster station and gas pipeline location plan

Source: Jizzakh Petroleum LLC, JV

Figure A.2: Land users and tenants in the vicinity to the site



Source: Mott MacDonald, Ecostandart Ekspert, 2021

B. Species Recorded at the Dengizkul Lake

Table B.1: Status of species recorded at the Dengizkul Lake

Species	National status (Red Data Book)	IUCN Status
Mammals:		
Hemiechinus hypomelas Brandt. (Brandt's Hedgehog)	3 (NT)	LC
Diplomesodon pulchellum Licht. (Piebald Shrew)	Not listed	LC
Vormela peregusna Guld. (Marbled Polecat)	Not listed	VU
Felis margarita Loche. (Sand Cat)	Not listed	LC
Gazella subgutturosa Guld. (Goitred Gazelle)	2 (VUD)	VU
Birds:		
Pelicanus crispus Bruch. (Dalmatian Pelican)	Not listed	Not listed
Phalacrocorax pigmaeus Pall. (Pygmy Cormorant)	Not listed	Not listed
Marmaronetta angustirostris Menetr. (Marbled Teal)	(EN)	VU
*Aythya nyroca Guld. (*Ferruginous Duck*)*	3 (NT)	NT
Oxyura leucocephala Scop. (White-headed Duck)	1 (EN)	EN
Chlamydotis undulata Jacg. (Houbara Bustard)	2 (VUD)	VU
Haliaeetus albicilla L. (White-tailed eagle)	2 (VUR)	LC
Amphibia / reptiles:		
Agrionemys horsfieldi Gray. (Horsfield's tortoise)	Not listed	Not listed
Teratoscincus scincus Schl. (Turkestan Plate-tailed Gecko)	1 (EN)	LC
Crossobamon ewersmann Wiegm. (Comb-toed Gecko)	Not listed	Not listed
Phrynocephalus reticulatus Eich. (Netted Toad Agama)	Not listed	LC
Phrynocephalus mystaceus Pall. (Toad-headed Agama)	Not listed	LC
Eremias grammica Licht. (Reticulate Racerunner)	Not listed	LC
Eremias lineolata Nic. (Striped Racerunner)	Not listed	LC
Eremias intermedia Str. (Medial Racerunner)	Not listed	LC
	Category 0 (Extinct) Regionally Extinct (EX) Regionally Extinct in the Wild (EW). Globally Extinct" (EX). Globally Extinct in the Wild" (EW). Category 1 (Endangered) Critically Endangered (CR) Endangered (EN) Category 2 (Vulnerable) Vulnerable: Declining (VUD) Vulnerable: Naturally rare – (VUR) Category 3 - Near Threatened (NT) Category 4 - Data Deficient (DD)	Data Deficient (DD) Least Concern (LC) Near Threatened (NT) Vulnerable (VU) Endangered (EN) Critically Endangered (CR) Extinct in the Wild (EW) Extinct (EX)

Source: https://www.iucnredlist.org/ ; Red Data Book of Uzbekistan

C. Scoping Consultation Meetings Minutes

A.1 Meeting Minutes No.1 of 03 March 2021, Karakul district

ПРОТОКОЛ 1

03.03.2021 **Бухарская область,**

Каракульский район

ПРИСУТСТВОВАЛИ: 10 человек

1. К.Ж. Кўзиев – Управление по экологии и охране окружающей среды Бухарской области
2. М.А. Гулямов – Директор экспертного отдела управления по экологии и охране окружающей среды Бухарской области
3. Л.И. Хегай – Руководитель группы «UZLTI-Engineering»
4. М.Г. Митрополский – «UZLTI-Engineering», главный специалист по биологическому мониторингу
5. И.И. Маматрахимов – СП ООО «Jizzakh Petroleum», эколог
6. Д.А. Файзиев – СП ООО «Jizzakh Petroleum», менеджер
7. Ж.Х. Файзуллаев – СП ООО «Jizzakh Petroleum», менеджер
8. О.Н. Вахидова-Мордовина – ООО «Экостандарт Эксперт», эксперт по ОВОСС
9. Г.Н. Петряева – ООО Экостандарт Эксперт, специалист по экологии
10. З.З. Казакова – ООО Экостандарт Эксперт, специалист по социальным вопросам.

ПОВЕСТКА ДНЯ:

1. Представление проекта по строительству газохимического комплекса в Каракульском районе Бухарской области и информации о международной процедуре ОВОСС
2. Вопросы и ответы.

Вахидова-Мордовина О.Н. - рассказала о реализуемой проекте строительства газохимического комплекса в Каракульском районе Бухарской области и ознакомила присутствующих с процедурой ОВОСС по международным стандартам, сообщила, что данная встреча является первой консультационной встречей по реализации данного проекта, цель встречи заключается в том, чтобы дать первичное представление о проекте заинтересованным сторонам на региональном и районом уровне: хокимиятам, органам охраны окружающей среды, органам охраны общественного здоровья, органам охраны объектов культурного наследия, центрам содействия занятости населения, местным некоммерческим организациям, махаллям.

А также, она сообщила, что к настоящему моменту СП ООО «Jizzakh Petroleum» провело оценку воздействия на окружающую среду (ПЗВОС) и в соответствии с требованиями законодательства Республики Узбекистан, и 30 декабря 2020 года было получено положительное заключение государственной экологической экспертизы № 01-01/10-08-2031.

Учитывая, что финансирование данного Проекта планируется осуществлять с участием международных финансовых организаций, СП ООО «Jizzakh Petroleum» заключила контракт для разработки ОВОСС по международным стандартам с компанией «Mott MacDonald». Данная ОВОСС будет соответствовать национальному законодательству и Директивам ЕС, а также политикам Всемирного банка и Руководящим принципам охраны окружающей среды, здоровья и безопасности;

стандартам эффективности МФК/MIGA, Требованиям ЕБРР и другим соответствующим требованиям кредитных организаций.

Следующие консультации будут проводиться после проведения всех необходимых изысканий и исследований на проектной территории для определения экологического и социального воздействия проекта. Сегодняшняя встреча является первичной консультацией также для обсуждения и уточнения следующих вопросов:

1. Наличие ограничений природоохранного характера для строительства газохимического комплекса в этом месте?
2. Имеются ли какие-либо пожелания или озабоченности властей, связанные с охраной окружающей среды, которые необходимо учесть при разработке ОВОСС и проектной документации?
3. Есть ли жалобы от населения на качество окружающей среды? Какого характера?
4. Знает ли население о Проекте? Есть ли жалобы населения на Проект?
5. Выдаются ли разрешения на охоту? На какие виды животных и перечень охотничьих видов животных.
6. Какие другие виды природных ресурсов добываются населением (лекарственные и пищевые растения, дрова, выпас скота и заготовка сена, добыча глины и песка и др.)?

Также наша компания обратиться с письменным запросом на получение следующих данных:

1. Перечень особо охраняемых природных территорий и памятников природы. Карта, координаты.
2. Список животных и растений, занесенных в Красную Книгу Узбекистана и Бухарской области.
3. Данные по исследованиям по биоразнообразию, материалы, карты, списки.
4. Данные по учету численности животных. Обзоры. Последняя перепись.

Во время обсуждения менеджер ООО «Jizzakh Petroleum», Ж. Файзуллаев добавил что реализуемым проектом строительства нового газохимического комплекса в Каракульском районе предусмотрена переработка 1,1 млрд м3 природного газа в олефины с дальнейшим производством продукции высоких переделов, таких как полиэтилен низкой плотности, этилен-винилацетат, полиэтилентерефталат и полипропилен и что газ который будет использован для производства высокоочищенный.

На выше представленные вопросы ответил Директор экспертного отдела управления по экологии и охране окружающей среды Бухарской области М.А.Гулямов. Он сообщил что жалобы от населения на качество окружающей среды в управление по экологии не поступали и скорее всего вопросы от населения будут поступать, когда они будут информированы о проекте, так как в настоящее время население о проекте не знает.

Единственным ограничением, связанным со строительством, он считает близкое расположение населённых пунктов к проектной территории. Но так как было получено официальное экологическое заключение и разрешение на строительство на республиканском уровне, значит все риски были учтены.

Разрешения на охоту выдаются только на определённые территории для охоты на разращённые виды животных (в основном утки, гуси и т.д.) Но, несмотря на постоянный контроль существует проблема с браконьерами. В Каракульском районе есть озеро Денгизкуль и Замонбубо, где выдаются разрешения на рыболовство. Лекарственные и пищевые растения, такие как исрик и корень солодки выращивается населением в специальных хозяйствах, сбор производиться в небольших масштабах. Население производит заготовку сена на пастбищных территориях, перед зимним периодом часто производят вырубку саксаула, несмотря, что это запрещено законом. Выпас скота производится на отведённых кадастровыми службами землях, являющимися фермерскими хозяйствами, свободных для выпаса скота земель нет.

Основное пожелание по данному проекту, провести масштабные общественные слушания с привлечением СМИ и региональных органов власти для полного раскрытия информации по проекту, представления возможных негативных экологических воздействий и мер по их смягчению, возможности трудоустройства и улучшения уровня жизни населения близлежащих районов во избежание жалоб и недопонимания со стороны населения ввиду расположения проектной территории рядом с городом Каракуль.

А также он сообщил, что необходимую информацию для подготовки проекта, такую как виды животных разрешённых для охоты, список особо охраняемых природных территорий и памятников природы, список животных и растений, занесенных в Красную Книгу Узбекистана и Бухарской области и исследования по биоразнообразию предоставит на основании официального запроса.

A.2 Meeting Minutes No.2 of 03 March 2021, Bukhara

ПРОТОКОЛ 2

03.03.2021 **г. Бухара**

Участвовали:

1. Ш. Махмудов – региональное управление департамента культурного наследия Бухарской области
2. Ш. Шарофиддинов – главный специалист региональное управление департамента культурного наследия Бухарской области
3. Ж. Кадиров – главный специалист региональное управление департамента культурного наследия Бухарской области
4. Л.И.Хегай – руководитель группы «UZLTI-Engineering»
5. М.Г.Митрополский – «UZLTI-Engineering», главный специалист по биологическому мониторингу
6. Д.А. Файзиев – СП ООО «Jizzakh Petroleum», менеджер
7. Ж.Х. Файзуллаев – СП ООО «Jizzakh Petroleum», менеджер
8. И.И. Маматрахимов – СП ООО «Jizzakh Petroleum», эколог
9. О.Н. Вахидова-Мордовина – ООО «Экостандарт Эксперт», эксперт по ОВОСС
10. Г.Н. Петряева – ООО «Экостандарт Эксперт», специалист по экологии
11. З.З. Казакова – ООО «Экостандарт Эксперт», специалист по социальным вопросам.

Повестка дня:

1. Представление проекта по строительству газохимического комплекса в Каракульском районе Бухарской области и информации о международной процедуре ОВОСС
2. Вопросы и ответы.

Вахидова-Мордовина О.Н. - рассказала о реализуемой проекте строительства газохимического комплекса в Каракульском районе Бухарской области и ознакомила присутствующих с процедурой ОВОСС по международным стандартам, сообщила, что данная встреча является первой консультационной встречей по реализации данного проекта, цель встречи заключается в том, чтобы дать первичное представление о проекте заинтересованным сторонам на региональном и районом уровне: хокимиятам, органам охраны окружающей среды, органам охраны общественного здоровья, органам охраны объектов культурного наследия, центрам содействия занятости населения, местным некоммерческим организациям, махаллям.

А также, она сообщила, что к настоящему моменту СП ООО «Jizzakh Petroleum» провело оценку воздействия на окружающую среду (ПЗВОС) и в соответствии с требованиями законодательства Республики Узбекистан, и 30 декабря 2020 года было получено положительное заключение государственной экологической экспертизы № 01-01/10-08-2031.

Учитывая, что финансирование данного Проекта планируется осуществлять с участием международных финансовых организаций, СП ООО «Jizzakh Petroleum» заключила контракт для разработки ОВОСС по международным стандартам с компанией «Mott MacDonald». Данная процедура ОВОСС будет соответствовать национальному законодательству и Директивам ЕС, а также политикам Всемирного банка и Руководящим принципам охраны окружающей среды, здоровья и безопасности; стандартам эффективности МФК/MIGA, Требованиям ЕБРР и другим соответствующим требованиям кредитных организаций.

Следующие консультации будут проводиться после проведения всех необходимых изысканий и исследований на проектной территории для определения экологического и социального воздействия проекта. Сегодняшняя встреча является первичной консультацией также для обсуждения и уточнения следующих вопросов:

- Есть ли ограничения для строительства, связанные с культурным наследием?
- Имеется ли нормативные акты методические рекомендации по действиям в случае обнаружения объектов культурного наследия?

Также наша компания обратиться с письменным запросом на получение следующих данных:

- Перечень (с описанием) и карта памятников культуры и архитектуры Бухарской области и каракульского района.
- Список нормативных актов, методических рекомендаций по действиям в случае обнаружения объектов культурного наследия по национальным стандартам

На вопросы ответил начальник регионального управления департамента культурного наследия Бухарской области Ш. Махмудов. Он сообщил, что в радиусе 500 м от площадки на маршрутах и вблизи линии электропередач и газопровода, коллектора сточных вод и подъездных автодорог не зарегистрировано памятников культурного наследия с государственным и областным статусом и в настоящий момент он не видит ограничений. Но после детального проектирования связанных объектов необходимо провести визуальное обследование трасс на предмет обнаружения раннее не зарегистрированных памятников культурного наследия регионального статуса, для изменения трасс на этапе проектирования. Также он сообщил, что 26.01.2021 департамент направил официальный ответ СП ООО «Jizzakh Petroleum» на запрос касательно памятников культурного наследия, в котором было предписание, что при проведении строительных работ на участке и связанных с проектом объектах постоянно присутствовал специалист департамента по культурному наследию-археолог. Все необходимые данные для разработки проекта региональное управление департамента культурного наследия предоставит на основании официального письма.

A.3 Meeting Minutes No.3 of 03 March 2021, Bukhara

ПРОТОКОЛ 3

03.03.2021 **г. Бухара**

ПРИСУТСТВОВАЛИ:

1. Р.Р. Асадов – заместитель хокима Бухарской области по инвестициям и внешней торговли
2. А. Тойиров – руководитель филиала департамента

3. Э. Иззатов – начальник Управления по земельным ресурсам и государственному кадастру Бухарской области
4. М.А. Гулямов – Директор экспертного отдела управление по экологии и охране окружающей среды Бухарской области
5. Л.И. Хегай – руководитель группы «UZLTI-Engineering»
6. М.Г. Митрополский – «UZLTI-Engineering», главный специалист по биологическому мониторингу
7. Д.А. Файзиев – СП ООО «Jizzakh Petroleum», менеджер
8. Ж.Х. Файзуллаев – СП ООО «Jizzakh Petroleum», менеджер
9. О.Н. Вахидова-Мордовина – ООО «Экостандарт Эксперт», эксперт по ОВОСС
11. З.З. Казакова – ООО «Экостандарт Эксперт», специалист по социальным вопросам.

ПОВЕСТКА ДНЯ:

1. Представление проекта по строительству газохимического комплекса в Каракульском районе Бухарской области и информации о международной процедуре ОВОСС
2. Вопросы и ответы.

Вахидова-Мордовина О.Н. - рассказала о реализуемой проекте строительства газохимического комплекса в Каракульском районе Бухарской области и ознакомила присутствующих с процедурой ОВОСС по международным стандартам, сообщила, что данная встреча является первой консультационной встречей по реализации данного проекта, цель встречи заключается в том, чтобы дать первичное представление о проекте заинтересованным сторонам на региональном и районом уровне: хокимиятам, органам охраны окружающей среды, органам охраны общественного здоровья, органам охраны объектов культурного наследия, центрам содействия занятости населения, местным некоммерческим организациям, махаллям.

А также, она сообщила, что к настоящему моменту СП ООО «Jizzakh Petroleum» провело оценку воздействия на окружающую среду (ПЗВОС) и в соответствии с требованиями законодательства Республики Узбекистан, и 30 декабря 2020 года было получено положительное заключение государственной экологической экспертизы № 01-01/10-08-2021.

Учитывая, что финансирование Проекта планируется осуществлять с участием иностранных кредитных организаций, СП ООО «Jizzakh Petroleum» привлекло британскую компанию для разработки Проекта «Mott MacDonald» и компанию «Экостандарт Эксперт» как консультанта из Узбекистана к проведению оценки воздействия Проекта на окружающую и социальную среду в соответствии с требованиями Международной финансовой корпорации, Европейского банка реконструкции и развития, а также в соответствии с подходом, указанном в «принципах экватора» (ОВОСС).

Учитывая, что финансирование данного Проекта планируется осуществлять с участием международных финансовых организаций, СП ООО «Jizzakh Petroleum» заключила контракт для разработки ОВОСС по международным стандартам с компанией «Mott MacDonald». Данная ОВОСС будет соответствовать национальному законодательству и Директивам ЕС, а также политикам Всемирного банка и Руководящим принципам охраны окружающей среды, здоровья и безопасности; стандартам эффективности МФК/MIGA, Требованиям ЕБРР и другим соответствующим требованиям кредитных организаций.

Следующие консультации будут проводиться после проведения всех необходимых изысканий и исследований на проектной территории для определения экологического и социального воздействия проекта. Сегодняшняя встреча является первичной консультацией также для обсуждения и уточнения следующих вопросов:

1. Общая социально-экономическая ситуация в районе (доходы населения (чем зарабатывают) ситуация на рынке труда и уровень безработицы, демографическая ситуация, национальный состав населения, обеспеченность объектами социальной инфраструктуры (дет. сады, школы, ВУЗы, объекты здравоохранения), существующие социальные проблемы.
2. Основные виды землепользования в районе
3. Отношение к проекту
4. Порядок землеотвода (если хокимият будет отводить земли района)

Также наша компания обратиться с письменным запросом на получение следующих данных:

1. Получение данных по населённым пунктам района за 5 лет:
2. Паспорта районов/махаллей
3. Данные по безработным (центр занятости)
4. По социально незащищённым слоям населения (органы социальной защиты).

На поставленные вопросы отвечал заместитель хокима Бухарской области по инвестициям Р.Р. Асадов, он сообщил что вопросы по землепользованию в районе и землеотводу будут решены на областном уровне, на районом уровне решается землеотвод в объёме не более 10 га земли, данные по землепользователям на проектной территории они также предоставят. Подтвердил, что по этим вопросам начальник управления по земельным ресурсам и государственному кадастру Бухарской области Э. Иззатов окажет всю необходимую помощь. Данные по общеэкономической ситуации районов будут собраны и также переданы консультантам, всю деятельность по данному проекту по вопросам взаимодействия между органами местной власти и консультантами он берет под личный контроль

Заместитель хокима Бухарской области отметил, что существующие инвестиционные проекты послужат повышению уровня жизни населения, улучшению их социального статуса, и для этого будет оказана вся необходимая поддержка со стороны администрации области.

A.4 Meeting Minutes No.4 of 04 March 2021, Zhondor district

ПРОТОКОЛ 4

04.03.2021 **Бухарская область,**
Хокимият Жондорского района

ПРИСУТСТВОВАЛИ:

1.	А. Зокиров	-	заместитель хокима Жондорского района по промышленному развитию, капитальному строительству, коммуникациям, коммунальным услугам
2.	Д. Рахматуллаев	-	заместитель начальника отдела управления по инвестициям и внешней торговли
3.	С. Хусенов	-	директор центра занятости Жондорского района
4.	Х. Ходжаев	-	председатель фермерской ассоциации Жондорского района
5.	Х. Базаров	-	начальник центра санитарно-эпидемиологического надзора Жондорского района
6.	Б. Курбанов	-	главный специалист управление по экологии и охране окружающей среды Жондорского района
7.	Ж. Худойкулов	-	директор лесного хозяйство Жондорского района
8.	Д. Файзиев	-	СП ООО «Jizzakh Petroleum», менеджер

9. Ж. Файзуллаев - СП ООО «Jizzakh Petroleum», менеджер
10. О. Вахидова-Мордовина - ООО «Экостандарт Эксперт», эксперт по ОВОСС
11. З. Казакова - ООО «Экостандарт Эксперт», специалист по социальным вопросам.

ПОВЕСТКА ДНЯ:

1. Представление проекта по строительству газохимического комплекса в Каракульском районе Бухарской области и информации о международной процедуре ОВОСС
2. Вопросы и ответы.

Вахидова-Мордовина О.Н. - рассказала о реализуемой проекте строительства газохимического комплекса в Каракульском районе Бухарской области и ознакомила присутствующих с процедурой ОВОСС по международным стандартам, сообщила, что данная встреча является первой консультационной встречей по реализации данного проекта, цель встречи заключается в том, чтобы дать первичное представление о проекте заинтересованным сторонам на региональном и районом уровне: хокимиятам, органам охраны окружающей среды, органам охраны общественного здоровья, органам охраны объектов культурного наследия, центрам содействия занятости населения, местным некоммерческим организациям, махаллям.

А также, она сообщила, что к настоящему моменту СП ООО «Jizzakh Petroleum» провело оценку воздействия на окружающую среду (ПЗВОС) и в соответствии с требованиями законодательства Республики Узбекистан, и 30 декабря 2020 года было получено положительное заключение государственной экологической экспертизы № 01-01/10-08-2021.

Учитывая, что финансирование данного Проекта планируется осуществлять с участием международных финансовых организаций, СП ООО «Jizzakh Petroleum» заключила контракт для разработки ОВОСС по международным стандартам с компанией «Mott MacDonald». Данная ОВОСС будет соответствовать национальному законодательству и Директивам ЕС, а также политикам Всемирного банка и Руководящим принципам охраны окружающей среды, здоровья и безопасности; стандартам эффективности МФК/MIGA, Требованиям ЕБРР и другим соответствующим требованиям кредитных организаций.

Следующие консультации будут проводиться после проведения всех необходимых изысканий и исследований на проектной территории для определения экологического и социального воздействия проекта. Сегодняшняя встреча является первичной консультацией также для обсуждения и уточнения следующих вопросов:

1. Общая социально-экономическая ситуация в районе (доходы населения (чем зарабатывают) ситуация на рынке труда и уровень безработицы, демографическая ситуация, национальный состав населения, обеспеченность объектами социальной инфраструктуры (дет. сады, школы, ВУЗы, объекты здравоохранения), существующие социальные проблемы.
2. Основные виды землепользования в районе
3. Отношение к проекту
4. Порядок землеотвода (если хокимият будет отводить земли района)

Также наша компания обратиться с письменным запросом на получение следующих данных:

1. Получении данных по населенным пунктам района за 5 лет:
2. Паспорта района/махаллей
3. По социально незащищённым слоям населения (органы социальной защиты)
4. Данные по уровню безработицы и занятости населения в районе за 5 лет с разбивкой по населённым пунктам района, в т.ч. по полу, возрасту, образованию

5. Данные по строительным организациям в районе (возможно есть в паспорте района)

На вопросы ответил заместитель начальника отдела управления по инвестициям и внешней торговли Д. Рахматуллаев. Он сообщил, что основными видами землепользования в районе являются животноводство и сельское хозяйство. Фермеры на отведённых территориях занимаются выпасом скота и посадкой однолетних сельхоз культур. Рядом с проектной территорией распложён посёлок Каракуль, махалля Кароли Жондорского района. Администрация района очень заинтересована в реализации проекта, так как они считают, что проект обеспечить занятость безработных, особенно женщин и улучшит уровень жизни населения. Представители хокимията Жондорского района будут собирать всю необходимую информацию по запросу консультанта и предоставят в кратчайшие сроки. По вопросу землеотвода он также сообщил, районный хоким может передать участок не более 10 га, так что весь землеотвод будет производиться на региональном уровне. По вопросам консультаций с населением и выплатам компенсаций в случае необходимости они окажут полную поддержку и помощь.

Менеджер СП ООО «Jizzakh Petroleum» Ж. Файзуллаев подробно рассказал участникам что реализуемый проект строительства нового газохимического комплекса в Каракульском районе предусматривает переработку 1,1 млрд м^3 природного газа в олефины с дальнейшим производством продукции высоких переделов, таких как полиэтилен низкой плотности, этилен-винилацетат, полиэтилентерефталат и полипропилен. Кроме того будет создан более 1300 новых рабочих мест, благоприятные условия для профессиональной подготовки и трудоустройства квалифицированных специалистов в соответствии с передовыми международными стандартами, мультипликативный эффект условия для оживления смежных отраслей экономики региона, что послужит созданию новых рабочих мест во вспомогательных производствах и сфере услуг, инфраструктурному развитию прилегающих районов.

Производство ПЭТ гранул волоконного сорта, послужит увеличению внутреннего рынка за счет более низкой себестоимости продукции, возможного замещения хлопкового волокна, производства тканей широкого применения, штапельного волокна и многих других.

Текстильная промышленность Узбекистана является одной из ведущих и динамично развивающих отраслей. За прошедшие годы отрасль стала одним из лидеров и в привлечении иностранных инвестиций, и в области экспорта продукции с высокой добавленной стоимостью.

Согласно Указу Президента Республики Узбекистан №5989 от 5 мая 2020 года о «Поддержке текстильной и швейно-трикотажной промышленности», а также перечню импортируемого сырья и продукции, планируемый выпуск полиэтилентерефталатных гранул волоконного сорта станет сильным импульсом для развития данной отрасти.

В конце консультации консультанты подчеркнули важность предотвращения распространения дезинформации о деятельности проекта среди населения.

A.5 Meeting Minutes No.5 of 04 March 2021, Zhondor district, Karakul community, Karoli mahalla

ПРОТОКОЛ 5

04.03.2021 **Жондорский район, посёлок Каракуль, махалля Кароли**

ЭКСПЕРТЫ:

1. О. Вахидова-Мордовина - ООО «Экостандарт Эксперт», эксперт по ОВОСС
2. З. Казакова - ООО «Экостандарт Эксперт», специалист по социальным вопросам

3. Ж.Х. Файзуллаев - СП ООО «Jizzakh Petroleum», менеджер
4. Д.А. Файзиев - СП ООО «Jizzakh Petroleum», менеджер

УЧАСТВОВАЛИ:

1. А. Ахмедов - региональный председатель посёлка Каракуль, махалля Кароли
2. Д. Хайдаров - специалист отдел по земельным ресурсам и государственному кадастру
3. М. Хамраева - специалист, махалля Кароли
4. М. Шукурова - специалист, махалля Кароли
5. М. Давронова - житель, махалля Кароли
6. Ш. Ниёзова - житель, махалля Кароли
7. Ж. Худойкулов - заместитель председателя махалле Кароли

ПОВЕСТКА ДНЯ:

1. Представление проекта по строительству газохимического комплекса в Каракульском районе Бухарской области и информации о международной процедуре ОВОСС
2. Вопросы и ответы.

Вахидова-Мордовина О.Н. - рассказала о реализуемой проекте строительства газохимического комплекса в Каракульском районе Бухарской области и ознакомила присутствующих с процедурой ОВОСС по международным стандартам, сообщила, что данная встреча является первой консультационной встречей по реализации данного проекта, цель встречи заключается в том, чтобы дать первичное представление о проекте заинтересованным сторонам на региональном и районом уровне: хакимиятам, органам охраны окружающей среды, органам охраны общественного здоровья, органам охраны объектов культурного наследия, центрам содействия занятости населения, местным некоммерческим организациям, махаллям.

А также, она сообщила, что к настоящему моменту СП ООО «Jizzakh Petroleum» провело оценку воздействия на окружающую среду (ПЗВОС) и в соответствии с требованиями законодательства Республики Узбекистан, и 30 декабря 2020 года было получено положительное заключение государственной экологической экспертизы № 01-01/10-08-2021.

Учитывая, что финансирование данного Проекта планируется осуществлять с участием международных финансовых организаций, СП ООО «Jizzakh Petroleum» заключила контракт для разработки ОВОСС по международным стандартам с компанией «Mott MacDonald». Данная ОВОСС будет соответствовать национальному законодательству и Директивам ЕС, а также политикам Всемирного банка и Руководящим принципам охраны окружающей среды, здоровья и безопасности; стандартам эффективности МФК/MIGA, Требованиям ЕБРР и другим соответствующим требованиям кредитных организаций.

Следующие консультации будут проводиться после проведения всех необходимых изысканий и исследований на проектной территории для определения экологического и социального воздействия проекта. Сегодняшняя встреча является первичной консультацией также для обсуждения и уточнения следующих вопросов:

- Слышали ли жители о проекте?
- Общая ситуация в населённом пункте: основные источники доходов, ситуация с занятостью и уровень безработицы, демографическая ситуация (рост или убыль населения, чем вызваны), этнический состав населения, ситуация с миграцией населения, наличие и состояние объектов социальной инфраструктуры (дет. сады, школы, ВУЗы, объекты здравоохранения), существующие социальные проблемы.

- Использование площадки населением в целях добычи природных ресурсов, выпаса скота, заготовки дров и сена, др.
- Отношение к проекту
- Паспорт махалли

Региональный председатель посёлка Каракул, махалля Кароли А. Ахмедов сказал, что о проекте они не слышали и очень рады что данный проект будет реализовываться. Основное использование земли в данном районе связано с сельским хозяйством, выпасом скота, заготовкой сена, посадкой однолетних культур.

Они предполагают, что строительство комплекса обеспечит работой жителей махалли Кароли в период строительства и эксплуатации. Так как уровень безработицы очень высок в их регионе как среди мужчин и особенно среди женщин, в связи с этим очень много трудовых мигрантов и женщины остаются одни в посёлках. Он подчеркнул, что во время подготовки проекта нужно рассмотреть возможность обеспечения работой для женщин. Все участники консультации подтвердили, что не имеют не каких возражений в связи с реализацией проекта, участвующие женщины сообщили что готовы каждый день идти пешком по 8 км лишь бы была возможность трудоустройства.

Менеджер СП ООО «Jizzakh Petroleum» Ж. Файзуллаев сообщил что будет создано более 1300 новых рабочих мест, благоприятные условия для профессиональной подготовки и трудоустройства квалифицированных специалистов в соответствии с передовыми международными стандартами.

В конце консультации был передан паспорт махалли. Консультанты также подчеркнули важность предотвращения распространения дезинформации среди населения и того, что общественность имело прозрачную информацию о проекте.

A.6 Meeting Minutes No.6 of 04 March 2021, Alat district

ПРОТОКОЛ 6

04.03.2021 **Бухарский область, Хокимият Алатского района**

ПРИСУТСТВОВАЛИ:

1.	Ф. Сайидов	-	заместитель хокима по инвестициям и Алатского района
2.	Ш. Хамроев	-	заместитель хокима Алатского района
3.	Г. Шомуратова	-	главный специалист отдела сообщества и семьи Алатского района
4.	М. Эгамов	-	начальник инспекции управление по экологии и охране окружающей среды Алатского района
5.	А. Авезов	-	врач бактериолог центра санитарно-эпидемиологического надзора Алатского района
6.	Ж. Влиёкулов	-	председатель совета Фермерской ассоциации Алатского района
7.	Э. Жумаев	-	специалист центра занятости Алатского района
8.	Н. Реджепова	-	начальник информационного отдела управления по земельным ресурсам и государственному кадастру Алатского района
9.	И. Бозоров	-	заместитель начальника лесного хозяйство Алатского района
10.	И. Нургалиев	-	ведущий специалист хокимията Алатского района
11.	Ж. Файзуллаев	-	СП ООО «Jizzakh Petroleum», менеджер
12.	Д. Файзиев	-	СП ООО «Jizzakh Petroleum», менеджер
13.	О. Вахидова-Мордовина	-	ООО «Экостандарт Эксперт», эксперт ОВОСС

14. З. Казакова - ООО «Экостандарт Эксперт», специалист по социальным вопросам

ПОВЕСТКА ДНЯ:

1. Представление проекта по строительству газохимического комплекса в Каракульском районе Бухарской области и информации о международной процедуре ОВОСС
2. Вопросы и ответы.

Вахидова-Мордовина О.Н. - рассказала о реализуемой проекте строительства газохимического комплекса в Каракульском районе Бухарской области и ознакомила присутствующих с процедурой ОВОСС по международным стандартам, сообщила, что данная встреча является первой консультационной встречей по реализации данного проекта, цель встречи заключается в том, чтобы дать первичное представление о проекте заинтересованным сторонам на региональном и районом уровне: хакимиятам, органам охраны окружающей среды, органам охраны общественного здоровья, органам охраны объектов культурного наследия, центрам содействия занятости населения, местным некоммерческим организациям, махаллям.

А также, она сообщила, что к настоящему моменту СП ООО «Jizzakh Petroleum» провело оценку воздействия на окружающую среду (ПЗВОС) и в соответствии с требованиями законодательства Республики Узбекистан, и 30 декабря 2020 года было получено положительное заключение государственной экологической экспертизы № 01-01/10-08-2021.

Учитывая, что финансирование данного Проекта планируется осуществлять с участием международных финансовых организаций, СП ООО «Jizzakh Petroleum» заключила контракт для разработки ОВОСС по международным стандартам с компанией «Mott MacDonald». Данная ОВОСС будет соответствовать национальному законодательству и Директивам ЕС, а также политикам Всемирного банка и Руководящим принципам охраны окружающей среды, здоровья и безопасности; стандартам эффективности МФК/MIGA, Требованиям ЕБРР и другим соответствующим требованиям кредитных организаций.

Следующие консультации будут проводиться после проведения всех необходимых изысканий и исследований на проектной территории для определения экологического и социального воздействия проекта. Сегодняшняя встреча является первичной консультацией также для обсуждения и уточнения следующих вопросов:

1. Общая социально-экономическая ситуация в районе (доходы населения (чем зарабатывают) ситуация на рынке труда и уровень безработицы, демографическая ситуация, национальный состав населения, обеспеченность объектами социальной инфраструктуры (дет. сады, школы, ВУЗы, объекты здравоохранения), существующие социальные проблемы.
2. Основные виды землепользования в районе
3. Отношение к проекту
4. Порядок землеотвода (если хокимият будет отводить земли района)

Также наша компания обратиться с письменным запросом на получение следующих данных:

1. Помощь в получении данных по населённым пунктам района за 5 лет:
2. Паспорта района/махаллей
3. Данные по безработным (центр занятости)
4. По социально незащищенным слоям населения (органы социальной защиты)
5. Наличие данных по уровню безработицы и занятости населения в районе за 5 лет с разбивкой по населенным пунктам района, в т.ч. по полу, возрасту, образованию

На вопросы ответил заместитель хокима по инвестициям Алатского района Ф.Сайидов. Он сообщил, что основные виды землепользования в районе является животноводство и сельское хозяйство. Рядом с проектной территорией нет посёлков или махаллей Алатского района. Он считает, что так как Алатский район находятся рядом с проектной территорией, проект может, обеспечит постоянной работой жителей района как в период строительства, так и в период эксплуатации. Эти меры смогут частично решить вопросы высокого уровня безработицы в районе и трудовой миграции. К реализации данного проекта администрация данного района относиться положительно и очень жалеет, что строительство будет не, а в Алатском районе. В случае необходимости в землеотводе, для сопутствующих коммуникаций будет оказано содействие во временном и постоянном землеотводе, консультациях с фермерами и т.д.

Менеджер СП ООО «Jizzakh Petroleum» Ж. Файзуллаев подробно рассказал участникам что реализуемым проектом строительства нового газохимического комплекса в Каракульском районе предусмотрена переработка 1,1 млрд м^3 природного газа в олефины с дальнейшим производством продукции высоких переделов, таких как полиэтилен низкой плотности, этилен-винилацетат, полиэтилентерефталат и полипропилен. Кроме того будет создано более 1300 новых рабочих мест, благоприятные условия для профессиональной подготовки и трудоустройства квалифицированных специалистов в соответствии с передовыми международными стандартами, мультипликативный эффект и условия для оживления смежных отраслей экономики региона, что послужит созданию новых рабочих мест во вспомогательных производствах и сфере услуг, инфраструктурному развитию прилегающих районов.

О. Вахидова-Мордовина сказала, что будет подготовлен запрос и направлено официальное письмо для получения всей необходимой для оценки информации.

В конце консультации консультанты подчеркнули важность предотвращения распространения дезинформации среди населения и того, что бы общественность имело прозрачную информацию о проекте.

A.7 Meeting Minutes No.7 of 04 March 2021, Karakul district

ПРОТОКОЛ 7

04.03.2021 **Бухарский область,**
Хокимият Каракульского района

ПРИСУТСТВОВАЛИ:

1.	Ш. Саломов	-	Хоким Каракульского района
2.	Б. Жумаев	-	заместитель хокима Каракульского района по промышленному развитию, капитальному строительству, коммуникациям, коммунальным услугам
3.	Р. Чориев	-	заместитель хокима Каракульского района по инвестициям и внешней торговли
4.	Б. Гайбуллаев	-	заместитель хокима Каракульского района по общим вопросам
5.	Э. Олтиев	-	главный врач центра санитарно-эпидемиологического надзора
6.	С. Комилова	-	заместитель хокима Каракульского района отдел сообщество и семьи
7.	Б. Бегандиков	-	директор лесного хозяйство Каракульского района
8.	Ж. Файзуллаев	-	СП ООО «Jizzakh Petroleum», менеджер
9.	Д. Файзиев	-	СП ООО «Jizzakh Petroleum», менеджер

10. О. Вахидова-Мордовина - ООО «Экостандарт Эксперт», эксперт по ОВОСС
11. З. Казакова - ООО «Экостандарт Эксперт», специалист по социальным вопросам

ПОВЕСТКА ДНЯ:

1. Представление проекта по строительству газохимического комплекса в Каракульском районе Бухарской области и информации о международной процедуре ОВОСС
2. Вопросы и ответы.

Вахидова-Мордовина О.Н. - рассказала о реализуемой проекте строительства газохимического комплекса в Каракульском районе Бухарской области и ознакомила присутствующих с процедурой ОВОСС по международным стандартам, сообщила, что данная встреча является первой консультационной встречей по реализации данного проекта, цель встречи заключается в том, чтобы дать первичное представление о проекте заинтересованным сторонам на региональном и районом уровне: хакимиятам, органам охраны окружающей среды, органам охраны общественного здоровья, органам охраны объектов культурного наследия, центрам содействия занятости населения, местным некоммерческим организациям, махаллям.

А также, она сообщила, что к настоящему моменту СП ООО «Jizzakh Petroleum» провело оценку воздействия на окружающую среду (ПЗВОС) и в соответствии с требованиями законодательства Республики Узбекистан, и 30 декабря 2020 года было получено положительное заключение государственной экологической экспертизы № 01-01/10-08-2021.

Учитывая, что финансирование данного Проекта планируется осуществлять с участием международных финансовых организаций, СП ООО «Jizzakh Petroleum» заключила контракт для разработки ОВОСС по международным стандартам с компанией «Mott MacDonald». Данная ОВОСС будет соответствовать национальному законодательству и Директивам ЕС, а также политикам Всемирного банка и Руководящим принципам охраны окружающей среды, здоровья и безопасности; стандартам эффективности МФК/MIGA, Требованиям ЕБРР и другим соответствующим требованиям кредитных организаций.

Следующие консультации будут проводиться после проведения всех необходимых изысканий и исследований на проектной территории для определения экологического и социального воздействия проекта. Сегодняшняя встреча является первичной консультацией также для обсуждения и уточнения следующих вопросов:

1. Общая социально-экономическая ситуация в районе (доходы населения (чем зарабатывают) ситуация на рынке труда и уровень безработицы, демографическая ситуация, национальный состав населения, обеспеченность объектами социальной инфраструктуры (дет.сады, школы, ВУЗы, объекты здравоохранения), существующие социальные проблемы.
2. Основные виды землепользования в районе
3. Отношение к проекту
4. Порядок землеотвода (если хокимият будет отводить земли района)

Также наша компания обратиться с письменным запросом на получение следующих данных:

1. Получение данных по населённым пунктам района за 5 лет:
2. Паспорта района/махаллей
3. По социально незащищенным слоям населения (органы социальной защиты)
4. Наличие данных по уровню безработицы и занятости населения в районе за 5 лет с разбивкой по населенным пунктам района, в т.ч. по полу, возрасту, образованию

Менеджер СП ООО «Jizzakh Petroleum» Ж. Файзуллаев передал хокиму подробную презентацию по проекту и в вкратце рассказал участникам что реализуемым проектом строительства нового газохимического комплекса в Каракульском районе предусмотрена переработка 1,1 млрд м3 природного газа в олефины с дальнейшим производством продукции высоких переделов, таких как полиэтилен низкой плотности, этилен-винилацетат, полиэтилентерефталат и полипропилен. Сообщил также о возможности создания рабочих мест на этапе строительства и эксплуатации. Предложил использовать период строительства, три года, для подготовки профессиональных кадров среди молодежи.

На вопросы отвечал хоким Каракульского района Ш. Саломов. Он сообщил реализация данного проекта открывает большие возможности для населения в вопросах трудоустройства, повышения уровня жизни населения района. Порядок землеотвода будет решён, вся необходимая информация предоставлена и для этого требуется официальное письмо от СП ООО «Jizzakh Petroleum». Был так же обсуждён вопрос касательно резервных земель якобы закреплённых за лесным хозяйством, было дано поручение кадастровому управлению выяснить статус данного участка и предоставить информацию консультанту. Предоставление информации для проведения оценки по проекту строительства газохимического комплекса будет под контролем хокима и заместителя хокима по инвестициям и внешней торговли Р. Чориева.

A.8 Meeting Minutes No.8 of 04 March 2021, Karakul district, Kararul mahalla

ПРОТОКОЛ 8

04.03.2021 **Каракульский район**

Посёлок Утик дурмон, махалля Каракуль

ЭКСПЕРТЫ:

1.	Ж. Файзуллаев	-	СП ООО «Jizzakh Petroleum», менеджер
2.	Д. Файзиев	-	СП ООО «Jizzakh Petroleum», менеджер
3.	О. Вахидова-Мордовина	-	ООО «Экостандарт Эксперт», эксперт по ОВОСС
4.	З. Казакова	-	ООО «Экостандарт Эксперт», специалист по социальным вопросам

УЧАСТВОВАЛИ:

1.	Э. Сирожов	-	председатель махалли Каракуль, посёлка Утик дурмон
2.	Ж. Саидов	-	житель посёлка Утик дурмон
3.	С. Бобоев	-	житель посёлка Утик дурмон
4.	Я. Каримов	-	житель посёлка Утик дурмон
5.	Г. Болтаев	-	житель посёлка Утик дурмон
6.	Ж. Гуламов	-	инспектор посёлка Утик дурмон
7.	Ш. Болтаев	-	пенсионер
8.	Р. Худдиев	-	житель посёлка Утик дурмон (безработный)
9.	Ф. Бобоев	-	житель посёлка Утик дурмон (безработный)
10.	З. Шерматов	-	житель посёлка Утик дурмон (безработный)
11.	А. Болтаев	-	житель, посёлка Утик дурмон
12.	В. Авезов	-	житель, посёлка Утик дурмон

ПОВЕСТКА ДНЯ:

1. Консультация по строительстве газохимического комплекса в Каракульском районе Бухарской области.
2. Вопросы и ответы.

Вахидова-Мордовина О.Н. - рассказала о реализуемой проекте строительства газохимического комплекса в Каракульском районе Бухарской области и ознакомила присутствующих с процедурой ОВОСС по международным стандартам, сообщила, что данная встреча является первой консультационной встречей по реализации данного проекта, цель встречи заключается в том, чтобы дать первичное представление о проекте заинтересованным сторонам на региональном и районом уровне: хакимиятам, органам охраны окружающей среды, органам охраны общественного здоровья, органам охраны объектов культурного наследия, центрам содействия занятости населения, местным некоммерческим организациям, махаллям.

А также, она сообщила, что к настоящему моменту СП ООО «Jizzakh Petroleum» провело оценку воздействия на окружающую среду (ПЗВОС) и в соответствии с требованиями законодательства Республики Узбекистан, и 30 декабря 2020 года было получено положительное заключение государственной экологической экспертизы № 01-01/10-08-2021.

Учитывая, что финансирование данного Проекта планируется осуществлять с участием международных финансовых организаций, СП ООО «Jizzakh Petroleum» заключила контракт для разработки ОВОСС по международным стандартам с компанией «Mott MacDonald». Данная ОВОСС будет соответствовать национальному законодательству и Директивам ЕС, а также политикам Всемирного банка и Руководящим принципам охраны окружающей среды, здоровья и безопасности; стандартам эффективности МФК/MIGA, Требованиям ЕБРР и другим соответствующим требованиям кредитных организаций.

Следующие консультации будут проводиться после проведения всех необходимых изысканий и исследований на проектной территории для определения экологического и социального воздействия проекта. Сегодняшняя встреча является первичной консультацией также для обсуждения и уточнения следующих вопросов:

- Слышали ли жители о проекте?
- Общая ситуация в населённом пункте: основные источники доходов, ситуация с занятостью и уровень безработицы, демографическая ситуация (рост или убыль населения, чем вызваны), этнический состав населения, ситуация с миграцией населения, наличие и состояние объектов социальной инфраструктуры (дет.сады, школы, ВУЗы, объекты здравоохранения), существующие социальные проблемы.
- Использование площадки населением в целях добычи природных ресурсов, выпаса скота, заготовки дров и сена, др.
- Отношение к проекту
- Паспорт махалли

Председатель махалли Каракуль, посёлка Утик дурмон Э. Сирожов сказал, что основным видом деятельности жителей махалли является скотоводство и количество безработных в данной махалле намного больше по сравнению с другими махаллями данного района. Информацию по данному проекту он получает впервые и надеется, что реализация данного проекта обеспечит работой жителей махалли, а также женщин. В связи с этим жители махалли не возражают касательно реализации проекта. Он также выразил озабоченность в связи с воздействием на качество воздуха, так как в махалле много жителей уже имеют хронические болезни в области дыхательных путей, много онкологических больных.

В махалле много инфраструктурных проблем, среде основных отсутствие дорог, водоснабжения, газа и канализации. Бывают перебои с электричеством. Многие жители махалли уехали на заработки за границу в связи с безработицей.

Земли, выделенные на строительство комплекса, местным населением не используются, так как находятся за железной дорогой и отведены другим фермерам.

В конце консультации была высказана просьба разработать план действий по созданию рабочих мест и постоянной занятости по данному проекту, так как по словам жителей на расположенные рядом предприятия набирают сотрудников из Бухары, а иногда даже из Ташкента.

Консультанты в конце консультации получили паспорт махалли и подчеркнули важность предотвращения распространения дезинформации о проекте среди населения.

A.9 Meeting Minutes No.9 of 04 March 2021, Karakul district, Bandboshi mahalla

ПРОТОКОЛ 9

04.03.2021 **Каракульский район**

махалля Бандбоши

ЭКСПЕРТЫ:

1.	Ж. Файзуллаев	-	СП ООО «Jizzakh Petroleum», менеджер
2.	Д. Файзиев	-	СП ООО «Jizzakh Petroleum», менеджер
3.	О. Вахидова-Мордовина	-	ООО «Экостандарт Эксперт», эксперт по ОВОСС
4.	З. Казакова	-	ООО «Экостандарт Эксперт», специалист по социальным вопросам

УЧАСТВОВАЛИ:

1.	А. Жумаев	-	председатель махалли Бандбоши
2.	К. Мухторов	-	помощник председателя сельхоза
3.	Ф. Болтаев	-	начальник отдела военного учета
4.	Б. Хазраткулов	-	житель махалли Бандбоши
5.	Н. Рахимов	-	житель махалли Бандбоши

ПОВЕСТКА ДНЯ:

1. Консультация по строительстве газохимического комплекса в Каракульском районе Бухарской области.
2. Вопросы и ответы.

Вахидова-Мордовина О.Н. - рассказала о реализуемой проекте строительства газохимического комплекса в Каракульском районе Бухарской области и ознакомила присутствующих с процедурой ОВОСС по международным стандартам, сообщила, что данная встреча является первой консультационной встречей по реализации данного проекта, цель встречи заключается в том, чтобы дать первичное представление о проекте заинтересованным сторонам на региональном и районом уровне: хакимиятам, органам охраны окружающей среды, органам охраны общественного здоровья, органам охраны объектов культурного наследия, центрам содействия занятости населения, местным некоммерческим организациям, махаллям.

А также, она сообщила, что к настоящему моменту СП ООО «Jizzakh Petroleum» провело оценку воздействия на окружающую среду (ПЗВОС) и в соответствии с требованиями законодательства Республики Узбекистан, и 30 декабря 2020 года было получено положительное заключение государственной экологической экспертизы № 01-01/10-08-2021.

Учитывая, что финансирование данного Проекта планируется осуществлять с участием международных финансовых организаций, СП ООО «Jizzakh Petroleum» заключила контракт для разработки ОВОСС по международным стандартам с компанией «Mott MacDonald». Данная ОВОСС будет соответствовать национальному законодательству и Директивам ЕС, а также политикам

Всемирного банка и Руководящим принципам охраны окружающей среды, здоровья и безопасности; стандартам эффективности МФК/MIGA, Требованиям ЕБРР и другим соответствующим требованиям кредитных организаций.

Следующие консультации будут проводиться после проведения всех необходимых изысканий и исследований на проектной территории для определения экологического и социального воздействия проекта. Сегодняшняя встреча является первичной консультацией также для обсуждения и уточнения следующих вопросов:

1. Слышали ли жители о проекте?
2. Общая ситуация в населенном пункте: основные источники доходов, ситуация с занятостью и уровень безработицы, демографическая ситуация (рост или убыль населения, чем вызваны), этнический состав населения, ситуация с миграцией населения, наличие и состояние объектов социальной инфраструктуры (дет.сады, школы, ВУЗы, объекты здравоохранения), существующие социальные проблемы.
3. Использование площадки населением в целях добычи природных ресурсов, выпаса скота, заготовки дров и сена, др.
4. Отношение к проекту
5. Паспорт махалли

Менеджер СП ООО «Jizzakh Petroleum» Ж. Файзуллаев подробно рассказал участникам что реализуемым проектом строительства нового газохимического комплекса в Каракульском районе предусмотрена переработка 1,1 млрд м3 природного газа в олефины с дальнейшим производством продукции высоких переделов, таких как полиэтилен низкой плотности, этилен-винилацетат, полиэтилентерефталат и полипропилен. Кроме того, будет создано более 1300 новых рабочих мест, благоприятные условия для профессиональной подготовки и трудоустройства квалифицированных специалистов в соответствии с передовыми международными стандартами.

Председатель махалли Бандбоши А. Жумаев рассказал, что основной вид деятельности сельское хозяйство (выпас скота и посадка сельхоз культур). Земли, выделенные на строительство комплекса, местным населением не используются, так как находятся за железной дорогой и отведены другим фермерам.

В данной махалле, также как и в соседней махалле много инфраструктурных проблем, среде основных отсутствие дорог, водоснабжения, газа и канализации. Бывают перебои с электричеством. Питьевую воду, привезённую из Самарканда, жители покупают на ежемесячной основе. Многие жители махалли уехали на заработки за границу в связи с безработицей.

Информацию по данному проекту они получает впервые и также надеются, что реализация данного проекта, обеспечит работой жителей махалли, а также женщин. В связи с этим жители махалли не возражают касательно реализации проекта. В махалле много жителей имеют хронические болезни в области дыхательных путей, много онкологических больных среди женщин, сердечно сосудистых болезней.

В конце консультации была высказана просьба провести все исследования по качеству воздуха в связи с производством, разработать план действий по созданию рабочих мест и постоянной занятости по данному проекту, так как по словам жителей на расположенные рядом предприятия набирают сотрудников из Бухары, а иногда даже из Ташкента.

Консультанты в конце консультации получили паспорт махалли и подчеркнули важность предотвращения распространения дезинформации о проекте среди населения.

A.10 Meeting Minutes No.10 of 04 March 2021, Karakul district, Kaimakchi community, Karakul mahalla

ПРОТОКОЛ 10

04.03.2021 **Каракульский район**

посёлок Каймакчи, махалля Каракуль

ЭКСПЕРТЫ:

1.	Ж. Файзуллаев	-	СП ООО «Jizzakh Petroleum», менеджер
2.	Д. Файзиев	-	СП ООО «Jizzakh Petroleum» менеджер
3.	О. Вахидова-Мордовина	-	ООО «Экостандарт Эксперт», эксперт по ОВОС
4.	З. Казакова	-	ООО «Экостандарт Эксперт», специалист по коммуникациям и гендерным вопросам

УЧАСТВОВАЛИ:

1.	К. Кобилов	-	председатель посёлка Каймакчи
2.	Г. Болтабоев	-	специалист посёлка Каймакчи

ПОВЕСТКА ДНЯ:

1. Консультация по строительстве газохимического комплекса в Каракульском районе Бухарской области.
2. Вопросы и ответы.

Вахидова-Мордовина О.Н. - рассказала о реализуемой проекте строительства газохимического комплекса в Каракульском районе Бухарской области и ознакомила присутствующих с процедурой ОВОСС по международным стандартам, сообщила, что данная встреча является первой консультационной встречей по реализации данного проекта, цель встречи заключается в том, чтобы дать первичное представление о проекте заинтересованным сторонам на региональном и районом уровне: хакимиятам, органам охраны окружающей среды, органам охраны общественного здоровья, органам охраны объектов культурного наследия, центрам содействия занятости населения, местным некоммерческим организациям, махаллям.

А также, она сообщила, что к настоящему моменту СП ООО «JizzakhPetroleum» провело оценку воздействия на окружающую среду (ПЗВОС) и в соответствии с требованиями законодательства Республики Узбекистан, и 30 декабря 2020 года было получено положительное заключение государственной экологической экспертизы № 01-01/10-08-2021.

Учитывая, что финансирование данного Проекта планируется осуществлять с участием международных финансовых организаций, СП ООО «Jizzakh Petroleum» заключила контракт для разработки ОВОСС по международным стандартам с компанией «Mott MacDonald». Данная ОВОСС будет соответствовать национальному законодательству и Директивам ЕС, а также политикам Всемирного банка и Руководящим принципам охраны окружающей среды, здоровья и безопасности; стандартам эффективности МФК/MIGA, Требованиям ЕБРР и другим соответствующим требованиям кредитных организаций.

Следующие консультации будут проводиться после проведения всех необходимых изысканий и исследований на проектной территории для определения экологического и социального воздействия проекта. Сегодняшняя встреча является первичной консультацией также для обсуждения и уточнения следующих вопросов:

- Слышали ли жители о проекте?
- Общая ситуация в населённом пункте: основные источники доходов, ситуация с занятостью и уровень безработицы, демографическая ситуация (рост или убыль населения, чем вызваны), этнический состав населения, ситуация с миграцией населения, наличие и состояние объектов

социальной инфраструктуры (дет.сады, школы, ВУЗы, объекты здравоохранения), существующие социальные проблемы.
- Использование площадки населением в целях добычи природных ресурсов, выпаса скота, заготовки дров и сена, др.
- Отношение к проекту
- Паспорт махалли

Менеджер СП ООО «Jizzakh Petroleum» Ж. Файзуллаев подробно рассказал участникам что реализуемым проектом строительства нового газохимического комплекса в Каракульском районе предусмотрена переработка 1,1 млрд $м^3$ природного газа в олефины с дальнейшим производством продукции высоких переделов, таких как полиэтилен низкой плотности, этилен-винилацетат, полиэтилентерефталат и полипропилен. Кроме того, будет создано более 1300 новых рабочих мест, благоприятные условия для профессиональной подготовки и трудоустройства квалифицированных специалистов в соответствии с передовыми международными стандартами.

Председатель посёлка Каймакчи К. Кобилов сказал, что ранее информацию по проекту никто не получал, и они слышат о нем впервые. Председатель выразил озабоченность что реализация данного проекта в близи махалли может навредить здоровью населения и следует отметить, что среди населения уже есть различные серьёзные заболевания (онкология, органы дыхания и т.д.), но если негативное влияние проекта не превысит установленных норм, у населения не будет никаких возражений.. Он считает, что проект поможет молодым и трудоспособным людям устроится на работу и они не будут уезжать на заработки из родных мест.

В данной махалле также отсутствует газ, вода, канализация и асфальтированные дороги.

В конце консультации консультанты сказали, что будут проводиться экологические исследование и мониторинг воздуха для предотвращения негативных воздействий, далее будут разработаны мероприятия для снижения воздействий.

D. ESIA Engagement Programme

Table D.2: ESIA engagement programme

Activity	Timing / Detail	Responsibility	Alternative Approach during COVID-19
1) Scoping Phase Engagement			
Engagement with the key Project stakeholders during the ESIA scoping phase	March 2021 (completed). Meetings to disclose information about the proposed investment, receiving views and comments about the Project from key stakeholders, data collection to inform the Scoping Report.	The Consultant.	No changes required.
Disclosure of the ESIA Scoping Report and SEP	By 30 April 2021. Documents to be disclosed in Uzbek language. Adverts to be placed for one week in local newspapers, on TV and the Company's website that the ESIA Scoping Report and SEP are available for review identifying where to locate the documents and how to submit comments. The ESIA Scoping Report and SEP will also be disclosed via e-mail to interested stakeholders and made available in hard copy upon request. Project leaflet in Uzbek language with a summary of the Project scoping findings will be made available in hard copy in the ACs via mahallas.	The Consultant will prepare documents in English and Russian. The Project will prepare SEP in Uzbek language. The Consultant will prepare the Project leaflet in English and Russian. The Project will prepare an Uzbek version. The Project CLO to disclose ESIA Scoping Report and SEP to key Project stakeholders, publish at the Company's website (and make them available in hard copies upon request. The CLO to disclose the Project leaflet in hard copies in the ACs via mahallas.	No changes required.
Comments on SEP and ESIA Scoping Report	Feedback collection will stay open till 30 June 2021. All comments will be received via the Project CLO and forwarded to the Consultant for consideration and inclusion in the ESIA documentation. Responses will be provided to each interested party presenting questions as soon as is reasonably possible depending on the complexity of the issue and source of information needed to provide the answer.	The Project CLO and Consultant.	No changes required.
2) ESIA Phase Engagement – Draft ESIA Report Disclosure			
Engagement with the key Project stakeholders during the ESIA assessment phase	May-June 2021. Consultation with the District Hokimiyats and Farmers Associations to collect baseline information of the affected farmers and understand the land acquisition process, status and eligibility. Focus group discussions with the ACs to understand livelihood groups and incomes. Consultations with the affected farmers.	The Consultant.	On-line consultations. Questionnaires (e-mails or mobile applications or hard copies via mahallas).

Announcement of the forthcoming disclosure of the draft ESIA package (NTS, ESIA Report with appendices, ESMMP, SEP and other related documents) and the planned public exhibition events in Karakul, Alat and Zhondor districts of Bukhara region	Two weeks prior to Draft ESIA Report presentation at the public exhibition event (target date is 27, 28 and 29 July 2021). Adverts to be placed in local newspapers, on local TV, the Company's website and inDistrict Hokimiyats and mahallas for one week identifying dates and locations of the disclosed documents and the public exhibition events, and how to submit comments. Adverts will include links and addresses where draft ESIA Report and NTS will be accessible in electronic and hard copies. Letters of invitation to Hokimiyats, mahallas, environmental authorities, NGOs and other Project stakeholders if relevant.	The Project CLO and Consultant.	Within two weeks of the disclosure of the ESIA package: • Adverts will be place in local newspapers and TV, the Company's website and District Hokimiyats websites identifying the online locations where the ESIA package has been disclosed and notifying the local affected communities of the forthcoming delivery of project leaflets and feedback forms to nearest mahallas. • E-mail invitations for a video-call (zoom conference) with interested NGOs and other stakeholders to be sent two-weeks prior to such video-call occurring.
Disclosure of the Draft ESIA Report and related documents	At least two weeks prior to the public exhibitions, for 60 days (target date is 13 July 2021). NTS document t to be disclosed in Uzbek via the Project website and made available in Uzbek in hard copy in the ACs via mahallas in the same locations as the Scoping Report and SEP. Comment boxes and feedback forms will be provided in mahallas to allow for anonymous comments to be submitted.	The Consultant to prepare NTS and Draft ESIA Report in English and Russian. The Company will prepare NTS in Uzbek language. The Project CLO to post documents on the Company's website, District Hokimiyats' web-sites in Karakul, Alat and Zhondor districts and take NTS to the mahallas in hard copies with comment boxes and feedback forms in same locations used to disclose the Scoping Report and SEP.	• Hard copies will not be available in public places due to the risk of cross contamination with COVID-19.
Public exhibition events and focus groups	Targeted dates are 27, 28 and 29 of July 2021. Project exhibition events will be arranged in three Project districts in Bukhara region. Events will be held in District Hokimiyats. Exact dates and time to be confirmed by the Consultant and agreed with the Company. Location and date to be announced in advert/announcement as detailed above. Separate invitations will be sent to women's affair committees in mahallas as women's representatives to facilitate their participation in the exhibitions and discussions in focus groups. The Company assisted by the Consultant will present information about the Project and the findings of the ESIA as well as proposed mitigation measures.	Events arranged and advertised by the Company with support from the Consultant. Events attended by the Consultant, Project CLO, representatives of the Company including the Project Manager, Environmental Specialist, Health and Safety Engineer and other staff as deemed appropriate. The CLO to record meetings, attendance and collect feedback forms and report outcomes to the Consultant. The Consultant to lead the focus groups and report on findings.	Within four weeks of the disclosure of the ESIA package (NTS, updated SEP and Project flyer will be also published in Uzbek language) via the Project site and District Hokimiyats' web-sites in Project districts: • Project leaflet and feedback forms in Uzbek language to be distributed to local affected communities through their mahallas and CLO details will be

	A comment boxes and feedback form will be provided to allow for anonymous comments to be submitted. Follow-up focus groups with women will be arranged in the Project districts after the exhibition events.		published and pasted in mahallas' offices. • Comment boxes will be provided in mahallas to allow for comments (including anonymous comments) to be submitted using the ESIA feedback form distributed to the ACs. • Hard copies will not be available in public places due to the risk of cross contamination with COVID-19.
Collecting comments and suggestions on the Draft ESIA Report	Via grievance mechanism for the disclosure period after public exhibition event (till 13 September 2021). Feedback received by the Company will be forwarded to the Consultant for consideration by technical specialists and inclusion in revised the ESIA Report and/or related documents. Responses will be provided to each interested party presenting questions as soon as is reasonably possible depending on the complexity of the issue and source of information needed to provide the answer.	The Project CLO to collect and feedback to the Consultant.	Feedback and comments on the ESIA Package will be collected via feedback forms, which will be distributed to the households in the local affected communities. Anyone can provide their comments (including anonymously) by sending back the feedback form via postal mail or electronic mail, or by calling the CLO. Feedback boxes will also be available at the local mahallas.
Media communications	As requested, or when press releases deemed relevant.	The Project CLO.	This activity will be increased to ensure wider dissemination and outreach during the period when COVID-19 restrictions are in place. Regular updates will be shared via local radio and TV in respective districts.
Disclosure of the Final ESIA package	After the ESIA disclosure period is ended (total 60 days): • Full ESIA disclosure package in Russian and English to be disclosed via the Project website. • Final NTS and SEP in Uzbek Language to be made available in hard copy in the ACs via mahallas in the same locations used for disclosure of the draft documents.	The Consultant to prepare the Final I ESIA disclosure package in English and Russian. The Company will arrange Uzbek versions of Final NTS and SEP. The Project CLO to post documents on the Project websites, make available in hard copy upon request as well as take Final NTS and	Hard copies will not be available in public places due to the risk of cross contamination with COVID-19.

		SEP in Uzbek language to the mahallas in hard copies.	
Lenders Disclosure	Draft ESIA Report and related documents to be disclosed by Lenders in English and links to Company's disclosure provided (targeted on 13 July 2021).	The Consultant to prepare the English version of the Draft and Final ESIA disclosure package.	No changes required.
3) Construction Phase Engagement			
Ongoing community liaison and grievance logging, resolution and reporting	Communications with the ACs via mahallas. Weekly grievance reporting the Company and Branch Management. Prior to the start and end of construction, and other key changes to inform the ACs on likely impacts and mitigation. Disclosure of leaflets with construction schedules to the ACs.	The Project CLO. Contractors.	Distribution of the Project updates via e-mail or Telegram notifications to mahallas. E-mail communications on grievance reporting. Construction schedule updates to mahallas via messengers (e.g., Telegram notifications), e-mail and Project website.
Regular updates on the Project website, social media, in newspapers and on radio	Updates when activities change, milestones are reached, etc. Provision of public domain information (via Project website, newspapers, TV and radio) as it becomes available, such as information on management of construction impacts, monitoring reports and annual reports.	The Project CLO.	Updates via Project site and Telegram notifications. Public domain information via popular local TV channels. Publication on monitoring reports and annual reports on the Project website. A link to the Project site to access monitoring reports and annual reports to be provided by the Project CLO to the mahallas via e-mail communication or Telegram group.
Updating Environmental and Social Management Plan (ESMMP)	Regular updates of the ESMMP during the construction phase.	The Company. Contactors.	No changes required
Updating SEP	Prior to the start and at the end of construction, when any changes to the Project programme, technology or stakeholders occur. Upload updated versions to the Project website.	The Project CLO.	A link to the Project site to access the updated SEP to be provided by the Project CLO to the mahallas via e-mail communication or Telegram group.
Annual Reporting	Project specific annual report summarising Project performance, CLO' activities including grievances and updates to the SEP.	The Company.	No changes required.

4) Operation Phase Engagement			
Grievance logging, resolution and reporting	Bi-annual grievance reporting to the Company.	The Project CLO.	No changes required.
Updating SEP	Annually for the duration of the Loan Agreement.	The Project CLO.	No changes required.
Annual reporting	Annual E&S Reporting to International Lenders	The Company.	No changes required.

Source: Project SEP

E. Information Reviewed to Inform Scoping

The information types listed below has been reviewed to inform this Scoping Report. Further information will be reviewed for the ESIA.

- Statement on Environmental Impact for the MTO Gaz Chemical Complex in Karakul district of Bukhara Region by AO «O'ZLITINEFTGAZ», October 2020, including modifications
- Opinion of the State Environmental Expertise No.01-01/10-08-1692 of 13 November 2020
- Opinion of the State Environmental Expertise No.01-01/10-08-2031 of 30 December 2020
- MTO Gas Chemical Complex ESIA – Baseline Report, Ekostandart Expert, 2021
- World Database of Key Biodiversity Areas
- Ramsar Sites Information Service
- International Union for Conservation of Nature Database
- Red Data Book of Uzbekistan
- Birdlife International Database
- Reports of the State Committee of the Republic of Uzbekistan on Statistics
- World Health Organisation country reports for Uzbekistan
- Federation of Consumer Rights Protection Associations of the Republic of Uzbekistan
- World Bank country reports for UzbekistanDraft
- Khauzak-Shady Biodiversity Action Plan prepared by LUKOIL Uzbekistan Operating Company LLC, March 2012
- Decree No.600 of 10.08.2020 by the Hokim of Bukhara region
- Decree No.329 of 17.08.2020 by the Hokim of Karakul district
- Letter No.164 of 08.10.2020 from the Director of the Karakul State Forestry Administration
- Letter No.71 of 26.01.21 by from the Head of the Cultural Heritage Department of the Bukhara Region
- Passport of Bandbashi mahalla, January 2021
- Passport of Karakul mahalla, February 2021
- Passport of Karoli mahalla, January 2021