

Non-Technical Summary: Environmental and Social Impact Assessment (ESIA) for the Kungrad 843KM OHTL Project

Introduction

The Kungrad Overhead Transmission Line (OHTL) project in Uzbekistan is an essential component of the country's strategy to transition towards renewable energy. The project involves constructing an 843 km high-voltage transmission line that will connect a 1,500 MW wind power project in Karakalpakstan to the national grid. It spans the Sovereign Republic of Karakalpakstan, Khorazm, and Bukhara regions. Uzbekistan has faced a severe energy crisis, characterized by frequent power outages, especially during winters, due to the heavy reliance on natural gas. The OHTL project is part of the government's effort to diversify its energy sources and achieve a target of 25% renewable energy in the energy mix by 2030. The ESIA ensures the project meets local and international environmental and social standards.

Project Overview

The OHTL project is structured into three segments: the first is from the Ustyurt Wind Farm to Kungrad and Nukus switching stations, covering 276 km with two parallel lines; the second extends from Nukus to the Sarymai switching station over 265 km, also with dual lines; and the third stretches from Sarymai to Karakul for 245 km with a single line. The transmission line will traverse diverse terrains, including arid landscapes, agricultural zones, and areas near communities, with the closest settlement being around 1 km away. It includes key components such as transmission towers, angle towers for line direction changes, switching stations, and temporary construction facilities like laydown areas and worker accommodations. Careful planning ensures that the line avoids direct impacts on settlements and significant biodiversity areas wherever feasible.

Environmental Impacts and Mitigation

The project's environmental impacts primarily concern biodiversity, particularly bird species, land use changes, and cultural heritage sites. The transmission line's route runs near Important Bird Areas (IBAs) and key biodiversity zones, raising concerns about bird collisions, especially with species like the endangered MacQueen's Bustard. To mitigate these risks, bird flight diverters will be installed on conductors to make the lines more visible to birds, thereby reducing collision risks. Additionally, construction activities will be scheduled to avoid critical breeding and migration periods, and a continuous monitoring program will track bird fatalities. An adaptive management approach will be implemented, allowing adjustments to mitigation measures based on monitoring results. To further safeguard biodiversity, the project will implement a Biodiversity Action Plan (BAP) and a Biodiversity Management Plan (BMP), focusing on habitat conservation and species protection.

Land use changes will occur due to the project's permanent and temporary land requirements. Approximately 1.47 km² will be permanently acquired for tower foundations, while temporary land will be needed during the construction phase for laydown areas and access roads. Although the transmission line does not pass directly through residential areas, the Right-of-Way (ROW) restrictions will limit the use of land underneath the lines. In response, the project will provide fair compensation for any land or crop loss. Temporary construction areas will be restored to their original conditions once construction concludes, and agricultural activities will be permitted under

the transmission lines following the project's completion. Efforts will be made to minimize land acquisition and any disruption to local livelihoods.

The ESIA identified cultural heritage sites along the transmission line route, including archaeological zones near Nukus, Sarymai, and Karakul. The project's careful route planning aims to avoid significant cultural heritage sites, while archaeological monitoring will take place during construction to address any unexpected discoveries. If any artifacts or culturally significant objects are found, procedures are in place to ensure their preservation and proper documentation, in coordination with local cultural authorities. This approach helps to safeguard the region's cultural heritage while allowing the project to proceed.

Air quality and noise levels are expected to be impacted during the construction phase, with dust emissions and noise from machinery and transportation posing potential issues. To mitigate these impacts, dust suppression measures such as water spraying on unpaved roads will be implemented, and machinery will be maintained to reduce emissions. Additionally, noisy activities will be limited to daytime hours to minimize disturbances to nearby communities. These measures will help reduce the project's environmental footprint during construction.

Social Impacts and Mitigation

The project's social impacts include potential risks to community health, safety, and security, as well as socioeconomic effects related to employment and livelihoods. The construction phase will involve an influx of workers, which may strain local resources and pose health and safety risks to nearby communities. To address these issues, a Community Health and Safety Plan will be developed, incorporating measures to mitigate potential impacts, such as monitoring worker health and safety, providing training on local cultural sensitivities, and implementing a Code of Conduct for all workers. The project will also establish emergency response plans and ensure that communities are informed about safety procedures to reduce risks associated with construction activities.

Socioeconomically, the project will have both positive and negative effects. On the one hand, it will generate jobs during the construction and operation phases, which could benefit local economies. However, there may also be disruptions to livelihoods, particularly for farmers whose lands may be temporarily affected. The project will prioritize local hiring and procurement to maximize economic benefits for nearby communities, and a Livelihood Restoration Plan (LRP) will be implemented to compensate for any temporary loss of income. These measures aim to support those affected by the project and provide sustainable benefits to the local economy.

Stakeholder engagement has been a critical aspect of the project's development. Consultations with local communities, government agencies, and non-governmental organizations (NGOs) have been conducted to ensure transparency and address concerns. The project has established a Stakeholder Engagement Plan (SEP) to guide future consultations and manage grievances effectively. By maintaining an open dialogue with stakeholders, the project aims to build trust and ensure that local communities have a voice in the development process.

Environmental and Social Management Plan (ESMP)

The Environmental and Social Management Plan (ESMP) provides a comprehensive framework to mitigate environmental and social impacts throughout the project's lifecycle. It includes measures

for the planning, construction, operation, and decommissioning phases, with clear roles and responsibilities outlined for each stakeholder. The ESMP also sets monitoring protocols to ensure compliance with the mitigation measures, and regular reporting will be required from the Developer, Engineering, Procurement, and Construction (EPC) Contractor, and financial institutions. The plan emphasizes the importance of adaptive management, allowing the project to respond to new information or unexpected impacts during implementation.

Conclusion

The Kungrad 843KM OHTL project is an important step toward enhancing Uzbekistan's energy infrastructure and supporting the country's renewable energy goals. By following international and local environmental and social standards, the project seeks to minimize its negative impacts while maximizing the benefits to local communities and the broader region. Through the implementation of robust mitigation measures and management plans, the project aims to strike a balance between development and environmental conservation, ensuring a sustainable outcome that aligns with the country's long-term energy objectives.