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CHINA HUADIAN CORPORATION LTD.
中国华电科工集团有限公司
CHINA HUADIAN ENGINEERING CO., LTD.

China Huadian Engineering Co., Ltd

Environmental and Social Impact Assessment – Vol I

Huadian Dak Lak Wind Power Project, Dak Lak Province, Viet Nam

28 March 2022

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The business of sustainability

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Environmental and Social Impact Assessment – Vol I

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CONTENTS

List of Tables

List of Figures

Acronyms and Abbreviations

Abbreviation	Definition
ACSR	Aluminum Conductor Steel Reinforced
AIIB	Asian Infrastructure Investment Bank
ALARP	As Low As Reasonably Practicable
CEMA	Committee for Ethnic Minority Affairs
CHEC	China Huadian Engineering Co., Ltd
CI	Cumulative impacts
CIA	Cumulative Impact Assessment
CMS	Central Monitoring System
CN1	Cu Ne No.1 Wind Farm
CN2	Cu Ne No.2 Wind Farm
CPC	Commune People's Committee
CSR	Compensation, Support and Resettlement
DMS	Detailed Measurement Survey
DOFA	Department of Foreign Affairs
DOLISA	Department of Labour, Invalid, and Social Affairs
DONRE	Department Of Natural Resources And Environment
DPC	District People's Committee
EAAA	Ecologically Appropriate Area of Assessment
EBRD	European Bank for Reconstruction and Development's
EHS	Environmental Health and Safety
EIA	Environmental Impact Assessment
EMF	Electric and Magnetic Fields
EMI	Electromagnetic Interference
EOR	Energy Outlook Report
EP	Equator Principles
EPC	Engineering Procurement and Construction
EPP	Environmental Protection Plan

Abbreviation	Definition
ERM	Environmental Resources Management Ltd.
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMPF	Environmental and Social Management Planning Framework
ESP	Environmental and Social Policy
ESS	Environmental and Social Standards
FGD	Focus Group Discussion
FI	financial intermediary
FPIC	Free, Prior and Informed Consent
GHG	Greenhouse Gas
GIIP	Good International Industry Practice
IA	Impact Assessment
IBA	Important Bird and Biodiversity Areas
ICP	Informed Consultation and Participation
IFC	International Finance Corporation
ILO	International Labour Organization
IOL	Inventory of Losses
IP	Indigenous People
ISO	International Organisation for Standardisation
IUCN	International Union for Conservation of Nature
KBA	Key Biodiversity Areas
KII	Key Informant Interview
LEP	Law on Environmental Protection
LFDC	Land Fund Development Centre
MOIT	Vietnam Ministry of Trade and Industry
MW	Megawatt
NGO	non-governmental organisations

Abbreviation	Definition
OECD	Economic Co-operation and Development
OHS	Occupational Health and Safety
PAP	Project Affected People
PC	People's Committee
PDP	National Power Development Master Plan
PIM	Potential Interactions Matrix
POP	Persistent Organic Pollutants
PS	IFC Performance Standards
RE	Renewable Energy
SCADA	Supervisory Control and Data Acquisition
SEA	Strategic Environmental Assessment
STD	Sexually Transmitted Diseases
TCFD	Task Force on Climate Related Financial Disclosure
TL	Transmission line
TPES	Total Primary Energy Supply
UNEP	United Nations Environmental Programme
UNFCC	Kyoto Protocol on Climate Change
UXO	Unexploded Ordnance
VEC	Valued Environmental and Social Components
VOL	Volume
WBG	World Bank Group
WPP	Wind Power Project
WTG	Wind Turbine Generator

1. INTRODUCTION

1.1 Purpose of this Report

This Environmental and Social Impact Assessment (ESIA) presents an assessment of the potential environmental and social impacts of the proposed Huadian Dak Lak Wind Power Project (hereinafter as "the Project") located in Krong Buk District, Dak Lak Province. The Project comprises of four sub-projects namely Krong Buk 1 (KB1), Krong Buk2 (KB2), Cu Ne 1 (CN1), and Cu Ne 2 (CN2) located in Cu Ne, Cu Pong, Ea Sin, Chu Kbo Communes. The China Huadian Engineering Co., Ltd (hereinafter as "Sponsor" or "CHEC" or the Project), who was founded in 1978 is developing four Wind Projects with total capacity of approximately 200 MW. In order to manage and operate these Projects, the Sponsor established four subsidiary companies (individually referred to as the "Project Owner" or collectively as the "Project Owners"), which are described in Table 1.1.

Table 1.1 Sub-Projects and Subsidiary Companies

No.	Project	Subsidiary Companies	Company Code
1	Krong Buk No.1 Wind Farm (hereinafter as "KB1")	Krong Buk New Energy Investment Company Limited	0108852200 first issued on 2 August 2019 by Ha Noi Department of Planning and Investment
2	Krong Buk No.2 Wind Farm (hereinafter as "KB2")	Krong Buk Wind Energy Company Limited	0108852306 first issued on 2 August 2019 by Ha Noi Department of Planning and Investment
3	Cu Ne No.1 Wind Farm (hereinafter as "CN1")	Cu Ne Renewable Energy Investment Company Limited	0108852296 issued on 02 August 2019 by Hanoi Department of Planning and Investment
4	Cu Ne No.2 Wind Farm (hereinafter as "CN2")	Cu Ne Wind Energy Investment and Management Company Limited	0108852218 first issued on 2 August 2019 by Ha Noi Department of Planning and Investment

Source: China Huadian Engineering Co., Ltd, 2021

ERM Vietnam (ERM) was commissioned by CHEC to undertake an ESIA Report for the execution and operation of the abovementioned Project. The purpose of the ESIA is to inform the Client and their Project partners of the environmental and social impacts associated with the Project and in particular the extent to which the Project aligns with the requriements stipulated under AIIB's ESF. Moreover, the study also assesses the alignment of the Project under other international standards such as International Finance Corporation Performance Standards (IFC PS), and the associated World Bank Group Environmental, Health and Safety (WBG EHS) Guidelines.

The ESIA assesses the environmental and social impacts based on the agreed scope of baseline data collection and impact assessment and preludes the preparation of an Environmental and Social Management Plan (ESMP).

1.2 Project Background

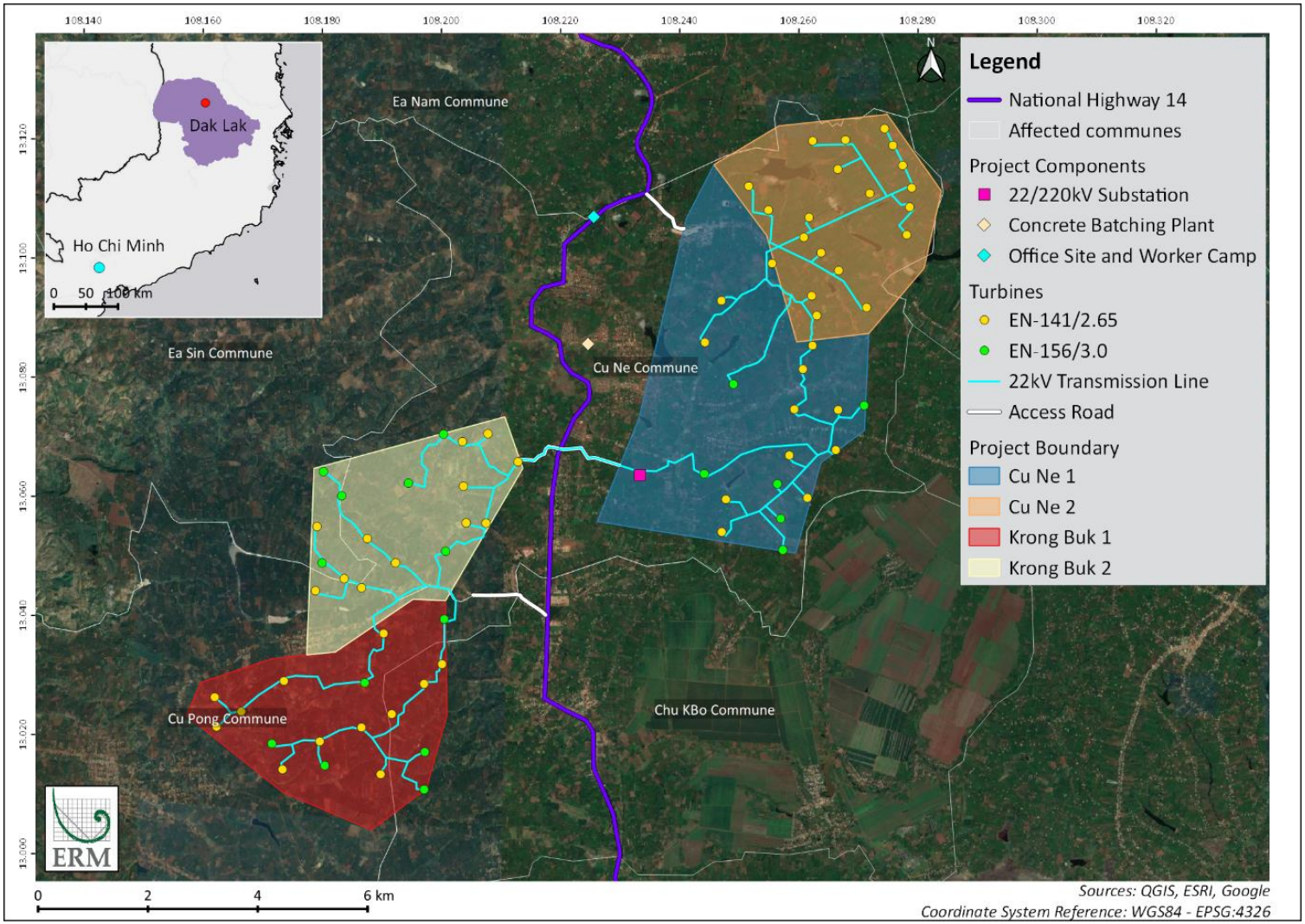
1.2.1 Project Locations and Components

The Huadian Dak Lak Wind Power Project in Krong Buk District, Dak Lak Province, with a total installed capacity of 4×50 MW and expectation to generate 754.607 GWh/year, aims to ensure power security and supply electricity without generating greenhouse gas emission, and is aligned with the Dak Lak

Power Development Plan and Policy on socio-economic development in association with environmental protection. Located in a highland region in Cu Ne, Cu Pong, Ea Sin, Chu Kbo communes, Krong Buk District, Dak Lak Province, Vietnam, the Project covers a potential areas of total 119.71 hectares and its altitude is around 610 – 830 MASL. The Project's location is presented in Figure 1.1.

The Project's area locates in a low mountain and hilly landform with a wide and gentle topography on the top of the mountain. That location is also covered by dense surface vegetation, mostly cash crops such as coffee, pepper, and rubber trees. The key components of the Project includes:

- 73 wind turbines with a total capacity of 199.75 MW including:
  - Krong Buk No.1 Wind Farm (KB1): 18 Wind Turbines (12 with capacity of 2.65 MW and 6 with capacity of 3.0 MW)
  - Krong Buk No.2 Wind Farm (KB2): 18 Wind Turbines (12 with capacity of 2.65 MW and 6 with capacity of 3.0 MW)
  - Cu Ne No.1 Wind Farm (CN1): 18 Wind Turbines (12 with capacity of 2.65 MW and 6 with capacity of 3.0 MW), and
  - Cu Ne No.2 Wind Farm (CN2): 19 Wind Turbines with capacity of 2.65 MW per each.
- The 0.69/22 kV – 3000 kVA transformer and other 22 kV components installed in the cabin inside the turbine
- 22 kV underground collector lines connecting all Wind Turbine Generators (WTGs) to the 22 kV busbar of the 22/220 kV Substation
- 22/220 kV substation with capacity of 2×125 MVA
- 220 kV Transmission Line (0.33 km) connecting the 22/220 kV substation to the National Grid
- Management and operation house, and
- Internal road system.



Source: QGIS, ESRI, Google, August 2021

Figure 1.1 Project's Location

1.2.2 Project Development in Compliance with National Planning and Requirements

With the rapid growth of energy demand and global trend of searching energy sources that reduce greenhouse gas emission, the Vietnam Ministry of Trade and Industry ("MOIT") issued a "National Power Development Master Plan (PDP) VII" for the period 2021 – 2020, with a vision to 2030 under *Decision No. 428/QD-TTg* dated 18 March 2016 of the Prime Minister. Specifically, the Master Plan will prioritise renewable energies (wind energy, solar energy, and biomass energy), so as gradually increase the proportion of electricity generated from renewable energy sources. The targets set in PDP VII aims to increase the share of renewable energies to 10% by 2030 and reduce the use of coal-fired energy source to ensure energy security, global warming reduction, environmental protection and sustainable social-economic development. On 25 June 2020, the *Dispatch No. 795/TTg-CN* listed four wind projects (KB1, KB2, CN1, and CN2) as an amendment to the National Power Development Plan.

In order to implement the national strategy of power development and provide opportunities to developers or investors to develop renewable grid-connected electricity production projects, Ministry of Industry and Trade defined the priority areas in Dak Lak Province for wind power development according to *Decision No. 3946/QD-BCT*, dated 16 October 2017. The Decision is about the approval for the Power Development Plan of Dak Lak Province in a period of 2016 – 2025 with a vision towards to 2035 and the planning of 110 kV power system development.

The intention approval of investment and the Investment Registration Certificate of four subsidiaries are presented in Table 1.2.

Table 1.2 Investment Approval and Certificate

No.	Project	Subsidiary Companies	Intention Approval of Investment	Investment Registration Certificate
1	Krong Buk No.1 Wind Farm (hereinafter as "KB1")	Krong Buk New Energy Investment Company Limited	Decision 456/QD-UBND dated 26 February 2021 by Dak Lak Province People's Committee	4393390638 issued on 2 March 2021 by Dak Lak Department of Planning and Investment
2	Krong Buk No.2 Wind Farm (hereinafter as "KB2")	Krong Buk Wind Energy Company Limited	Decision 457/QD-UBND dated 26 February 2021 by Dak Lak Province People's Committee	1051941785 issued on 2 March 2021 by Dak Lak Department of Planning and Investment
3	Cu Ne No.1 Wind Farm (hereinafter as "CN1")	Cu Ne Renewable Energy Investment Company Limited	Decision 454/QD-UBND dated 26 February 2021 by Dak Lak Province People's Committee	2189067800 issued on 02 March 2021 by Dak Lak Department of Planning and Investment
4	Cu Ne No.2 Wind Farm (hereinafter as "CN2")	Cu Ne Wind Energy Investment and Management Company Limited	Decision 455/QD-UBND dated 26 February 2021 by Dak Lak Province People's Committee	6584957197 issued on 3 March 2021 by Dak Lak Department of Planning and Investment

Source: China Huadian Engineering Co., Ltd, 2021

The Project's Owner commissioned with the 319.7 Enterprise under the 319 Corporation Ministry of National Defence to conduct the survey on UXO identification, clearance and elimination for all four Project sites (KB1, KB2, CN1, and CN2) in Cu Ne, Cu Pong Communes, Dak Lak Province. The mission had been completed and no UXO had been found in the survey area of the Project (for futher information, please see Section 13.4.1).

Pursuant to the Section 1, Appendix II under the *Decree No. 40/2019/ND-CP* dated 13 May 2019 by the Government, the Wind Power Project covers an area of fixed-term land use of less than 50 ha (mostly of the land used by the Project's facilities was agriculture land[1]) and therefore is exempted from developing and getting approval of the regulatory Environmental Protection Plan (EPP). EPP exemption for the Project was confirmed by the Dak Lak Province Department of Natural Resources and Environment (see Table 1.3). Detail of the information on land acquisition process is discussed in Vol.3, Social Impact Assessment.

The Project also got the approval of Construction Permit Exemption from Dak Lak Province Department of Construction (see Table 1.3). The Project was exempted from the construction permit because the construction facilities is planned to develop in rural area where there is no approval of urban development plans for this area and detailed construction plans according to Article 89, Vietnam Construction *Law No. 50/2014/QH13*, dated 18 June 2014 of National Assembly.

Table 1.3 EPP and Construction Permit Exemption for the Project

No.	Sub-Project	EPP Exemption Document by Dak Lak Province Department of Natural Resources and Environment	Construction Permit Exemption Document by Dak Lak Province Department of Construction
1	Krong Buk No.1 Wind Farm (KB1)	No. 63/STNMT-CCQLDD dated 11 January 2021	No. 1728/SXD-QLXD dated 23 July 2021
2	Krong Buk No.2 Wind Farm (KB2)	No. 62/STNMT-CCQLDD dated 11 January 2021	No. 1729/SXD-QLXD dated 23 July 2021
3	Cu Ne No.1 Wind Farm (CN1)	No. 61/STNMT-CCQLDD dated 11 January 2021	No. 1726/SXD-QLXD dated 23 July 2021
4	Cu Ne No.2 Wind Farm (CN2)	No. 60/STNMT-CCQLDD dated 11 January 2021	No. 1727/SXD-QLXD dated 23 July 2021

Source: China Huadian Engineering Co., Ltd, 2021

As the Project has started its construction of turbines and substation (see section 2.6, the Project companies have developed EPPs and had EPP registered at the Krong Buk District People's Committee on 24 July 2021.

1.2.3 Land Acquisition for the Project

The land occupied for the Project includes permanent and temporary land with a total area of 119.0927 hectares and 161.55 hectares, respectively. In which, the permanent land acquisition will be used for WTG foundation, transformer foundation, 220 kV substation and transmission line, and maintenance road, while the temporary land will be used for construction hoisting site, worker's camp, construction and production facilities, cable trench, and construction road. Information regarding influx labor is stated in section 2.9.

All of the land area for the Project has been identified as agriculture land. According to information provided by the Client, the area acquired for main Project's facilities is listed in Table 1.4.

Table 1.4 Area of Land Acquired for the Project

No.	Items	Unit	KB 1	KB 2	CN 1	CN 2	Total
1	**Fixed-term used land**	**ha**	**32.72**	**26.92**	**31.2427**	**28.21**	**119.0927**

[1] This information was provided by the China Huadian Engineering Co., Ltd

No.	Items	Unit	KB 1	KB 2	CN 1	CN 2	Total
1.1	Turbine foundations and security fence		1.62	1.62	1.62	1.71	6.57
1.2	Traffic roads (Upgrading inter-village roads and building new internal roads)		11	11.5	13	10	45.5
1.3	22/220 kV substation		0	0	4.6	0	4.6
1.4	220 kV transmission line		0	0	0.0227	0	0.0227
1.5	22 kV transmission line		20.1	13.8	12	16.5	62.4
2	**Temporarily-used land**	**ha**	**15**	**15.00**	**13.95**	**14.29**	**161.55**
2.1	Traffic roads		15	16	18	14	63
2.2	Laydown area		3.78	3.78	3.78	3.99	15.33
2.3	220 kV overhead transmission line		0	0	0.02	0	0.02
2.4	22 kV underground and overhead transmission line[2]		26.8	18.4	16	22	83.2

Source: China Huadian Engineering Co., Ltd

According to tine information provided, seems that the land acquisition process for the Project was still an on-going process at the time this ESIA was prepared. All the land area used or the Project has been identified as agriculture land. Land acquisition for 44 turbine foundations started in September 2019, the Project had already obtained 44 Land Use Right Certificates (LURC) by October 2020. The Project Owner is still working with local authorities to finalise land acquisition tasks for the remaining 29 turbine foundations, transformer foundation, 220 kV substation, 22 kV transmission line, 220 kV transmission line, including Right-of-Way (ROW), and maintenance road. It is estimated that land agriculture of 1,436 households, including Ede ethnic minorities, were affected by land acquisition for the Project (see further details within Section 12.3). It is expected that all land acquisition agreements are signed with landowners by November 2021 and all compensition payment to landowners is concluded by December 2021 (see Table 1.5).

Table 1.5 Timeframe of Land Acquisition for the Project

No.	Timeframe	Activity
1	March 2021 – November 2021	All the land acquisition agreements are signed with landowners
2	June 2021 – December 2021	All payment of compensition to landowners are concluded
3	July 2021 – December 2021	Compensition plan is reviewed by KrongBuk Government
4	July 2021 – December 2021	Compensition plan is approved by KrongBuk Government
5	Oct 2021 – Jan 2022	Final Approval from Dak Lak Province

Source: China Huadian Engineering Co., Ltd

1.3 Environmental and Social Impact Objective

The objective of this ESIA is to assess potential impacts of the wind power project on the environment, cultural heritage and socio-economic development of affected areas, and to propose measures in order

[2] Most of the 22kV Transmission Line are laying along with the internal road system area which are within the land acquisition process.

to avoid, minimise or mitigate negative impacts against the applicable standards to support the Client to submit the application for financial support from International Lenders.

1.4 Scope of Baseline and Impact Assessment

The Baseline studies and impact assessment for the ESIA report is summarised in Table 1.6. The further details of impact assessment will be identified in Chapter 5 of this ESIA.

Table 1.6 Scope of Baseline Survey and Impact Assessment

Topic	Scope of Work
Baseline survey	
Flora and fauna species survey	■ Undertake desktop study and one baseline survey for general flora and fauna biodiversity within the Project boundaries and its vicinity. The desktop study and field surveys should provide information about species composition, abundances and distribution of flora and fauna community that could be affected by the Project development.
Vantage point survey for avifauna	■ Undertake three land-based vantage point surveys for birds within the Project boundaries and its vicinity. Parameters include species composition, abundances and flight behaviors.
Bat (chiropteran) surveys	■ Undertake desktop study and two field surveys for bats to detect species composition and abundances of bats within the Project boundaries and its vicinity.
Environmental Baseline Studies	■ Obtain the physical environmental baseline information (e.g. air quality, surface water quality, and soil) from the regulatory EPP prepared by the Project's local consultant; and ■ Conduct noise baseline monitoring.
Socio-economic Baseline Studies	■ Undertake stakeholder engagement; and ■ Collect baseline data through household interviews, focus group discussion, and key informant interviews.
Biodiversity Assessment	■ Determine the presence of IUCN Endangered or Critical Endangered species and endemic or restricted range species; ■ Undertake an assessment of natural and modified habitats; ■ Determine key biodiversity values; and ■ Note any existing key threats to habitats and species.
Noise Screening Study and Assessment	■ Determine IFC operational noise thresholds and limits; ■ Develop project-specific operational noise models to calculate ISO 9613:2 wind farm noise levels; and ■ Compare resultant noise levels with project-specific criteria, identify any levels that exceed thresholds and limits, and qualify the magnitude and extent of any impacts.
Stakeholder Engagement Plan	■ Determine any stakeholder identification and mapping previously undertaken; ■ Determine stakeholder engagement/disclosure activities to date, including the nature of information and the medium of disclosure; ■ Establish how findings of the stakeholder engagement have been included in the decision making process; and

Topic	Scope of Work
	■ Establish any ongoing issues identified during stakeholder engagement that might have relevance for the Project.
Impact Assessment	
Surface and Ground water Quality	■ Assess impacts to physical, chemical or biological quality of surface water bodies and ground water resources and changes in habitat quality, abundance, diversity
Soil Environment	■ Assess impacts to physical and chemical soil properties
Air Quality	■ Emissions of NOx, SOx, PM, CO
Noise	■ Conduct baseline measurement of background noise ■ Determine the likely sources of noise from the development, and assess impacts on noise sensitive receptors in the area (e.g. residential premises).
Electro-magnetic Field (EMF)	■ Assess impacts of potential of electromagnetic interference (EMI) which may occur from the Project development
Biodiversity Impact Asssessment	■ Assess the potential impacts to biodiversity values due to Project activities in both construction and operation phases. Likely impacts include loss and degradation of habitats, fragmentation/barrier effects, disturbances to fauna and mortality of fauna.
Climate Change	■ Assess the Climate Change impacts on the economy and employment, occupational and community health and safety, infrastructure and public services, indigenous peoples, gender, with specific consideration for the potential for climate change induced physical/ economical displacement.
Traffic Safety	■ Assess changes in traffic resulting from the project, including the potential for an increase in the risks to travelers; safety, with particular focus on the Project's location in mountainous and highland areas.
Shadow Flicker	■ Assess potential impacts on health of project-affected people (eyes, vision) and vegetation growth
Visual Amenity	■ Changes in landscape, visual amenity in the presence of the Project
Social Impact Assessment	■ Assess Impacts on physical/ economical displacement, economy and employment, occupational and community health and safety, infrastructure and public services, cultural resources, and vulnerable groups.
Indigenous People Impact Assessment	■ Assess impacts on customary rights of use and access to land and natural resources; socio-economic status; cultural and community integrity; livelihood and social security status; indigenous knowledge.

1.5 Structure of the ESIA

The ESIA is structured into three Volumes. The content of each chapter is presented in Table 1.7.

Table 1.7 ESIA structure

Volume	Chapter	Chapter Title
Executive Summary		
1	1	Introduction
	2	Project Description

Volume	Chapter	Chapter Title
	3	Administrative Framework
	4	Impact Assessment Methodology
	5	ESIA Screening and Scoping
	6	Stakeholder Engagement
2	7	Environmental Baseline
	8	Biodiversity Baseline
	9	Social-Economic Baseline
3	10	Environmental Impact Assessment
	11	Biodiversity Impact Assessment
	12	Social Impact Assessment
	13	Unplanned Events
	14	Cumulative Impact Assessment
	15	Community Grievance Mechanism
	16	Environmental and Social Management Plan
Appendices		

2. PROJECT DESCRIPTION

This chapter provides a description of the Project development, including the site selection process and alternative sites, Project status and proposed a schedule and a description of the facilities, equipment and the associated activities that will be carried out during the site preparation, construction and operation phases. It also provides a description of potential unplanned events and details of employment and accommodation for workers during construction and operation.

2.1 Project Alternatives

The “IFC Performance Standard 1” (IFC, 2012) and the associated “IFC Guidance Note 1” (IFC, 2012), and the AIIB Environmental and Social Framework (AIIB ESF) requires that the ESIA shall identify and analyse alternatives, including but not limited to project site location, design, technology and no project alternative (which assumes that the Project development does not happen). This section provides an analysis of certain alternatives to the Project development in relation to:

- No project scenario
- Alternatives to methods of power generation
- Alternatives to site selection
- Wind turbine alternative
- Wind turbine tower alternative, and
- Wind turbine layout alternative.

2.1.1 No Project Scenario

Vietnam has large reserves of primary energy resources, such as coal, oil, natural gas, and water for hydropower generation. It also has a high potential for renewable energy resources, such as biomass, solar, and wind. During the period 2007-2017, Vietnamese total primary energy supply (TPES[3]) grew at 4.7 % per annum. Hydropower experienced the highest growth at 14.5 % per annum, followed by coal at 11.3 % per annum. The share of coal increased from the third largest fuel source in 2007 to the largest in 2017. Meanwhile, the share of biomass fell from being the largest contributor in 2007 to the third largest in 2017. Oil, growing at the rate of 4.3 % per annum, is the second largest fuel source. Solar and wind have historically only contributed a very small share in TPES. An overview of the progress of primary energy supply mix from 2007 to 2017 is presented in Figure 2.1.

[3] Total primary energy supply describes the total input of primary energy to the energy system. TPES is the sum of production and imports subtracting exports and storage changes. Where primary energy is used to describe fuels, it is the energy available as thermal energy in the fuel. When solar and wind energy is converted to electricity, the electricity made from wind and solar counts as the primary energy for these sources.

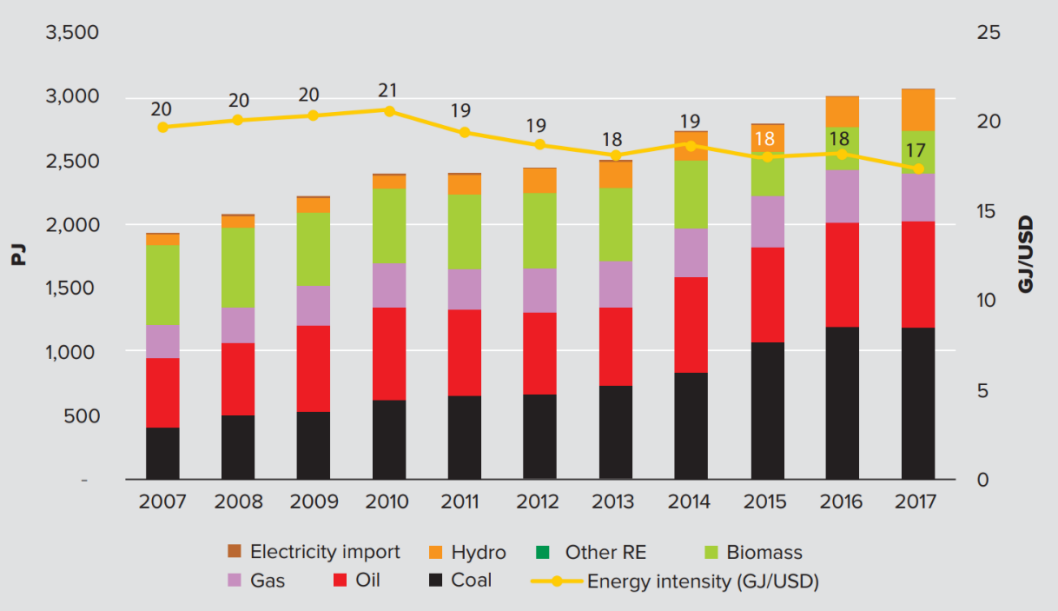
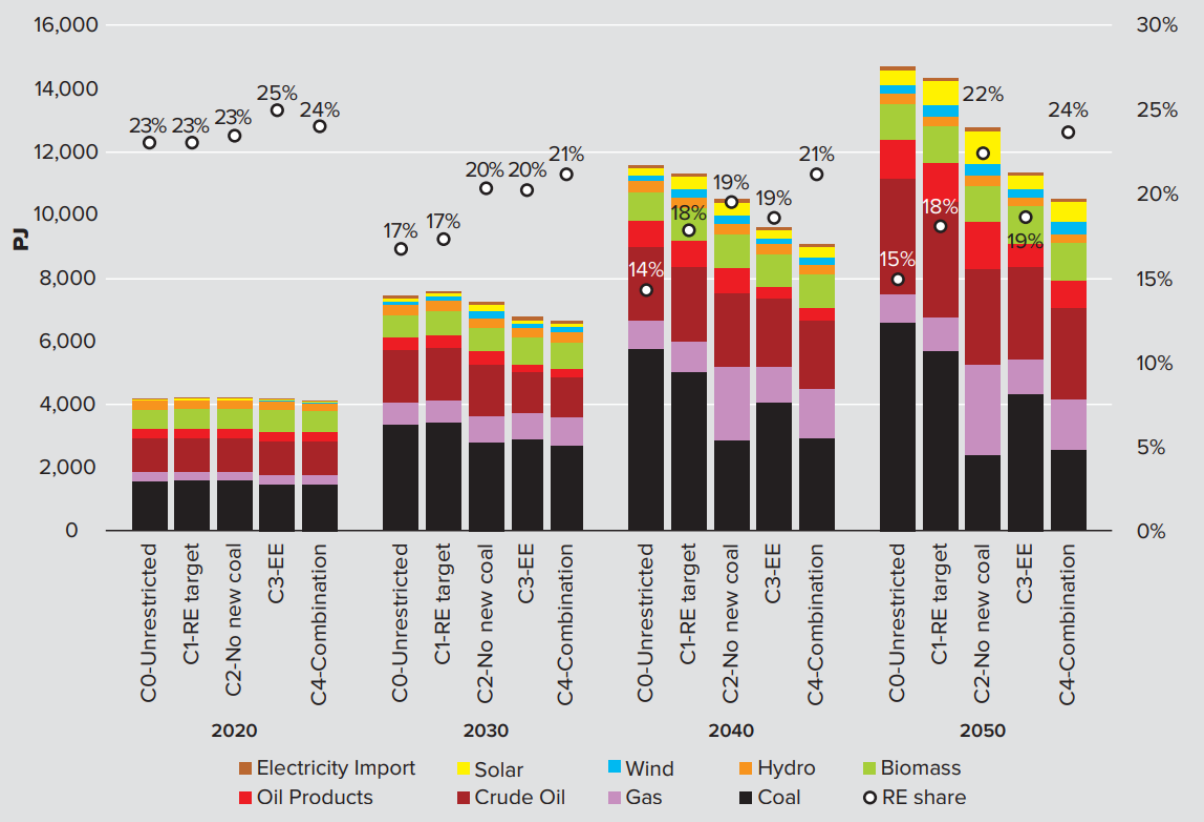


Figure 2.1 Progress of Primary Energy Supply Mix from 2007 to 2017

Figure 2.2 shows the predicted power generation make-up of Vietnam by fuel type to 2050. While this shows a heavy reliance on coal fired power generation, it also shows the growth in supply by renewables such as hydropower to remain relatively stable over that period.

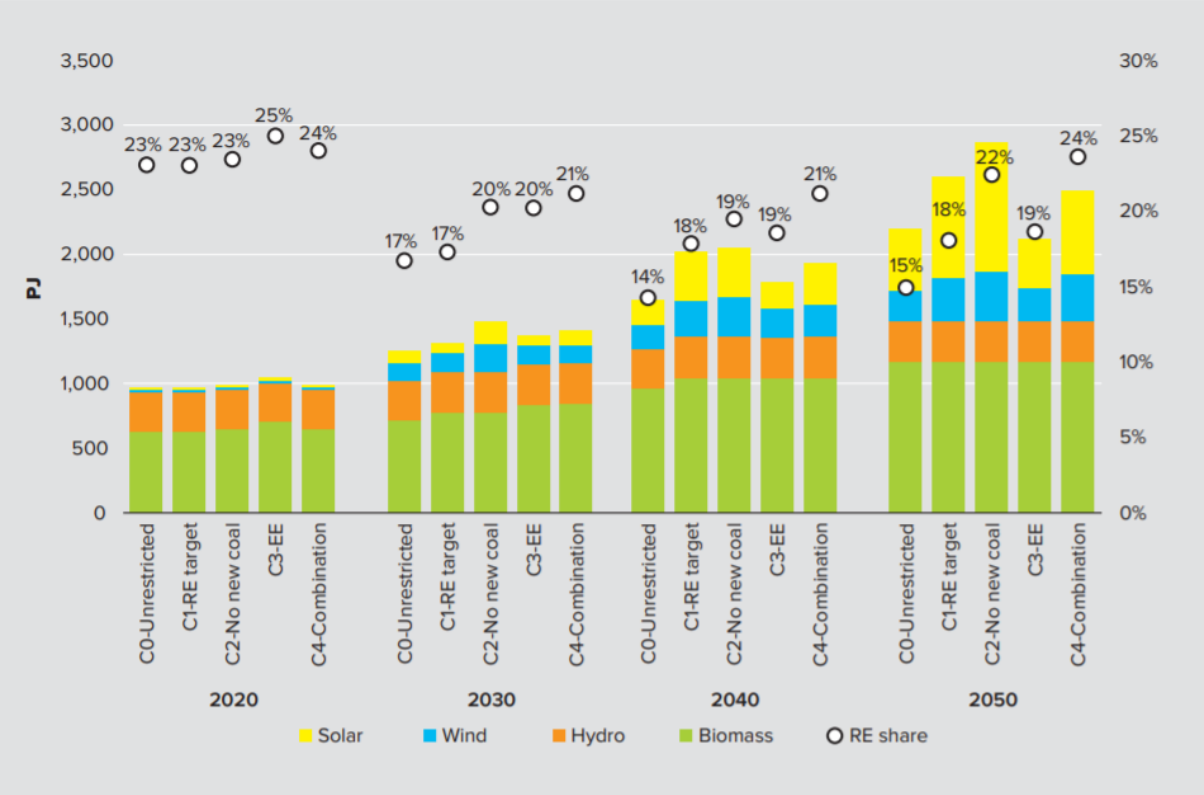


Source: Vietnam Energy Outlook Report, 2019

Figure 2.2 Total Primary Energy Supply (TPES) and RE Share in TPES across Analysed Scenarios in the Period 2020 – 2050.

The revised National Power Development Plan in the period 2011-2020 with the vision to 2030 and the Renewable Energy (RE) Development Strategy together set relatively concrete directions for the development of the power sector in the coming years. Regarding the primary energy mix per fuel type, coal still covers the major part but tends to be stable in the following years of the planning period at the proportion of 37.3 % in 2025 and 38.4 % in 2035. This is a result of applying low carbon policies to promote RE development. Hydro power experiences a significant reduction while gasoline and oil products cover over 20-22 % and natural gas accounts for about 11-13 % of the total primary energy.

The Energy Outlook Report (EOR) 2019 showed that the RE shares in TPES have a slightly decreasing trend in future years, primarily due to a large increase in fossil fuel consumption. With the proposed scenarios, the share of RE in the total primary energy supply could reach 21% in 2030, then increase to 24% in 2050. This ratio is remarkably higher than the one under the Business as Usual (BaU) scenario, but still fails to meet the required target in the RE Development Strategy (32% in 2030 and 44% in 2050).



Source: Vietnam Energy Outlook Report, 2019

Figure 2.3 Renewable Energy Sources and their Share in TPES for All Analysed Scenarios

Figure 2.3 shows that wind and solar shares significantly increase across all scenarios due to their low operation and maintenance costs and no fuel costs. Additional analysis in EOR2019 showed that with increasing wind and solar shares, the total energy system cost slightly increases while capital cost increases rapidly. Therefore, in the transition from conventional power production to wind and solar, consideration should be given to access to capital cost, even considering the expectation that the investment costs of wind and solar will decrease drastically in the coming 30 years.

Financing of clean energy investments is a booming market. After 2030, it is expected that the investment cost of fossil fuel power sources will increase due to stricter environmental standards while the power production cost of RE sources will fall as a result of technology improvement. As a result, RE would be able to compete with traditional power sources.

Should the Project not proceed, power supply would continue to be met by other sources, however as noted there is clearly a current and future reliance on fossil fuel generated power, particularly coal. In addition, should the project not move forward, the significant positive economic and environmental benefits would not be realized. Some of the benefits are highlighted below:

- Producing clean energy which contributes to the national energy security through development of local energy resources and decreasing dependency on traditional energy sources
- The clean energy produced from renewable energy resources contributes to the decreasing of global warming due to the fact that it produces no greenhouse gas emission and reduces some types of air pollution
- During the construction and operation phases, the Project is expected to generate local employment opportunities. As such, this is expected, to a certain extent, to enhance the socio-economic conditions and standards of living of local community where the project will be developed.
- Although it is crucial to take into consideration of positive and negative environmental and social impacts incurred from the project development, it could be concluded that the “no project” is not a preferable option.

2.1.2 Alternatives to Methods of Power Generation

This section discusses alternatives to the development of a wind farm project. This mainly includes other renewable energy alternatives suitable in general as well as other alternatives for power generation such as conventional thermal power plants.

There are a range of power generation options potentially available and a summary of the advantages and disadvantages of these options are provided at Table 2.1. Compared to most other traditional power generation methods, the wind power projects have a limited reversible impact on the environment while contributing to reducing the production and use of energy from fossil fuels, which causes the increase of greenhouse gas emissions and impacts from climate change. With a purpose to improve national electricity demand in the coming years, the wind power method is selected for producing electricity to meet the supply-demand of power resource.

The Project is currently consistent with the Vietnamese National Power Development Plan for the period 2011 – 2020 with the vision to 2030 (under Decision No. 428/QD-TTg, dated 18 March 2016), which mostly focused on renewable power development. The revised Power Development Plan VII outlined a master plan for power source development, in which renewable energy (wind energy, solar energy, bio energy) will be prioritized, so as to gradually increase the proportion of electricity generated from Renewable energy sources. The key objective of the Project is to meet the supply-demand balance of power resource by exploiting potential wind power for producing electricity while increasing environmental efficiency.

Table 2.1 Comparison of Power Generation Methods

System	Advantage	Disadvantage
Supercritical Thermal Power	■ Large-scale production potential ■ Moderate gestation period Wider distribution potential ■ Provides cheap electricity to the consumer ■ Provide stable output and reliable electricity on the grid ■ Easily accessible and well established technology	■ High fossil fuel consumption ■ Large quantities of water required for cooling ■ High volume of emission from operation ■ Accumulation of fly ash (in case of coal powered installations)

System	Advantage	Disadvantage
	■ Requires less land per Megawatt	■ Upstream impact from mining and oil exploration
Ultra Supercritical Thermal Power	■ In addition to the above advantages: ■ Improved efficiency by reaching higher pressure and temperatures compared to supercritical boilers. ■ Reduced emissions, particularly of CO and mercury. ■ The general rule of thumb is that each percentage point of efficiency improvement yields 2–3% less CO. ■ Potentially lower operating costs	■ As above.
Hydropower	■ GHG emission estimated as low ■ Do not create any waste by-products during conversion process ■ Some hydropower facilities can quickly go from zero power to maximum output. Because hydropower plant can generate power to the grid immediately, they provide essential back-up power during major electricity outages or disruptions	■ Site specific, dependent on reservoir/ river ■ Long gestation period ■ Alteration of river flow regime ■ Adverse social and ecological impacts due to inundation and downstream effects
Solar power	■ Pollution levels are insignificant ■ Inexpensive power generation ■ Inexhaustible solar resource ■ GHG emissions estimated as low	■ Large land requirement ■ Site-specific, dependent on solar insolation ■ Expensive installation
Wind power	■ Pollution levels are low ■ Inexpensive power generation ■ Inexhaustible wind resource ■ GHG emissions estimated as low	■ Large land requirement ■ Site-specific, dependent on wind pattern ■ Expensive installation
Nuclear power	■ GHG emissions estimated as low ■ Low fuel cost ■ The production of electric energy is continuous. A nuclear power plant generates electricity for almost 90% of annual time. It reduces the price volatility compared to other fuels ■ Do not emit smoke particles or gases	■ Availability of fuel source ■ Hazards associated with radioactive material ■ High cost of project ■ Disposal waste is expensive, as wastes are radioactive in nature ■ Long gestation period ■ Risk of fallout and meltdown scenarios and its impacts on the local population and environment

2.1.3 Alternatives on Site Selection

According to Global-wind-atlas[4], Krong Buk District, Dak Lak Province is considered as potential wind source area with average wind speed ranging from 7.84 m/s measured at the altitude of 100 m. Also mentioned in the Feasibility Study report provided by the Project's owner, the wind speed recorded in the prospective Project's area in Dak Lak ranges from 5.8 – 7.2 m/s at the height of 120 m.

In addition, the location of the Wind Power Project has been selected based on the following criteria:

- Prospective wind capacity and Project's layout
- Geological condition and transportation condition of the area
- Capability in connecting to the national electric grid
- Limiting effects on the residential areas, and
- Meeting national security protection requirements.

In accordance with the above mentioned criteria, the area of Cu Pong, Chu Kpo, Ea Sin Communes, Krong Buk District, Dak Lak Province, Vietnam has been selected as the location of the Dak Lak Wind Power Project.

2.1.4 Wind Turbine Alternative

The selection of wind turbine for the Project based on different criteria including:

- The electricity output of the WTGs at the location having maximum wind resource to create the highest power efficiency
- The wind turbine's capacity and quantity appropriate to the Project's scale
- Limited impacts of noise, vibration and shadow flickering from the WTG's operation on residential premises
- The feasibility of transportation, construction, and installation of the over-sized and over-mass equipment
- Smallest footprint area and minimum permanent land acquisition for the Project, and
- The market price of wind turbine and the availability of the product supplied by the manufacturer right at the Project's commencement.

Regarding the mentioned above criteria, the best selection of wind turbines for Dak Lak Wind Power Project is supplied by Envision Energy International Limited with two models namely No. EN141-2.5MW and No. EN141-3.0MW.

2.1.5 Wind Turbine Tower Alternative

There are many levels of tower's height designed for one model of wind turbine. The selection of wind turbine tower's height depends on some criteria consisting of the local wind resources, topography condition, and economic-technical condition of the Project. According to the manufacturer, different levels of wind turbine's height receive different levels of wind speed and generate different values of electric power efficiency. The higher the tower is, the more power generates. However, it will also increase the cost spent on both foundation and tower construction. Regarding the wind turbine 2.5 MW and 3.0 MW, the chosen hub height ranges from 80 – 130 m.

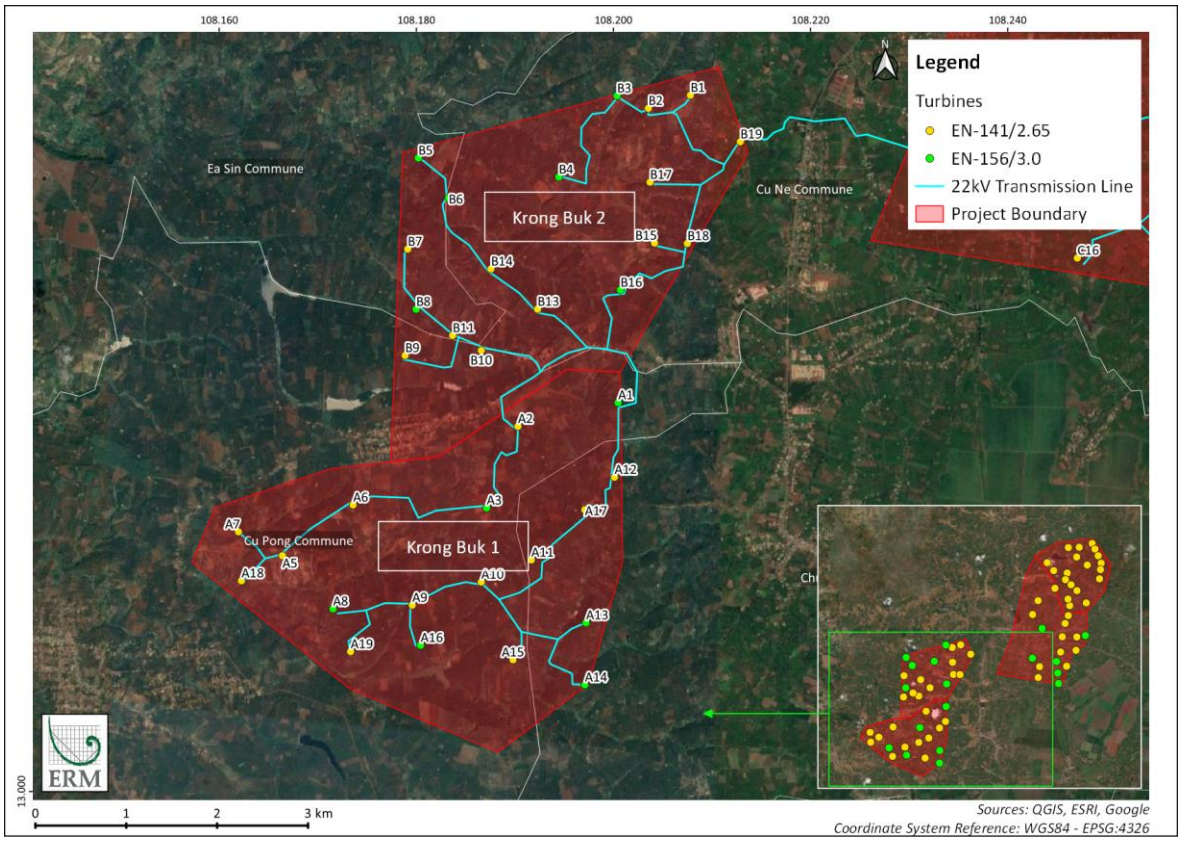
2.1.6 Wind Turbine Layout Alternative

The selection of wind turbine layout and distance from one turbine to another should basically meet the following requirements:

[4] https://globalwindatlas.info/area/Vietnam/%C4%90%E1%BA%AFk%20L%E1%BA%AFk

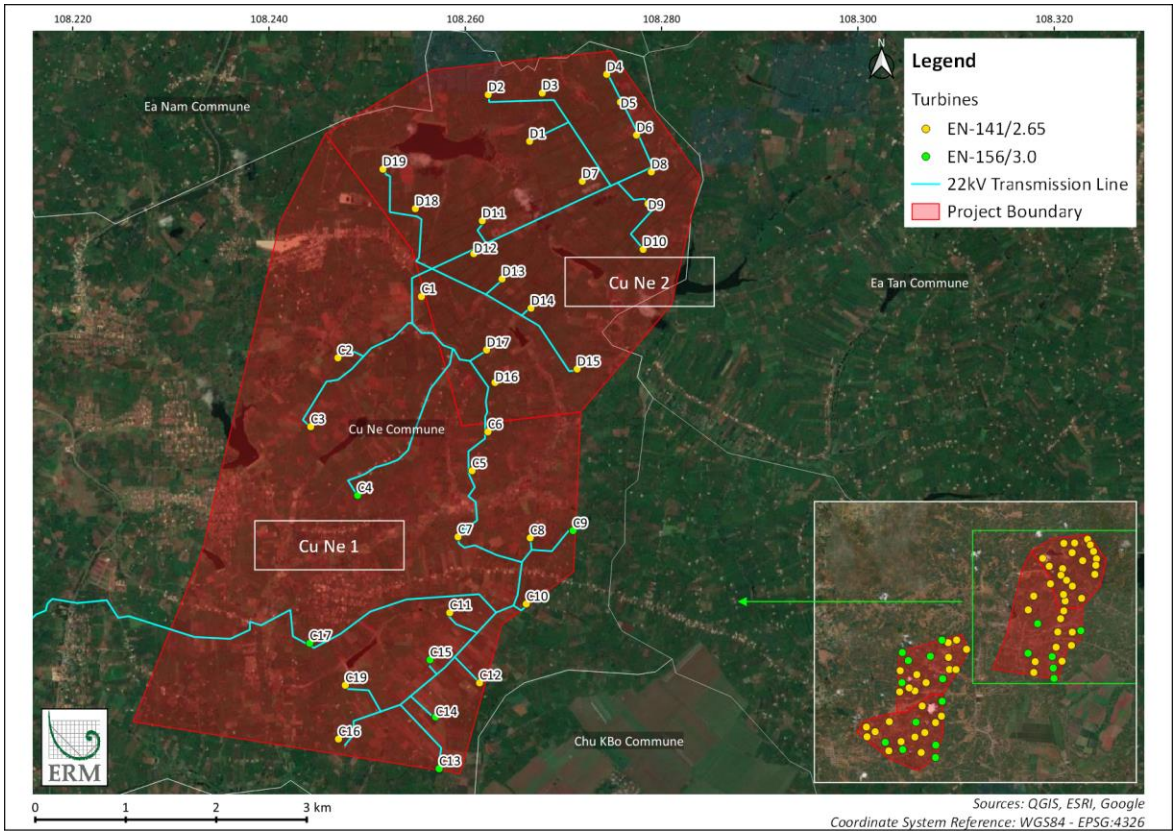
- The wind turbines shall be placed in the area with good meteorological condition such as superior wind speed, and prevailing wind direction in order to optimise the electrical productivity for the entire plant
- The wind turbine layout shall be away from the residential premises to minimising the involuntary land acquisition for the project's development
- The shielding performance of wind turbine shall be 90% or more, and
- Cost insurance of the electric connection shall be considered to be as low as reasonably applicable; the larger the distance between wind turbines, the more expensive it will be.

Regarding the mentioned above criteria, the wind turbine layout of KB1 and KB2, CN1 and CN2 wind farms is presented in Figure 2.4 and Figure 2.5, respectively.



Source: QGIS, ESRI, Google, June 2021

Figure 2.4 Wind Turbine Locations in KB1 and KB2



Source: QGIS, ESRI, Google, June 2021

Figure 2.5 Wind Turbine Locations in CN1 and CN2

2.2 Project Location

The Project is located in the northern part of Krong Buk District, Dak Lak Province. The centre of the Project's area is about 50 km away from Buon Ma Thuot City, Dak Lak Province. The geography of the Project's area is a low mountain and hilly landform with the altitude of mostly 610 – 830 MASL, and the relative altitude difference less than 500 m. The locations of the Projects are presented below:

- Krong Buk 1 (KB1) with total studied area of 1,211 hectares locates in Cu Pong and Chu Kpo Communes, Krong Buk District, Dak Lak Province. The coordinates of KB1 is presented in Table 2.2.

Table 2.2 KB1 Project's Coordinates

Landmarks	Coordinates (WGS 84)	
	Latitude (m)	Longitude (m)
1	13.0050	108.1864
2	13.0114	108.1714
3	13.0242	108.1554
4	13.0298	108.1578
5	13.0337	108.1696
6	13.0349	108.1804
7	13.0438	108.1935

Landmarks	Coordinates (WGS 84)	
	Latitude (m)	Longitude (m)
8	13.0435	108.1989
9	13.0243	108.1991
10	13.0119	108.1957

Source: Feasibility Study Report, 2020

- Krong Buk 2 (KB2) with total studied area of 1,060 hectares locates in Cu Pong, Chu Kbo, and Ea Sin Communes, Krong Buk District, Dak Lak Province. The coordinates of KB2 is presented in Table 2.3.

Table 2.3 KB2 Project's Coordinates

Landmarks	Coordinates (WGS 84)	
	Latitude (m)	Longitude (m)
1	13.0657	108.1768
2	13.0343	108.1756
3	13.0349	108.1804
4	13.0438	108.1935
5	13.0435	108.1989
6	13.0657	108.2119
7	13.0744	108.2088

Source: Feasibility Study Report, 2020

- Cu Ne 1 (CN1) with total studied area of 1,987 hectares locates in Cư Ne Commune, Krong Buk District, Dak Lak Province. The coordinates of CN1 is presented in Table 2.4, and

Table 2.4 CN1 Project's Coordinates

Landmarks	Coordinates (WGS 84)	
	Latitude (m)	Longitude (m)
1	13.1167	108.2439
2	13.1048	108.2528
3	13.0869	108.2578
4	13.0884	108.2669
5	13.0721	108.2692
6	13.0667	108.2619
7	13.0515	108.2577
8	13.0568	108.2243
9	13.0741	108.2313
10	13.1076	108.2393

Source: Feasibility Study Report, 2020

- Cu Ne 2 (CN2) with total studied area of 1,125 hectares also locates in Cu Ne Commune, Krong Buk District, Dak Lak Province. The coordinates of CN2 is presented in Table 2.5.

Table 2.5 CN2 Project's Coordinates

Landmarks	Coordinates (WGS 84)	
	Latitude (m)	Longitude (m)
1	13.1167	108.2439
2	13.1232	108.2548
3	13.1251	108.2730
4	13.1123	108.2821
5	13.0993	108.2792
6	13.0884	108.2699
7	13.0869	108.2578
8	13.1048	108.2528
9	13.1167	108.2439

Source: Feasibility Study Report, 2020

The land occupied for the Project includes permanent and temporary land with a total area of 56.69 hectares and 78.35 hectares, respectively (see Table 1.4).

2.2.1 Wind Turbine Layout

Seventy three (73) wind turbines are expected to be constructed on a highland area of Krong Buk District, Dak Lak Province. As mentioned in the Section 1.1, there are four Wind Farm Lots namely Krong Buk 1 (KB1), Krong Buk 2 (KB2), Cu Ne 1 (CN1), and Cu Ne 2 (CN2). The coordinates and locations of wind turbines are presented in Table 2.6 and demonstrated in Figure 2.4 and Figure 2.5, respectively.

Table 2.6 Wind Turbine's Coordinates

No.	Wind turbine	Coordinates (WGS 84)	
		Longitude (m)	Latitude (m)
KrongBuk 1 (KB1)			
1	A1	108.2005	13.03937
2	A2	108.1903	13.03697
3	A3	108.1871	13.02871
4	A5	108.1664	13.02387
5	A6	108.1736	13.02901
6	A7	108.1619	13.02628
7	A8	108.1715	13.01849
8	A9	108.1796	13.01886
9	A10	108.1866	13.0212
10	A11	108.1916	13.02344

No.	Wind turbine	Coordinates (WGS 84)	
		Longitude (m)	Latitude (m)
11	A12	108.2001	13.03182
12	A13	108.1972	13.01708
13	A14	108.1971	13.01079
14	A15	108.1898	13.01333
15	A16	108.1804	13.01479
16	A17	108.1971	13.02852
17	A18	108.1622	13.02133
18	A19	108.1733	13.01416
KrongBuk 2 (KB2)			
19	B1	108.2078	13.07052
20	B2	108.2035	13.06919
21	B3	108.2003	13.07045
22	B4	108.1944	13.06223
23	B5	108.1802	13.06415
24	B6	108.1833	13.06009
25	B7	108.1791	13.05493
26	B8	108.18	13.04883
27	B9	108.1788	13.04415
28	B10	108.1866	13.04465
29	B11	108.1837	13.04618
30	B13	108.1923	13.04885
31	B14	108.1876	13.05292
32	B15	108.2042	13.05554
33	B16	108.2007	13.05078
34	B17	108.2037	13.0617
35	B18	108.2075	13.0555
36	B19	108.2129	13.0658
Cu Ne 1 (CN1)			
37	C1	108.2555	13.09911
38	C2	108.247	13.09286
39	C3	108.2442	13.08585
40	C4	108.249	13.07885
41	C5	108.2607	13.08135
42	C6	108.2623	13.08532

No.	Wind turbine	Coordinates (WGS 84)	
		Longitude (m)	Latitude (m)
43	C7	108.2592	13.07462
44	C8	108.2666	13.07452
45	C9	108.271	13.07526
46	C10	108.2662	13.06778
47	C11	108.2584	13.06689
48	C12	108.2614	13.05974
49	C13	108.2573	13.051
50	C14	108.257	13.05627
51	C15	108.2564	13.06208
52	C16	108.2471	13.05402
53	C17	108.2441	13.06378
54	C19	108.2478	13.0595
Cu Ne 2 (CN2)			
55	D1	108.2665	13.11493
56	D2	108.2623	13.11968
57	D3	108.2678	13.11985
58	D4	108.2744	13.12175
59	D5	108.2758	13.11892
60	D6	108.2774	13.11556
61	D7	108.2719	13.11086
62	D8	108.2789	13.11181
63	D9	108.2786	13.10856
64	D10	108.2781	13.10392
65	D11	108.2617	13.10683
66	D12	108.2609	13.10348
67	D13	108.2637	13.1009
68	D14	108.2667	13.09792
69	D15	108.2714	13.09172
70	D16	108.263	13.09035
71	D17	108.2622	13.09367
72	D18	108.2549	13.10806
73	D19	108.2516	13.11208

Source: Feasibility Study Report

2.2.2 22kV Transmission Line

According to the technical design namely Collector Line Layout in the Wind Farm provided by the Client, there are four sets of 22 kV underground Transmission Lines constructed along the internal road system to connect and transfer electricity from 0.69/22 kV substations of all WTGs to the 22/220 kV Substation. Information regarding land acquisition process is stated in Vol.3, social impact assessment. The four sets of 22 kV underground cable direction is described as:

- Set 1: Connect four wind turbines to the substation by the underground cable placed inside the HDPE piping system then connecting to the overhead TL ACSR 1×185 and running to the compartment of the 22 kV distribution system at the 22/220 kV substation, as detailed:
  - KB1: WTG A6 – WTG A5 – WTG A4 – WTG A3 – Compartment J4.4 – 22/220 kV Substation
  - KB2: WTG B4 – WTG B3 – WTG B1 – WTG B2 – 22/220 kV Substation
  - CN1: WTG C3 – WTG C4 – WTG C5 – WTG C6 – Compartment J1.3 – 22/220 kV Substation
  - CN2: WTG D5 – WTG D4 – WTG D3 – WTG D2 – Compartment J2.4 – 22/220 kV Substation
- Set 2: Connecting five wind turbines to the substation by the underground cable placed inside the HDPE piping system then connecting to the overhead TL ACSR 1×185 and running to the 22 kV distribution system at the 22/220 kV substation, as detailed:
  - KB1: WTG A1 – WTG A2 – WTG A17 – WTG A18 – WTG A19 – Compartment J4.5 – 22/220 kV Substation
  - KB2: WTG B16 – WTG B17 – WTG B18 – WTG B19 – WTG B15 – 22/220 kV Substation
  - CN1: WTG C1 – WTG C2 – WTG C7 – WTG C8 – WTG C9 – Compartment J1.4 – 22/220 kV Substation
  - CN2: WTG D6 – WTG D7 – WTG D8 – WTG D9 – WTG D10 – Compartment J2.5 – 22/220 kV Substation
- Set 3: Connecting five wind turbines to the substation by the underground cable placed inside the HDPE piping system then connecting to the overhead TL ACSR 1×185 and running to the 22 kV distribution system at the 22/220 kV substation, as detailed:
  - KB1: WTG A8 – WTG A7 – WTG A14 – WTG A15 – WTG A16 – Compartment J4.6 – 22/220 kV Substation
  - KB2: WTG B10 – WTG B11 – WTG B12 – WTG B13 – WTG B14 – 22/220 kV Substation
  - CN1: WTG C12 – WTG C10 – WTG C11 – WTG C14 – WTG C13 – Compartment J1.5 – 22/220 kV Substation
  - CN2: WTG D19 – WTG D18 – WTG D1 – WTG D17 – WTG D16 – Compartment J2.6 – 22/220 kV Substation
- Set 4: Connecting five wind turbines to the substation by the underground cable placed inside the HDPE piping system then connecting to the overhead TL ACSR 1×185 and running to the 22 kV distribution system at the 22/220 kV substation, as detailed:
  - KB1: WTG A9 – WTG A10 – WTG A11 – WTG A12 – WTG A13 – Compartment J4.7 – 22/220 kV Substation
  - KB2: WTG B6 – WTG B5 – WTG B7 – WTG B8 – WTG B9 – 22/220 kV Substation
  - CN1: WTG C19 – WTG C18 – WTG C17 – WTG C16 – WTG C15 – Compartment J1.6 – 22/220 kV Substation
  - CN2: WTG D12 – WTG D11 – WTG D15 – WTG D14 – WTG D13 – Compartment J2.7 – 22/220 kV Substation

2.2.3 22/220 kV Substation

The 22/110 kV Substation with capacity of 2×125 MVA is constructed near the southern inter-communal roads of the Cu Ne 1 Wind Power Project (CN1) in Buon Drao Village, Cu Ne Commune, Krong Buk District, Dak Lak Province. The area where the 22/220 kV Substation located is wide and gently mountainous which will be acquired from the residential and agriculture land areas. Locating at the height of 738.5 – 745.5 MASL, the dominant vegetation in the substation area is mainly coffee, black pepper, and fruits (mainly avocado and durian). The total approved area for the substation is approximately 19.578 m^2, in which 14.798,6 m^2 is the footprint area. The main facilities are to be constructed inside the substation to serve the operation stage which consist of 220 kV towers, foundation, cable trench, control room, pump station, storage, power station, lightning system, water supply and drainage system, oil conservator tank, and fire-fighting system (See Figure 2.6).

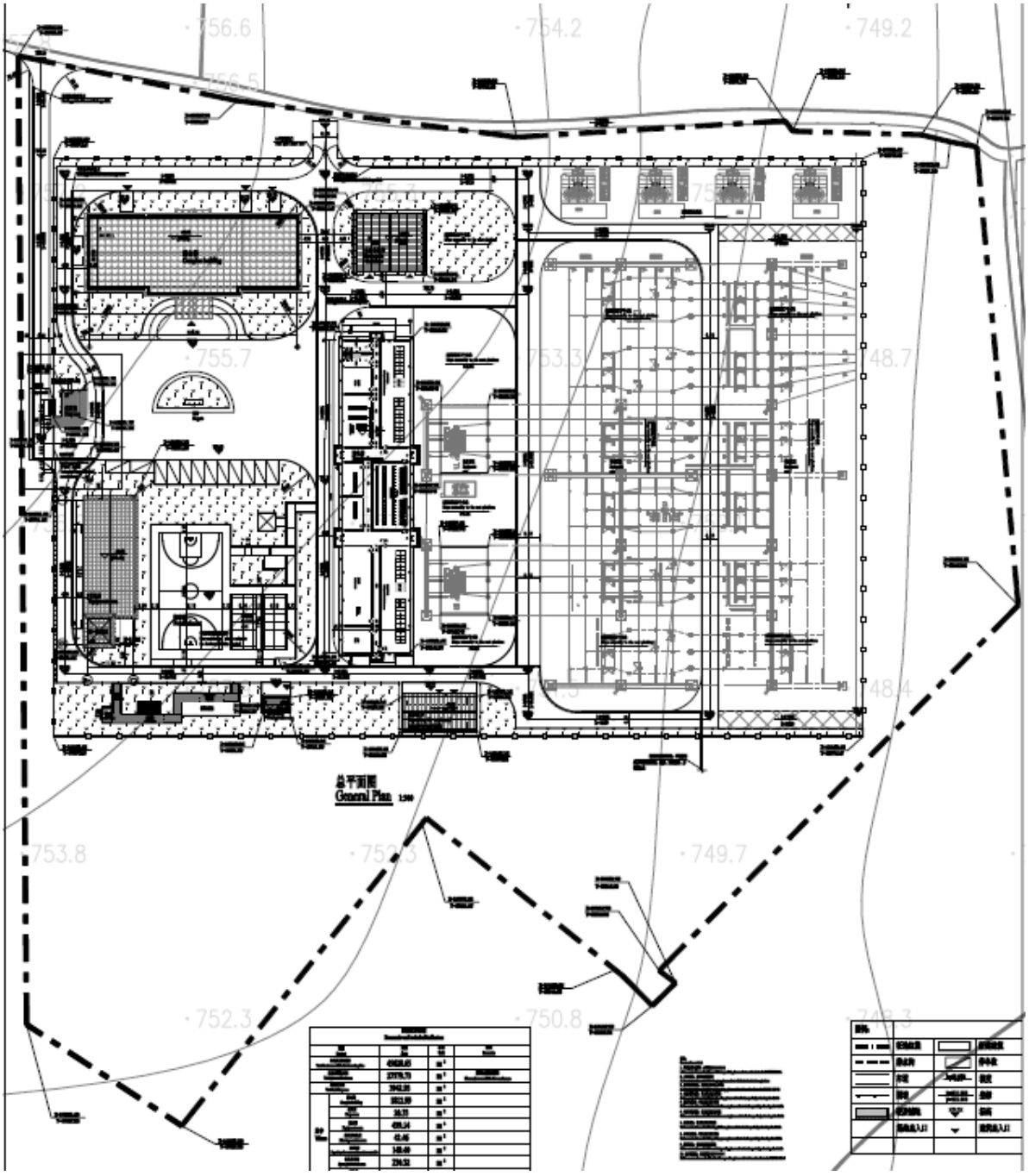


Figure 2.6 Substation Layout

Source: ERM, May 2021

Figure 2.7 Substation Area under Current Land Clearance

2.2.4 220 kV Transmission Line

The 220 kV Transmission Line with total length of 0.33 km mainly traverses the arable land of coffee and fruits (mainly avocado and durian) of local people. The starting point of the 220 kV transmission line begins at the connecting point between column #331 and #332 of 220 kV Transmission Line of Pleiku 2 and terminates at the 220 kV busbar of the existing Krong Buk 1 Substation in Buon Drao Village, Cu Ne Commune, Krong Buk District, Dak Lak Province. The location where 220 kV transmission line traverses by situated at the height of 720.5 – 740.8 MASL.

2.3 Project Facilities and Components

A process flow diagram of the Project with main components is presented in Figure 2.8.

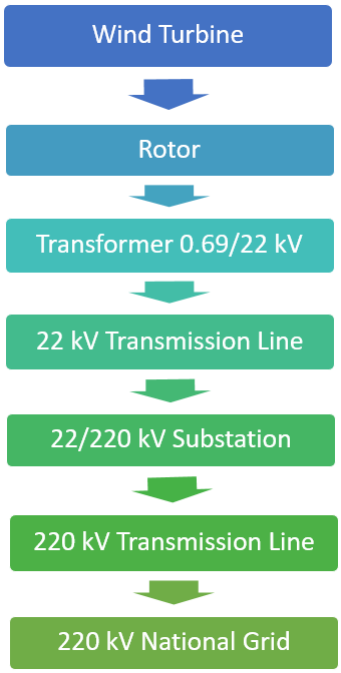


Figure 2.8 Flow Diagram of Project's Power Production Process

2.3.1 Permanent Facilities

2.3.1.1 Wind Turbines

There are seventy three wind turbines to be constructed for this Project. The selected supplier of wind turbine is Envision Energy International Limited. Detailed technical specifications of wind turbines are shown in Table 2.7.

Table 2.7 Technical Parameters of Wind Turbine

No.	Description	Unit	Value	
1	**Turbine Data**			
1.1	Manufacturer/model No.	-	EN-141/2.65	EN-156/3.0
1.2	Rated power	kW	2650	3000
1.3	Rotor Diameter	m	141	156
1.4	Cut-in wind speed velocity	m/s	3	3
1.5	Cut-out wind speed velocity	m/s	20	20
1.6	Annual mean wind velocity	m/s	6.5	9.1
1.7	Extreme (viable) wind velocity (10 min max.)	m/s	37.5	37.5
1.8	Extreme (viable) wind velocity (3 min max.)	m/s	52.5	-
1.9	Expected service life	Year	20	20
2	**Blade**			
2.1	Manufacturer		Envision/SM/CT	-
2.2	Blade		Fiberglass	Glass fiber reinforced epoxy resin

No.	Description	Unit	Value	
2.3	Tip rotational speed	m/s	81	-
3	**Gearbox**			
3.1	Manufacturer		Envision/WE2800Y	-
3.2	Steps of gear		3	-
3.3	Gearbox speed ratio		155/162	-
3.4	Gearbox Torque	kNm	High 15.66/14.99 Low 2428	-
4	**Generator**			
4.1	Manufacturer/model No.		Envision/ENDF 2.X-4	-
4.2	Rated Power	kW	2800	3150
4.3	Rated voltage	V	690	950
4.4	Rated Speed and Range	rpm	1750/1080-1960	1680
5	**Lightning protection**			
5.1	Lightning protection design standard		IEC61400-24 LPL1	IEC61400-24 LPL1
5.2	Grounding Resistant	Ω	<4	-

2.3.1.2 0.69/22 kV-3000kVA Transformer

The specifications of 0.69/22 kV - 3000kVA Transformer are presented in Table 2.8.

Table 2.8 Specifications of 0.69/22 kV - 3000kVA Transformer

No.	Specification	Description
1	Type	Dry and installed inside the house
2	Capacity	3000kVA – 3 phases – 50Hz
3	Voltage	0.69/22±2×2.5%kV
4	Transformer Vector Group	Dyn11
5	Insulator	22mm/kV

2.3.1.3 22 kV Underground and Overhead Transmission Line

The new constructed 22 kV underground Transmission Line with 3-phase connects all wind turbines to the 22/220 kV substation before connecting the National Grid. The model of 22 kV underground Transmission Line is UG-12.7/22 (24 kV) AL/XLPE/AWA/PVC with the area of conductive aluminium core of 120 mm^2, 300 mm^2, and 500 mm^2 inside the connecting cable of wind turbines.

2.3.1.4 22/220 kV Substation

The 22/220 kV substation is invested with the capacity of 2×125MVA. The total area allocated for substation construction is 19,578 m^2 while the Substation's foot print is 14,798 m^2. The main specifications of the 220 kV substation are described as below.

Table 2.9 Specifications of 22/220 kV Substation

No.	Specification	Description
1	Capacity	125/62.5/62.5 MVA
2	Voltage	225±8×1.25%/23/23 kV
3	Transformer Vector Group	YNd11d11
4	Cooling system	ONAN/ONAF

2.3.1.5 220 kV Transmission Line Connecting to the National Electric Grid

The specifications of the 220 kV TL connecting the Wind Power Project to the National Electric Grid are presented in Table 2.10.

Table 2.10 The Specifications of 220 kV Transmission Line

No.	Specification	Description
1	Connection Point (Input)	Between the column 331 and 332 of the 220 kV TL Pleiku 2 – KrongBuk
2	Connection Point (Output)	Pooctich 220 kV at 220 kV Substation of KrongBuk 1 (new construction)
3	Voltage	220 kV
4	No. of circuit	2
5	Length	0.33 km
6	Transmission Line	Aluminium wire with steel core ACSR – 500/64
7	Lightning rod	Aluminium cable with steel core PHLOX-94 and OPGW-70 optical cable
8	Grounding	Glass or polymer ceramics
9	Pilling	2-circuit galvanized steel
10	Foundation	Using cast-in-place reinforced concrete foundation
11	Route corridor	Width of 22m

2.3.1.6 Internal Road System

In order to meet the transportation demand, it is necessary to construct a new internal road system besides some existing one (See Figure 2.9) to connect the locations of all WTGs together. A total of 63.85 km of new internal road system are expected to be built for the Project including 19.03 km of internal road for KB1, 17.14 km for KB2, 16.47 km for CN1, and 11.21 km of internal road for CN2 (See Figure 2.11). A 15 cm clay-bound macadam pavement is adopted for the pavement structure. The maximum longitudinal slope of main roads and side roads is 12% and 14%, respectively.

The new internal road systems of the Projects combined with the local rural roads not only satisfies the needs of the WTG transportation and future maintenance, but also provide the convenience for the transportation of local planting economy. Vol 3 – social impact assessment, which is discussed the land acquisition process and status. Regarding the feasibility research, the 3.5 m wide internal road will serve effectively for the maintenance activities during the operation phase, improve local transportation conditions, bring convenience to local people's life, and promote the local economic development.

Source: ERM, 2021

Figure 2.9 Existing Sections of Project's Internal Road System

2.3.2 Ancillary Facilities

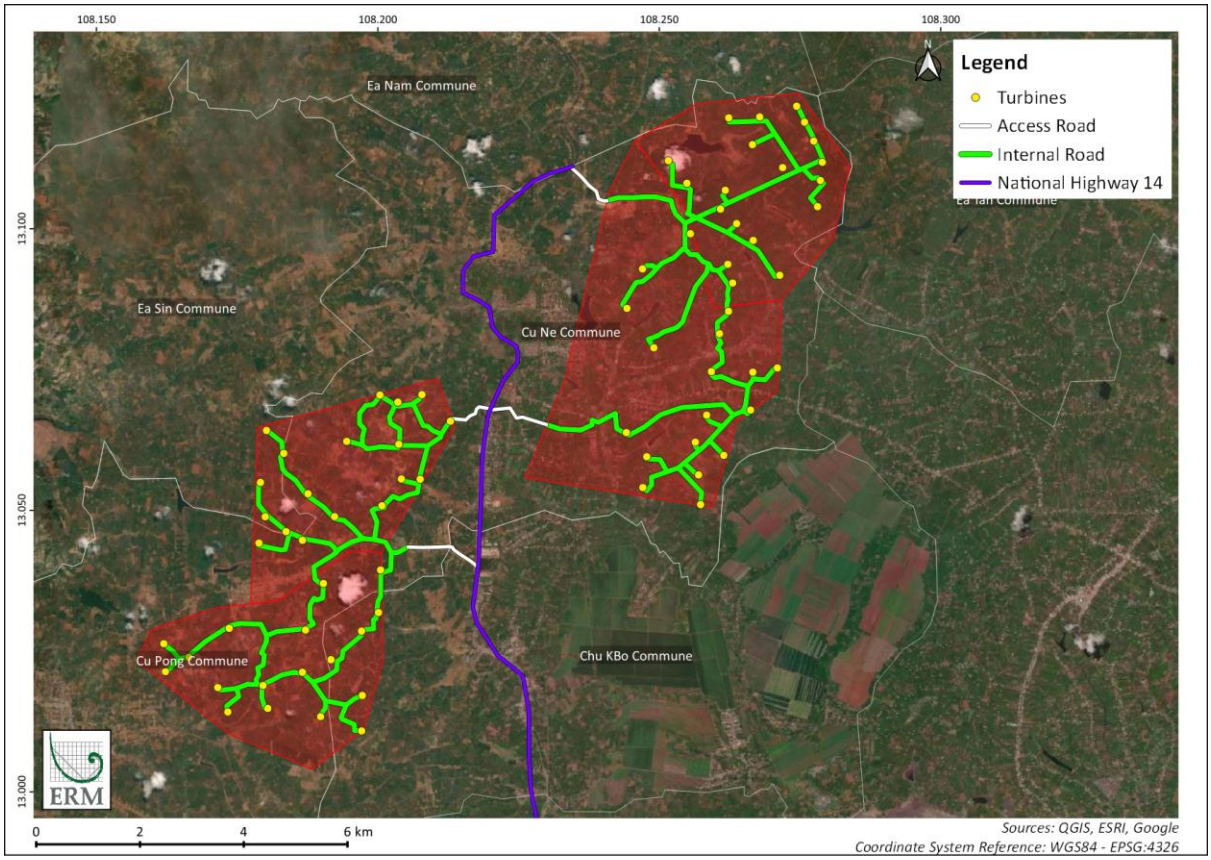
2.3.2.1 Access Road System

The access to the four Wind Power Projects KB1, KB2, CN1, and CN2 are mainly by three main roads, one connects to KB1, the second connects to KB2 and the last one connects to CN1 and CN2. Most of the access roads are made with basalt red soil with total width of 4 – 6m which basically meet the transportation requirements of Dak Lak Wind Power Projects development. However, thera are only some road sections which are relatively narrow and are required to be reconstructed and expanded to 8 m in width and 6.75 km long. The clay-bound macadam with a total thickness of 15cm is adopted for the pavement structure.

Figure 2.10 and Figure 2.11 show the location and existing condition of the access road system.

Source: ERM, May 2021

Figure 2.10 Access Roads to the Wind Farm Project's Site



Source: QGIS, ESRI, Google, May 2021

Figure 2.11 Internal Road and Access Road Systems of the Project

2.3.2.2 Concrete Batching Plant

The turbine foundation will be constructed in steel reinforced concrete. There are two concrete batching plants with capacity of 90 m^3/h and 120 m^3/h, respectively, locating in National Highway No.14, Tan Lap 7 Commune, Krong Buk District, Dak Lak Province. The space used for Concrete Batching Plant is purchased from the local market. Water requirement for the operation of the concrete batching plant has been taken from the self-drilling well since March 2021 with total depth of 120 m without any treatment process before usage. However, the water quality was tested frequently which met the Vietnam National Technical Regulation *TCVN 4506:2012* on Water for Concrete and Mortar – Technical Specification. The groundwater from well source is also used for domestic purpose of the working group at the Plant. In addition, there are total 10 concrete mixer trucks with capacity of 10 m^3/truck which can produce nearly 210 m^3/day of concrete. The total amount of concrete poured in the Project is about 69,800 m^3, most of which is of Grade II and a quantity for each single WTG foundation is about 637 m^3.

There are 30 persons working in the concrete batching plant serving the civil works for wind turbines during the construction phase. All of them accommodate in the home-stay near the Project's area for convenience while working at the Site. Although there is no CTV camera installed at the batching plant, a security staff is arranged at the plant to ensure no burglaries and insecurity issues during the work shift.

Figure 2.12 shows the current status of the Concrete Batching Plant of the Dak Lak Wind Power Project.

Source: ERM, May 2021

Figure 2.12 Photos of the Concrete Batching Plant of the Project

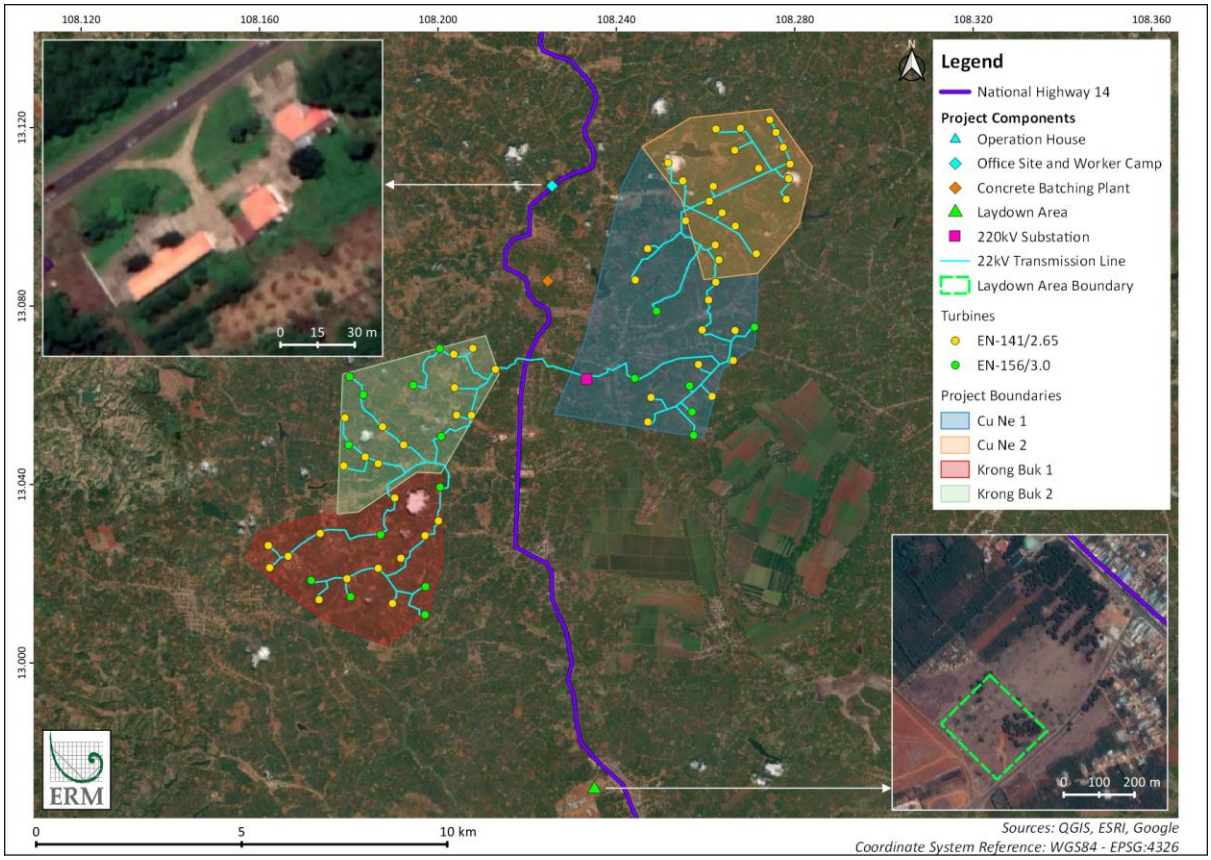
2.3.2.3 Laydown Area and Crane Installation Area

The laydown area is designed largely with an area of nearly five hectares for all over-sized and over-mass equipment such as wind turbines, crane, and other transportation vehicles to be laid. Under the *Dispatch No. 473/UBND-TNMT* dated 7 April 2021, the Krong Buk People's Committee approved the land lease for Cu Ne 1 Wind Power Project to be used as a laydown and crane installation area within 24 months serving the Project's implementation. As stated in the Dispatch, the People Committee of Pong Drang Commune is responsible to regularly supervise the in and out transportation of equipment to the laydown area to ensure the land lease is always be used under the right purpose, and within the permitted boundary. In addition, the Project owner shall ensure the implementation of preventive and mitigation measures are in place to minimise the environmental-related impact till the end of lease term and shall reinstate the land to the Krong Buk People's Committee. The specific location of laydown area of Cu Ne 1 is presented in Table 2.11 and Figure 2.13.

Table 2.11 The Coordinate of Laydown and Crane Installation Area

No.	Point	Coordinates (WGS 84)	
		Longitude (m)	Latitude (m)
1	X1	108.2337	12.9718
2	X2	108.2352	12.97035
3	X3	108.2365	12.97161
4	X4	108.235	12.97306

Source: China Huadian Engineering Co., Ltd



Source: QGIS, ESRI, Google, Octorber 2021

Figure 2.13 The location of Layout and Crane Installation Area

2.3.2.4 Worker Accommodation for the Construction Phase

During the construction phase, there is a block of temporary houses constructed in the area of the construction office site for the Project owners, EPC contractor, and the Project owners' consultants (PECC5) to work and accommodate (see Figure 2.14). This office site is located in AH17, National Highway No. 14, Cu Ne Commune, Krong Buk District, Dak Lak Province. In the construction office area, there is an operation house for the management team which covers a total area of 300 m^2 including two floors and a parking lot. There are offices, meeting room, canteen, and toilet in the first floor while the second floor is arranged with breaking rooms and toilets serving the work and accommodation of Project's personnel during the construction phase. Once the construction phase is completed, the temporary house will be dismantled and the land will be reinstated to the land's owner.

The specific location of the office site and accommodation is presented in Figure 2.13. In addition, during the construction phase, other workers and subcontractors working at the Project's sites will accommodate in the home-stay or in the hotel or motel for rent near the construction site.

Source: ERM, May 2021

Figure 2.14 Photo of Houses for Management Team during the Construction Phase

2.3.2.5 Soil Stockpiling Site

As confirmed by the Client through the mass balance calculation, 100% volume of excavated soil is used for backfilling at the WTGs footprints and the internal and access roads. The excavated soil will be temporarily stored at the WTGs' areas. These soil stockpilling sites (see Figure 10.20 of vol.3 ESIA) were observed during the scoping site visit. These sites were observed with plastic cover on top and barriers at the footprints. Reportedly, these soil stockpilling sites would be cleared to backfill into the WTGs' foundations and the access/ internal roads.

2.3.3 Other Components

- Wind monitoring system with meteorological sensors (speed and wind direction);
- Anti-lightning system;
- Earthling system;
- Communication system;
- Control system;
- Electricity metering system;
- Fire protection equipment for fire prevention; and
- Warning lights system.

2.4 Project Activities

2.4.1 Pre-construction Phase

The Pre-construction phase would include the following activities:

- Geographic and topographic survey, geotechnical investigations and clearance of unexploded ordnance (UXO);

- Preparation of the detailed design and layout of wind turbines within the Project site and other infrastructure (e.g. substation, transmission lines, operation and maintenance facilities, auxiliary works);
- Land acquisition for clearance, by coordinating with local authorities to develop an appropriate compensation plan;
- Site clearance and levelling the ground;
- Conduct some field surveys such as geotechnical survey, socio-economic survey, and environmental survey;
- Development of Stakeholder Engagement Plan (SEP), including Community Grievance Mechanism and Worker Grievance Mechnism;
- Development of Resettlement and Livelihood Restoration Framework (RLRF); and
- Development of Indigeneous Peoples Plan (IPP).

2.4.2 Construction Phase

The construction phase will include the following activities:

- Construction/establishment of the cement batching plant
- Construction of internal road to facilities and worksites, and
- Construction of turbine foundation and 22 kV transmission line:
  - Transportation of wind turbines, construction material and machines
  - Installation of turbines, overhead transmission line/grid connection and underground cables
  - Installation of the communication system and SCADA
  - Upgrading, widening and strengthening of access road
  - Construction and installation of water supply and drainage system, power supply system and fences, and
  - Completion of internal electric connections.

2.4.2.1 Wind Turbine Construction

2.4.2.1.1 Wind Turbine Foundation

There are some criteria shall be taken into account during the construction of Wind Turbine Foundation:

- The existing condition of the location (topographical and geographical conditions of the area)
- Weather and climate conditions of the area, and
- The specifications of Wind Turbines (capacity, hub height).

The technical design of wind turbine foundation is presented in the Construction Survey Report developed by the consulting company PECC5 in March, 2020. The turbine foundation will be constructed under the round shape shallow mat type foundation with the diameter of 22.5m. The foundation will include the basement, the mat and the central pillar, which is pouring with concrete B35 (M450); gravel 1×2, and bearing steels CIII type. (See Figure 2.15).

- Concrete management approach during construction:
  - Concrete is mixed at the batching plant with an electronic weighing system to ensure the exact quantity and quality of batches

- Concrete trucks are used to ensure that concrete is not stratified, dehydrated or wasted in transportation
- Concrete trucks are transferred by barges to the location of turbine foundation
- At the foundation location, concrete is poured into the foundation by concrete pumps truck
- Concrete samples (directly from concrete trucks) are taken to measure the slump of concrete and used test samples before concreting (pouring concrete into pumps and pump up to the construction site)
- Pumping concrete into the foundation by a pump, and
- Compact concrete using electric batons to ensure the concrete slurry mixture becomes solid, concrete does not exist pores, the outside surface is not porous and the concrete adheres to the reinforcement

- Maintenance work:
  - Use jute sacks soaked in water to cover the surface of foundation to avoid quick evaporation of water causing cracks
  - Concrete is moistened by watering during the curing and shock-proof period to ensure a curing process, and
  - The maintenance of concrete is conducted continuously for four days from the date of pouring.

Source: ERM, July 2021

Figure 2.15 Turbine Foundation

2.4.2.1.2 Wind Turbine Installation

After completing construction of the wind turbine foundation, the next steps will be to assemble the wind turbine components. Lifting works will begin with the lowest tower subsections. Complete nacelles, with gearboxes and generators already installed, will be lifted onto the tower tops. The rotor blades will be fixed to the hub before being lifted and connected to the nacelle. It is noted that the installation of some components cannot occur when the wind speed is greater than 10 m/s due to safety constraints of the cranes. A demonstration of wind turbine installation procedure is presented in Figure 2.16 and Figure 2.17.

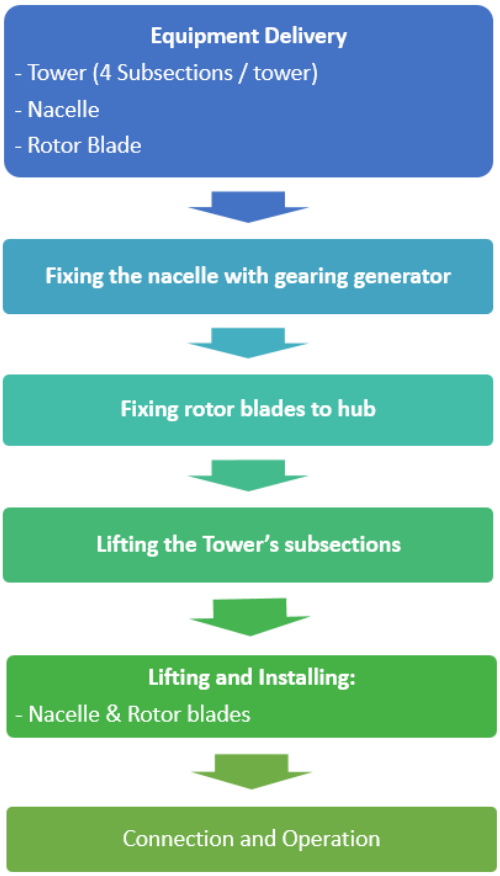


Figure 2.16 Wind Turbine Installation Procedure

Source: Website[5]

Figure 2.17 Wind Turbine Installation

2.4.2.2 Transmission Line

The construction of the transmission line includes but not limited to the following activities:

- Building the transmission pylons foundation, including:
  - Soil excavation
  - Installing the cast-in place reinforced concrete foundation by concrete stone
- Assembling the pylons: Using centrifugal concrete column
- Installation of insulation and accessories
- Straining of rope to measure deflection
- String power lines, and
- Grounding installation work

The underground cables installation process includes:

- Soil excavation and trenching
- Laying the cables in the middle of the trench
- Laying the protective tile just above the sand bed
- Backfilling the excavated soil leaving 300 mm from the ground level, and
- Lay the cable warning tape and again back-fill the remaining portion of the trench up to the ground level.

2.4.2.3 Power Supply

The electricity supply for the construction activities of Dak Lak Wind Farm can be led from the nearby 22 kV Transmission Line. The length of the transmission line connecting to the construction area of the

[5] http://www.industrycrane.com/blog/wind-turbines-installation-process.html

Project's area is about 1.0 km. Moreover, three additional 30 kVA diesel generator sets are configured as the power supply for the construction of WTG foundation and the standby power supply for the Project's construction and operation activities.

2.4.2.4 Water Supply

The water requirement at the site during the construction period is initially planned to be taken from drilling wells from nearby households or any ornisations or units with permission of exploitating and using underground water[6], and the length of the pipeline is about 1.5 km. The volume of water requirement and number of wells to be used for construction activities are unavailable at this time of developing this ESIA.

Another water supply source used for the concrete batching plant and worker's daily activities is taken from the new constructed drilling well nearby with the total depth of 120 m without any treatment process before use. The water quality has been regularly tested and obtained the certificate to ensure the qualified water quality before use (Details in Section 2.3.2.2).

Water requirement for the complex in the area of the substation is expected to be taken from the drilling well nearby residential area with stable groundwater level at the depth of 18 m. The groundwater source taken from drilling wells is distributed into two tanks via a submersible pump at the well bottom. The first tank has a capacity of 100 m^3 containing groundwater for fire-fighting purpose. The second groundwater source is pumped to the water treatment system before being contained in a 1 m^3 domestic water tank at the rooftop of the operation house serving the domestic purpose of staffs and personnel during operation phase.

2.4.2.5 Transportation of Equipment and Material

2.4.2.5.1 Transportation of Equipment

The transportation of major equipment (wind turbines, propeller, and transformer) imported from foreign firms is dominated by the sea and road with the main approach route as following.

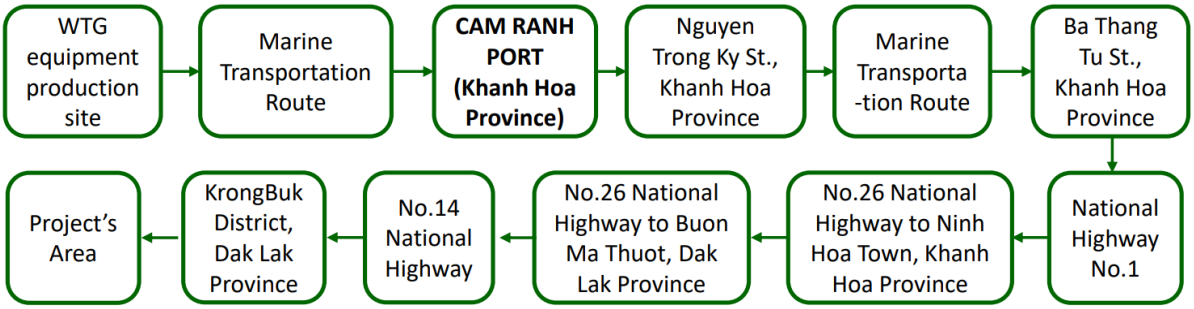


Figure 2.18 Equipment Transportation Route

The total length of the transported route from Cam Ranh Port in Nguyen Trong Ky Street, Cam Linh, Cam Ranh, Khanh Hoa Province (see Figure 2.19) to the Project's sites is approximately 222 km. The equipment transportation route at some points requires modification by widening the local curves, reinforcing bridges and dismantling line poles and other obstacles in order to meet the transportation requirements and facilitate external traffic conditions. There are some dismantled components done for the renovated road sections[7] as follow:

[6] Any organisations or units supplying water for the Project during the construction phase shall obtain the permit of exploitating and using underground water more than 10m^3/day as per Decree. No 201/2013/ND-CP detailing the implementation a number of Articles of the Law on Water Resources, dated 27 November 2013 by the Prime Minister.

[7] The road modification has been conducted by the Project's owner without any issues relating to the land acquisition and compensation under the permission of authorities.

Table 2.12 Dismantle Components of Equipment Transportation Route

No.	Route section	Activity	Illustration
1	The curve at Nguyen Trong Ky Street to Ba Thang Tu (3/4) Street	■ Remove two lamp posts and 20m of the lane separator	
2	Low voltage on the route which is higher than 5.5m	■ With escort from Vietnam Electricity (EVN) using the special device to lift the cable	
3	Highway No.1 to Highway No.26 (with turning curve of 50m)	■ Remove 20m lane separator	
4	Ninh Xuan Toll Gate (on Highway No.26) is 5.7m high and 4.7m wide	■ Remove 50m of the lane separator	
5	Toll Gate EADAK (on Highway No. 26) is 4.8m high and 4.6m wide	■ Remove two lamp posts and 20m of the lane separator ■ Open the lane by steel plate	
6	Welcome Gate to Krong Pak District is 5.2m high	■ Remove the cross beam with permit from authorities	
7	Toll Gate Quang Duc (on Highway No.14) is 5.6m high and 4.6m wide	■ Remove the lane separator	

Source: Transportation Survey and Public Road Requirements Document, 2021

Source: Feasibility Study Report, 2021

Figure 2.19 Cam Ranh Port in Khanh Hoa Province

2.4.2.5.2 Transportation of Materials

Other construction materials (levelling sand, brick, stone, iron, and steel) will be supplied by local vendors in Buon Ma Thuot City, Dak Lak Province or in the vicinities to be transported to the Project's site via transportation road system. The transportation route will pass through the National Highway No.14 and rural road which is demonstrated in Figure 2.20.

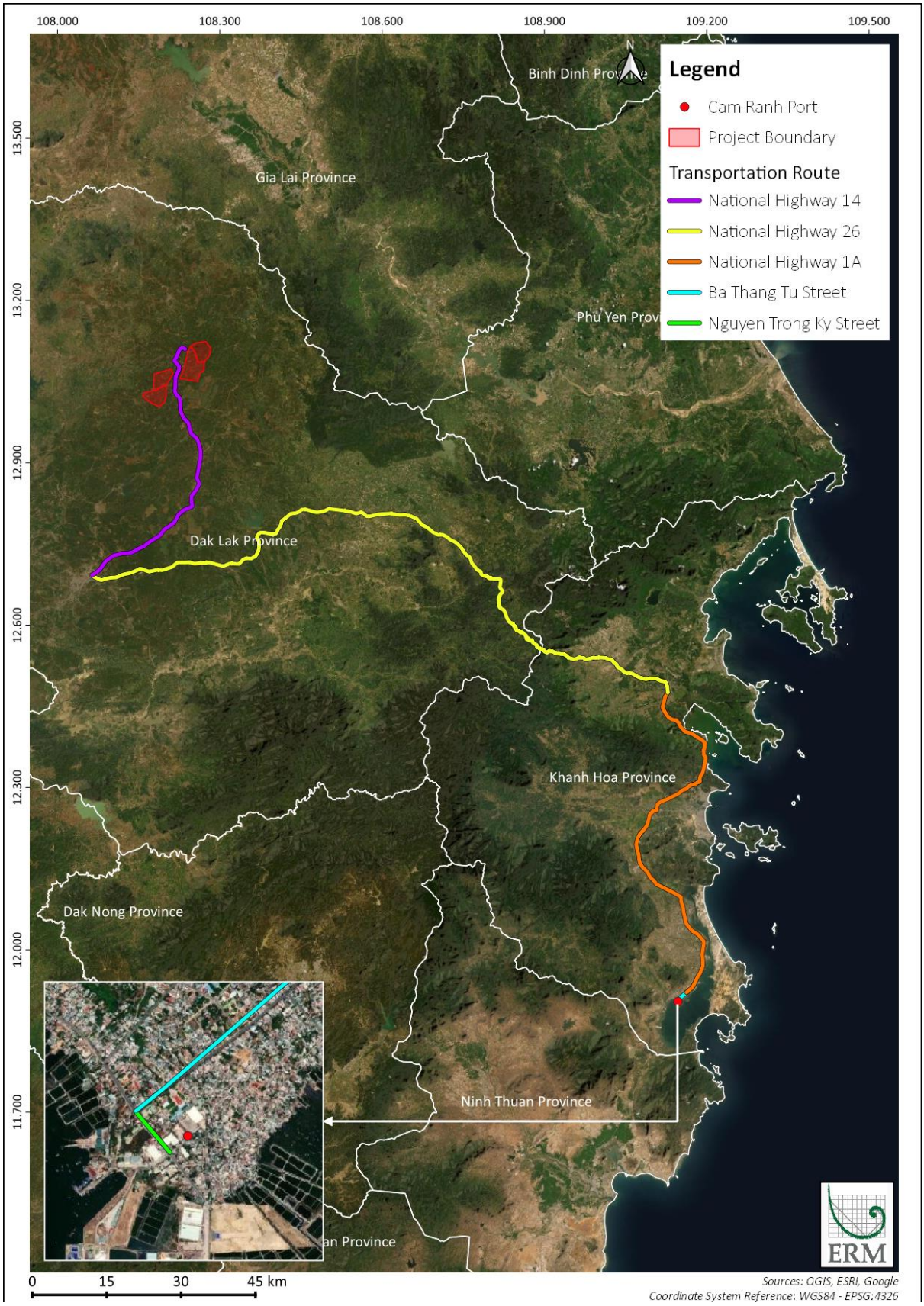
National Highway No.14

Rural roads in the Project's area

Source: Feasibility Study Report, 2021

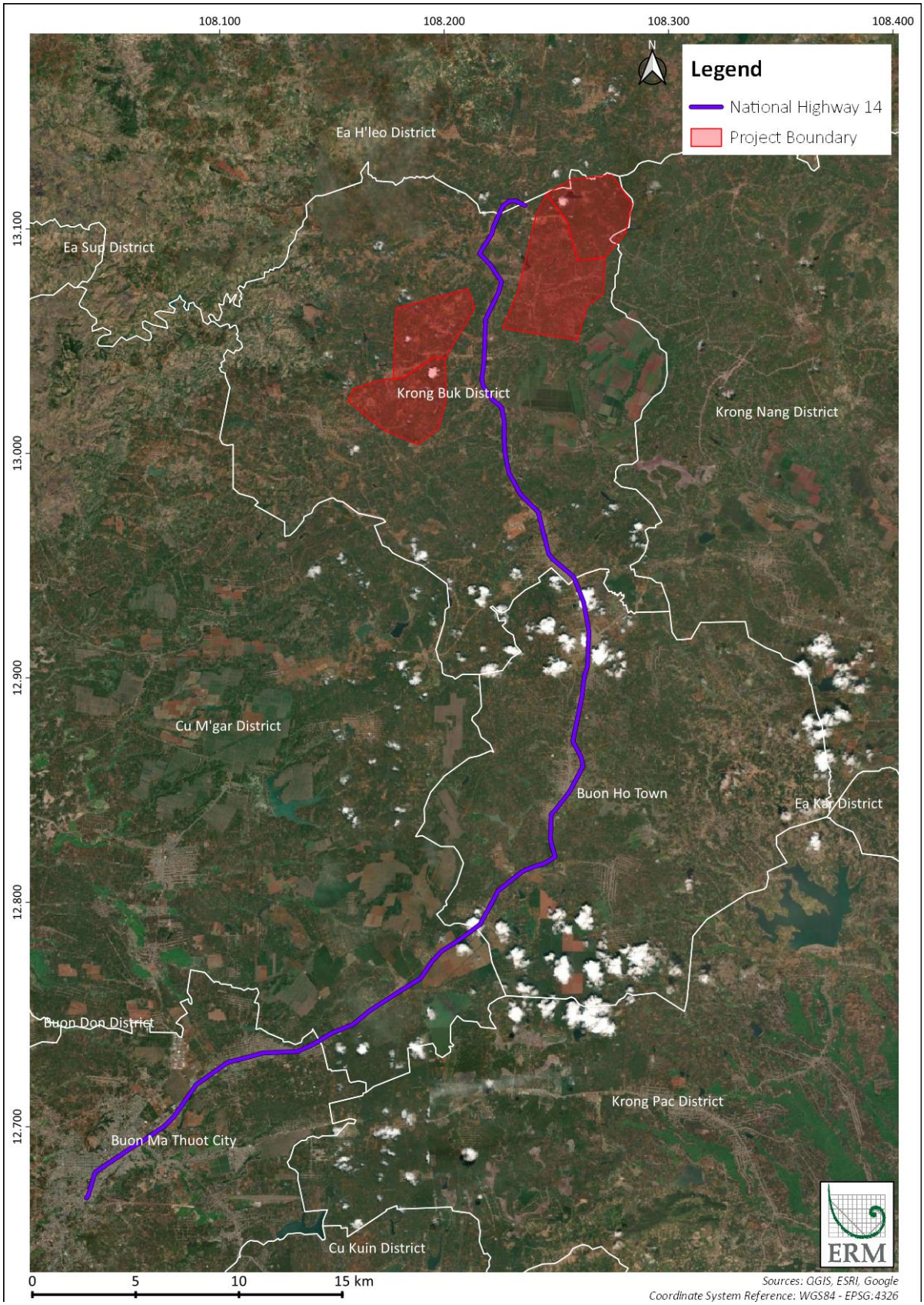
Figure 2.20 Demonstration of Material Transportation Route Condition

The equipment and materials transportation routes are demonstrated in Figure 2.21 and Figure 2.22.



Source: QGIS, ESRI, Google, June 2021

Figure 2.21 Equipment Transportation Route



Source: QGIS, ESRI, Google, June 2021

Figure 2.22 Material Transportation Route

2.4.3 Operation and Maintenance

Activities that will be carried out during the operation and maintenance phase includes:

- Commissioning tests of the wind farm which usually involves inspection of wind measurement (wind speed, wind direction, air density, etc.) standard electrical tests and civil engineering quality within the first month of wind turbine's operation phase. Careful test at this stage is crucial to evaluate whether a good quality wind farm can be delivered and maintained. Generally, commissioning of an individual turbine can take more than two days with an experienced staff. Some parameters require trial test during commissioning tests including wind speed, wind direction, air density, turbine rounds per minutes, adjusted angle, turbine control system, and SCADA, etc.
- Routine inspection of all WTGs as per supplier's specifications
- Scheduled maintenance activities at each WTG location as per the supplier's Guidance on Operation and Maintenance
- Operations and maintenance of ancillary facilities such as yards, stores, Central Monitoring System (CMS) building facilities
- Inspection and maintenance of transmission lines, and
- Inspection and maintenance of intra-site pathways.

The wind turbines will operate at all times, designed wind speed are suitable, with the exception of downtime required for maintenance activities. Day-to-day facility operations will be automated through the use of computerised networking systems. In terms of Operation & Maintenance (O&M) for the general maintenance of the wind farm site, it will be conducted by qualified staff and senior technicians. In order to maintain the safety operation of the wind farms, the maintenance program should be routinely conducted once per six months under the regulations of the Project's owner.

2.4.4 Decommission Phase

The decommissioning plan shall be developed by the Project's owner and should include the technical resolutions for the dismantling and retrieving of used facilities, environmental impacts, occupational safety, and treatment methods for disposed materials after the completion of the Projects. All the arising cost for the decommissioning shall be covered by the Project's owner under the budget of the assets liquidation and the extraction from the business profit. At the time of writing this ESIA, detailed information of the decommissioning phase is unavailable and the Client has not prepared the Plan for the decommission phase. For that reason, this phase will be scoped out of this ESIA.

2.5 Project Schedule

The Project's schedule of implementation is shown below:

Table 2.13 Project's Schedule

No.	Timeframe	Activity
1	April 2020 – May 2020	Get approval of Feasibility Study Report
2	May 2019 – July 2020	Technical Design (Construction and Electricity)
3	June 2020 – August 2020	Bidding and electricity purchasing agreement
4	September 2020 – March 2021	Bidding and electricity purchasing agreement
5	March 2021 – April 2021	Get approval of Feasibility Study Report and Technical Design (construction and electricity)
6	March 2021 – January 2022	Land acquisition

No.	Timeframe	Activity
6.1	March 2021 – November 2021	All the land acquisition agreements are signed with landowners.
6.2	June 2021 – December 2021	All payment of compensition to landowners are done.
6.3	July 2021 – December 2021	Compensition plan are reviewed by KrongBuk Government
6.4	July 2021 – December 2021	Compensition plan are approved by KrongBuk Government
6.5	October 2021 – January 2022	Final Approval from Dak Lak Province
7	April 2021 – July 2021	Construction of road system, wind turbines, installation of electricity system (Substation and Transmission line), and transportation of equipment to the Project's site.
8	August 2021 – September 2021	Testing and Commissioning of 22/220 kV Substation. Wind turbines installation.

Source: Feasibility Study Report and Updated from the Client, 2021

The planned schedule of construction phase is within 18 months and is shown in Table 2.14. The operation phase is within 20 years.

Table 2.14 Planned Construction Milestones

No.	Timeframe	Activity
1	July – September 2020	Preparation and Commencement
2	September 2020 – April 2021	Road construction and preliminary installation of laydown area
3	December 2020 – April 2021	Construction of Wind Turbine Foundation and Laydown area completion
4	October 2021 – March 2021	Construction of 220 kV Substation
5	March 2021 – June 2021	Construction and Installation of underground cable
6	April 2021 – July 2021	Wind Turbine Installation
7	Early August 2021[8]	Power generation at the first wind turbine
8	September 2021	Grid connection and all WTGs commissioning

Source: Feasibility Study Report and Updated from the Client, 2021

2.6 Project's Construction Status Update

At the time of developing this ESIA, the Project is under the construction phase in which the construction of eight turbine foundations is completed and the field levelling of the substation, laydown area, and access roads is finished. Table 2.15 presents the updated current development status of the Project components.

Table 2.15 Most Current Development Status of the Projects Components

No.	Project's components	Current Status	Expected Completion Date
1	Turbine Area	Completed 8 foundations (out of 73 turbines)	For foundation construction: February 2020 (excluding Cune 2)

[8] The actual schedule of the Project is delayed due to the COVID-19 situation (observed during the scoping site visit).

No.	Project's components	Current Status	Expected Completion Date
			For turbines installation: March 2022
2	22/220 kV Substation	Completed field levelling and part of the foundation	October 2021
3	22kV Transmission Line	Not started	April 2022
4	22kV Transformer	Not started	April 2022
5	Access Roads	Completed the field levelling for access roads	October 2021
6	Internal Road	Not started	December 2021
7	Operational House	Not started	October 2021
8	Laydown Area	Completed the field levelling	October 2021
9	Worker Camp	Not started	October 2021

Source: Updated from the Client, 2021

2.7 Unplanned Events

There is the potential for unplanned events to occur during the construction, operation or decommissioning phase of the Project. Here are unplanned events to be assessed:

- Environmental incidents such as leakage and spill incident
- Fire and explosion
- Vehicle accidents
- Blade throw
- Transmission line snagging
- Natural disasters, and
- Occupational Health and Safety.

2.8 Project Management

Some key agencies involve in project management, including:

- Project Sponsor: China Huadian Engineering Co., Ltd
- Subsidiary Companies:
  - Krong Buk New Energy Investment Company Limited
  - Krong Buk Wind Energy Company Limited
  - Cu Ne Renewable Energy Investment Company Limited, and
  - Cu Ne Wind Energy Investment and Management Company Limited
- EPC contractor: China Huadian Engineering Co., Ltd
- Equipment and Material Supplier: Envision Energy International Limited

- Transportation Unit: Saigon Transport Agency Joint Stock Company (referred to as “TRANACO”)
- Consultancy Unit: Power Engineering Consulting Joint Stock Company 5 (PECC5)
- Operation and Maintenance: China Huadian Engineering Co., Ltd

2.9 Employment and Accommodation

A summary of the human resource during the construction and operation phases are presented in Table 2.16. The Client planned to prioritise the recruitment of local workers, 177 (51.6%) out of 343 in the contruction phase and 20 out of 54 (37%) 343 in the operation phase.

Table 2.16 Summary of the Manpower During the Construction and Operation Phases

No.	Phases / Types	Construction	Operation
	Total (including both local and non-local)	**343**	**54**
1	Local (within the District where the Project locates)	**177**	**20**
2	Non-local	**166**	**34**
	■ Vietnamese from other areas	107	24
	■ Foreigners	59	10

Source: China Huadian Engineering Co., Ltd

2.9.1 Construction

The main labour source for the construction phase includes (i) local labour recruited by the domestic construction company; (ii) Foreign consultant and project management board. As stated in the Construction Workforce Management document provided by the Client, the maximum number of workers working for the construction phase was estimated to be approximately 343 persons. The management and consultant team have been staying in a temporary accommodation at the construction office area and workers areccommodated in homestays near the Project’s area in Cu Ne Commune, Krong Buk District, Dak Lak Province. The daily work shift is of 11 hours per day from 7:00 AM to 11:00 AM in the morning and 2:00 PM to 9:00 PM at night.

As confirmed by the Dak Lak Department of Labour, Invalids, and Social Affairs, the province approved up to 393 positions for foreign workers for the Project. As reported by the Project, 59 positions for foreign workers were recruited and are working in the Project.

2.9.2 Operation

The Project Owner will employ the operator to operate and maintain the wind farm under agreed O&M contract during the Project’s life cycle (20 years).

- Number of working days/year: 365 days/year
- Number of working hours/day: 24 hours/day
- Number of working shifts/day: 3 shifts/day, and
- Number of employees during the operation phase: Approximately 54 persons including both management and production staffs[9].

[9] Provided by the Project’s Owner (China Huadian Engineering Co., Ltd)

2.9.3 Human resources

As provided by the Project owner, the personnel working for the Project comprised of three different types of manpower which are skilled, semi-skilled and un-skilled and classified based on the capability of each group. As defined by the Project, here are they:

- Skilled workers and operators: who can independently complete field construction operations without any guidances of technical management personnel
- Semi-skilled workers: Under the instruction of the technical management personnel, they can carry out the operations, according to the requirement of the operation and be able to complete the site construction, and
- Un-skilled workers: Those who have no professional skills and need to learn the specific construction steps before starting their tasks. They are also unable to carry the construction work individually.

The composition of human resources within the total number of perssonel of 343 and 54 during the construction and operation phases respectively is presented in Figure 2.23.

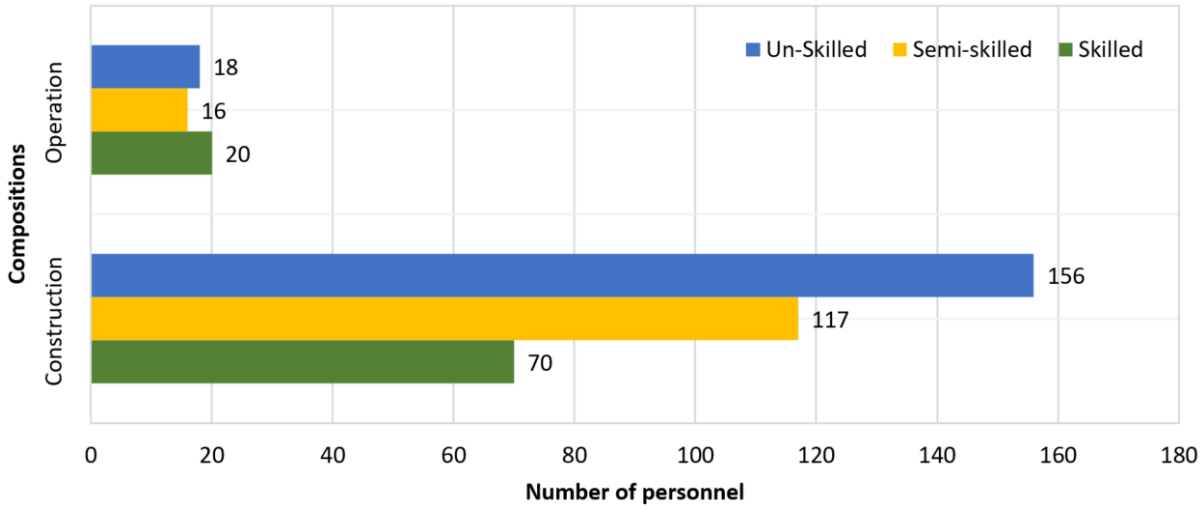


Figure 2.23 Composition of Human Resources During the Construction and Operation Phases

3. ADMINISTRATIVE FRAMEWORK

This chapter provides legal and regulatory framework, covering national requirements as well as applicable international treaties, guidelines and standards. The intent of this Chapter is to discuss the regulatory context, which is directly related to environmental compliance, which must be adhered to by all parties involved in the Project throughout the planning, construction and operation.

3.1 Overview

There are two levels of regulatory provisions applicable to the Project. The first is the Vietnamese assessment and approval process, which must be followed to achieve environmental approval by regulators. Secondly, as the Project proponent seeks to meet international standards, the 2012 IFC Performance Standards 1-8 (IFC PS) and the World Bank Group EHS Guidelines are also applicable. The primary means of integrating the IFC PS and EHS expectation into the construction and operation phases of the project is through the preparation of this ESIA.

The Project obtained approval for its regulatory Environmental Protection Plan (EPP) in 2020. However, the local EPP did not address some environmental and social aspects that meet international standards and expectations. This ESIA contributes to fulfil the gaps between Vietnamese regulatory EPP and IFC PS and EHS standards.

3.2 Regulatory Framework Affecting Projects in Vietnam

3.2.1 National Regulatory Frameworks of Vietnam

- *Decree No. 38/2015/ND-CP* dated 24 April 2015 on waste and scrap management
- *Decree No. 80/2014/ND-CP* dated 06 August 2014 on the drainage and treatment of wastewater
- *Circular No. 02/2019/TT-BCT* dated 15 January 2019 on wind power project development and power purchase agreement for Projects thereof
- *Circular No. 36/2015/TT-BTNMT* dated 30 June 2015 on hazardous waste management
- *Circular No. 04/2015/TT-BXD* Providing guidance on a number of articles of the government *Decree No. 80/2014/ND-CP* dated 06 August 2014 on drainage and wastewater treatment
- *Circular No. 08/2017/TT-BXD* dated 16 May 2017 on construction waste management
- *QCVN 03-MT:2015/BTNMT* - National Technical Regulation on the allowable limits of heavy metals in the soils
- *QCVN 05:2013/BTNMT* - National Technical Regulation on Ambient Air Quality
- *QCVN 06:2009/BTNMT* - National Technical Regulation on Hazardous Substances in Ambient Air
- *QCVN 07:2009/BTNMT* - National Technical Regulation on Hazardous Waste Thresholds
- *QCVN 08-MT:2015/BTNMT* - National Technical Regulation on Surface Water Quality
- *QCVN 09-MT:2015/BTNMT* - National Technical Regulation on Ground water Quality
- *QCVN 14:2008/BTNMT* - National Technical Regulation on Domestic Wastewater
- *QCVN 40:2011/BTNMT* - National Technical Regulation on Industrial Wastewater, and
- *QCVN 26:2010/BTNMT* - National Technical Regulation on Noise.

3.2.2 Law on Environmental Protection

The Law on Environmental Protection states that all enterprises, as prescribed by the Government within the law, shall conduct a Strategic Environmental Assessment (SEA), an Environmental Impact

Assessment (EIA) or Environmental Protection Plan (EPP) and obtain approval prior to the development and operation of a facility. The key EIA regulations are given below:

- Law on Environmental Protection 2015 (*No. 55/2014/QH13* dated 23 June, 2014)
- *Decree No. 40/2019/ND-CP* dated 13 May 2019 on amending a number of articles of decrees that guiding the implementation of the Law on Environmental Protection
- *Decree No. 18/2015/ND-CP* dated 14 February 2015 on environmental protection planning, SEA, EIA and EPP
- *Decree No. 19/2015/ND-CP* dated 14 February 2015 detailing the implementation of a number of articles of the law on environmental protection, and
- *Circular No. 25/2019/TT-BTNMT* dated 31 December 2019 providing detailed regulations for *Decree No. 40/2019/ND-CP*.

3.2.2.1 Public Consultation

Under *Decree No. 40/2019/ND-CP* dated 13 May 2019 on amending a number of articles of decrees that guiding the implementation of the Law on Environmental Protection, public consultation is required to be conducted during EIA preparation. The Decree requires that project owners consult with People's Committees (PCs) of the communes, wards and towns located within proximity of the project area, as well as local organisations and the communities directly affected by the project. Information gleaned through research and community feedback mechanisms must be meaningfully considered in order to minimise the negative effects of the project on the natural environment, biodiversity and community health.

The PC of the commune where the project is expected to be located and organisations under direct impact of the project shall be consulted as per the following procedures:

- The project owner shall send EIA reports to the PC and organisations directly affected by the project, together with a written request for opinions;
- Within 15 working days from the date on which the EIA reports are received, the PC and organisations under the direct impact of the project shall send their response if they have concerns regarding the project.

Consultation with the community under the direct impact of the project shall be carried out in the form of community meeting co-chaired by the project owner and the relevant PC, together with the participation of representatives from the Vietnamese Fatherland Front of communes, socio-political organisations, socio-professional organisations, neighbourhoods and villages, and convened by the relevant PC. All opinions of delegates attending the meeting must be adequately and honestly recorded in the meeting minutes.

3.2.2.2 Information Disclosure

As required by the Decree No. 40/2019/ND-CP, dated 13th May, 2019, the EIA shall be implemented with guidance of the Ministry of Natural Resources and Environment. The project proponent shall develop a plan to manage any environment affected by the project, based on the EIA report's recommendations, and have the plan available at the project site.

3.3 National Regulatory Framework

The LEP states that all enterprises, as prescribed by the Government within the law, shall conduct a Strategic Environmental Assessment (SEA), an Environmental Impact Assessment (EIA) or Environmental Protection Plan (EPP) and obtain approval prior to the development and operation of a facility. The key EIA regulations are given below:

- *LEP 2015;*

- *Decree No. 40/2019/ND-CP* dated 13 May 2019 on amending a number of articles of decrees that guiding the implementation of the Law on Environmental Protection
- *Decree No. 18/2015/ND-CP* dated 14 February 2015 on environmental protection planning, SEA, EIA and EPP
- *Decree No. 19/2015/ND-CP* dated 14 February 2015 detailing the implementation of a number of articles of the law on environmental protection
- *Circular No. 25/2019/TT-BTNMT* dated 31 December, 2019 providing detailed regulations for *Decree No.40/2019/ND-CP*.
- Vietnam's regulatory EIA process is shown in Figure 3.1 below.

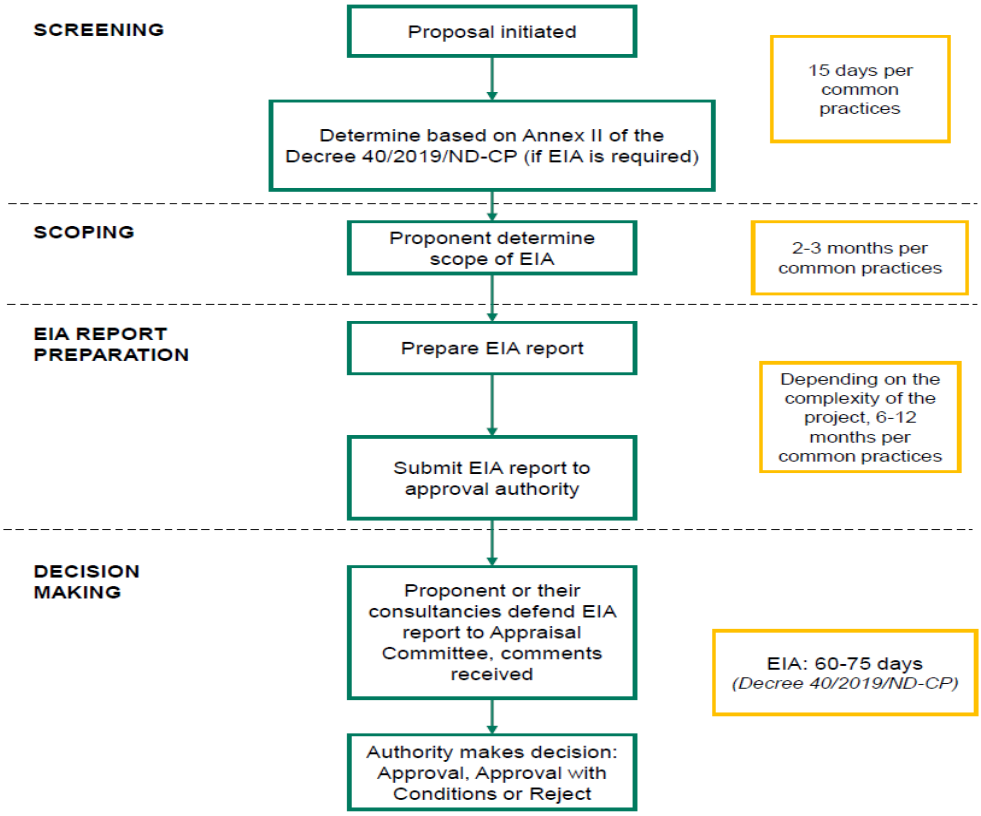


Figure 3.1 Vietnam's Regulatory EIA Process

3.3.1.1 Public Consultation

Under *Decree No. 40/2019/ND-CP* dated 13 May, 2019 on amending a number of articles of decrees that guiding the implementation of the Law on Environmental Protection, public consultation is required to be conducted during EIA preparation. The Decree requires that project owners consult with People's Committees (PCs) of the communes, wards and towns located within proximity of the project area, as well as local organisations and the communities directly affected by the project. Information gleaned through research and community feedback mechanisms must be meaningfully considered in order to minimise the negative effects of the project on the natural environment, biodiversity and community health.

The PC of the commune where the project is expected to be located and organisations under direct impact of the project shall be consulted as per the following procedures:

- The project owner shall send EIA reports to the PC and organisations directly affected by the project, together with a written request for opinions;

- Within 15 working days from the date on which the EIA reports are received, the PC and organisations under the direct impact of the project shall send their response if they have concerns regarding the project.

Consultation with the community under the direct impact of the project shall be carried out in the form of community meeting co-chaired by the project owner and the relevant PC, together with the participation of representatives from the Vietnamese Fatherland Front of communes, socio-political organisations, socio-professional organisations, neighbourhoods and villages, and convened by the relevant PC. All opinions of delegates attending the meeting must be adequately and honestly recorded in the meeting minutes.

3.3.1.2 Information Disclosure

As required by the *Decree No. 18/2015/ND-CP* dated 14 February 2015 and amended by the *Decree No. 40/2019/ND-CP* dated 13 May 2019 on amending a number of articles of decrees that guiding the implementation of the Law on Environmental Protection, the EIA shall be implemented with guidance of the Ministry of Natural Resources and Environment and disclose the EIA report approval decision at the People's Committee of affected communes.

- With authorities**:** The Project Owner shall send a local EIA report to the People's Committee of the communes where the project is located and the directly affected organisations (e.g. manufactories, co-operatives) together with a written request for opinions of the authorities and organisations. These opinions will be stated in the Public Consultation chapter of the local EIA; and
- With communities: Consultation with the directly affected communities shall be carried out in the form of a community consultation meeting co-chaired by the Project Owners and the Fatherland Front and People's Committee of the commune where the project is located. All opinions of audiences attending the meeting must be sufficiently and honestly stated in the meeting minutes. These opinions and meeting minutes then will be described in and attached with the local EIA. Separate community consultation meetings are sometimes conducted for different affected communes.

3.3.2 Law on Forestry 2017 and Law on Biodiversity

The Law on Forestry 2017 regulates the rights and obligations of the forest owners'[10] organisations who are allocated forest in Vietnam for management. They must manage, protect, develop and use the forest sustainably in compliance with forest management regulations, provisions stated herein and other regulations required by relevant law. Those regulations stipulate that forest owners must:

- Comply with regulations on inspection of forest development
- Return the forest that the State appropriates according to provisions stated herein
- Conserve forest biodiversity, forest plants and animals
- Ensure forest fire safety, prevent and eliminate forest pests
- Facilitate management, inspection or actions against violations carried out by a competent state authority, and
- Fulfil financial obligations and other obligations.

[10] "forest owner" may be an organisation, household, individual or community that is allocated or leased out a forest by the State; allocated or leased out land for afforestation, forest regeneration or development; receives transfer of the forest, receives the forest as a gift or inherits the forest according to regulations of law

3.3.3 National Regulations on Land Acquisition, Compensation, Support and Resettlement

The Land Law No. 45/2013/QH13, dated 29 November, 2013 is the existing supreme legal regulation prescribing land use rights and land management in Vietnam, including those of land acquisition, compensation, support and resettlement.

3.3.3.1 National Level Regulations

- Law on Land *No. 45/2013/QH13* (Land Law 2013)
- *Decree No. 47/2014/ND-CP* dated 15 May 2014 of the Government on regulating CSR Policies when land is acquired by the government
- *Decree No. 43/2014/ND-CP* dated 15 May 2014 of the Government detailing a number of articles of the Land Law 2013
- *Decree No. 01/2017/ND-CP* dated 06 January 2017 of the Government on amendments to the Decrees on the implementation of the Land Law
- *Decree No. 44/2014/ND-CP* dated 15 May 2014 of the Government prescribing Land Prices
- *Circular No. 30/2014/TT-BTNMT* dated 02 June 2014 of MoNRE regulating documents on land allocation, land lease, land use change and land acquisition, and
- *Circular No. 37/2014/TT-BTNMT* dated 30 June 2014 of MoNRE detailing regulations on compensation, support, and resettlement upon land expropriation by the state.

3.3.3.2 Provincial Level Regulations

- *Decision No. 27/2019/QD-UBND* dated 19 December 2019 of Dak Lak Province People's Committee on amendment and supplement of a number of articles related to Compensation, Support and Resettlement Policies upon land acquisition by the State in Dak Lak Province
- *Decision No. 22/2020/QD-UBND* dated 3 July 2020 of Dak Lak Province People's Committee on issuing the list of land price applied for all communes, districts and cities in Dak Lak Province during a period of 2020 – 2024
- *Decision No. 10/2020/QD-UBND* dated 13 April 2020 of Dak Lak Province People's Committee on issuance of unit price for the compensatory, support for plants in Dak Lak Province
- *Decision No 540/QD – UBND* dated 16 Mar 2020 of Dak Lak Province People's Committee on approval of Land Use Plan in 2020 of Krông Búk District, Dak Lak Province
- *Decision No. 561/QD-UBND* date 18 Mar 2020 of Dak Lak Province People's Committee on approval of Land Use Plan in 2020 of Dak Lak Province
- A typical land compensation, support and resettlement process for private land acquisition that complies with Vietnamese regulation includes the following main steps.

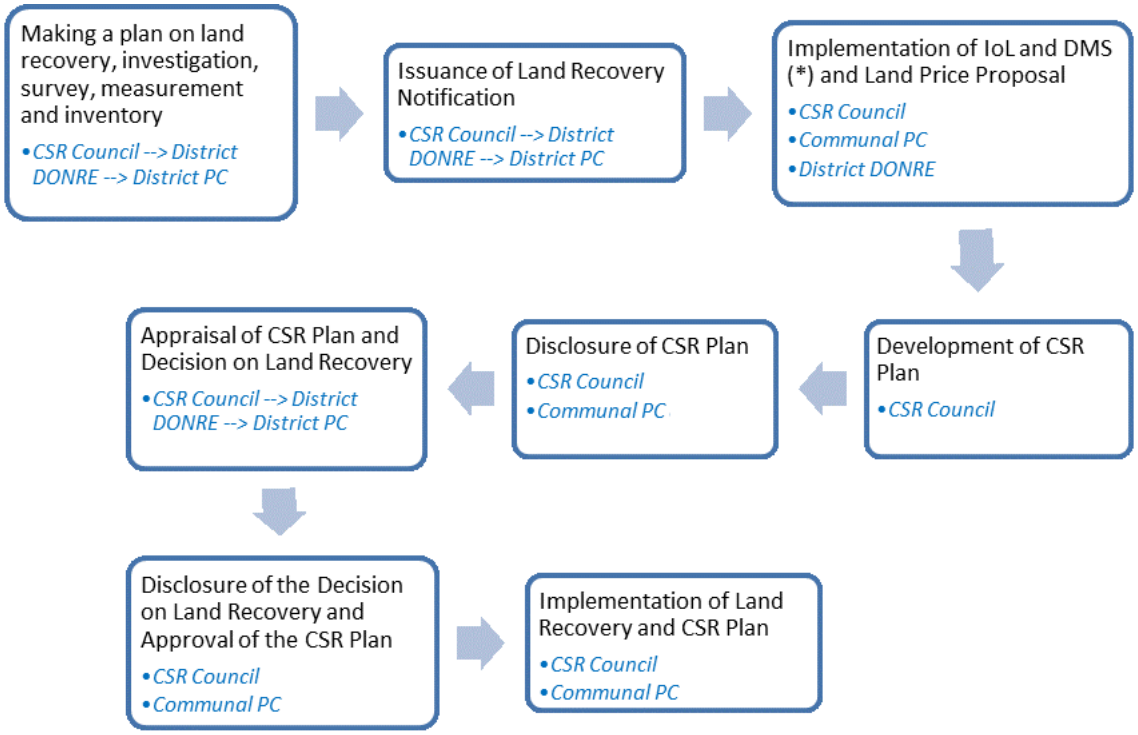


Figure 3.2 Land Compensation, Support and Resettlement Process Required in Vietnam

Note: Inventory of Loss (IOL) and Detailed Measurement Survey (DMS) are conducted under the presence of members of the CSR Council and affected household's representative(s). IoL and DMS results will be disclosed to the Project affected persons (PAPs) for review and signature. All DMS results will be collected and sent back to the PC at provincial or district level who is tasked with the CSR process for signing and stamping.

3.3.4 National Regulations on Electricity

The *Law on Electricity No. 28/2004/QH11* was approved by the National Assembly of the Socialist Republic of Vietnam at its 6th session on 03 December 2004, and *Decree No. 14/2014/ND-CP* dated February 26, 2014 stipulates in detail the implementation of The Law on Electricity, especially regarding electricity safety and Decree No. 51/2020/ND-CP dated April 21, 2020 amending a number of articles of the *Decree No. 14/2014/ND-CP* dated 26 February 2014 stipulates in detail the implementation of The Law on Electricity, especially regarding electricity safety. Its key regulations are as follows:

- According to Article 12 of *Decree No. 14/2014/ND-CP*, for any 220kV lines outside cities and towns the distance from the highest point of the trees vertically to the height of the lowest conducting line at the state of maximum deflection must not be less than 4m. In addition, for any 35kV lines outside cities and towns, distance from the highest point of the trees vertically to the height of the lowest bare conducting line and covered conducting line at the state of maximum deflection must not be less than 2m and 0.7m, respectively. In any case where the trees are outside the safety corridor of overhead conducting lines and outside cities, towns etc., the distance from any part of tree when the tree falls to any part of 220kV line and 35kV line must not be less than 1.0m and 0.7m. Rice, crops and plants must be planted at least 0.5m from the pole foundation and sleeper;
- According to Article 13 of *Decree No. 14/2014/ND-CP* and Article 1 of *Decree No. 51/2020/ND-CP*, houses and constructional works are permitted to exist within the safety corridor of overhead conducting lines with voltage up to 220kV if they meet the following conditions: 1) Roof and walls must be made of non-combustible materials; 2) There must be no obstruction of the entry or exit of the house or works during testing, maintenance and replacement of parts of the transmission line; 3) The distance from any part of the house or works to the nearest conducting line when the line is at the state of maximum deflection must not be less than 6m (for conducting line of 220kV) and 3m (for conducting line up to 35kV); 4) The electric field intensity must be less than 5kV/m at

any point outside the house or works, and one meter from the ground and less than or equal to 1kV/m at any point inside the house and one meter from the ground.

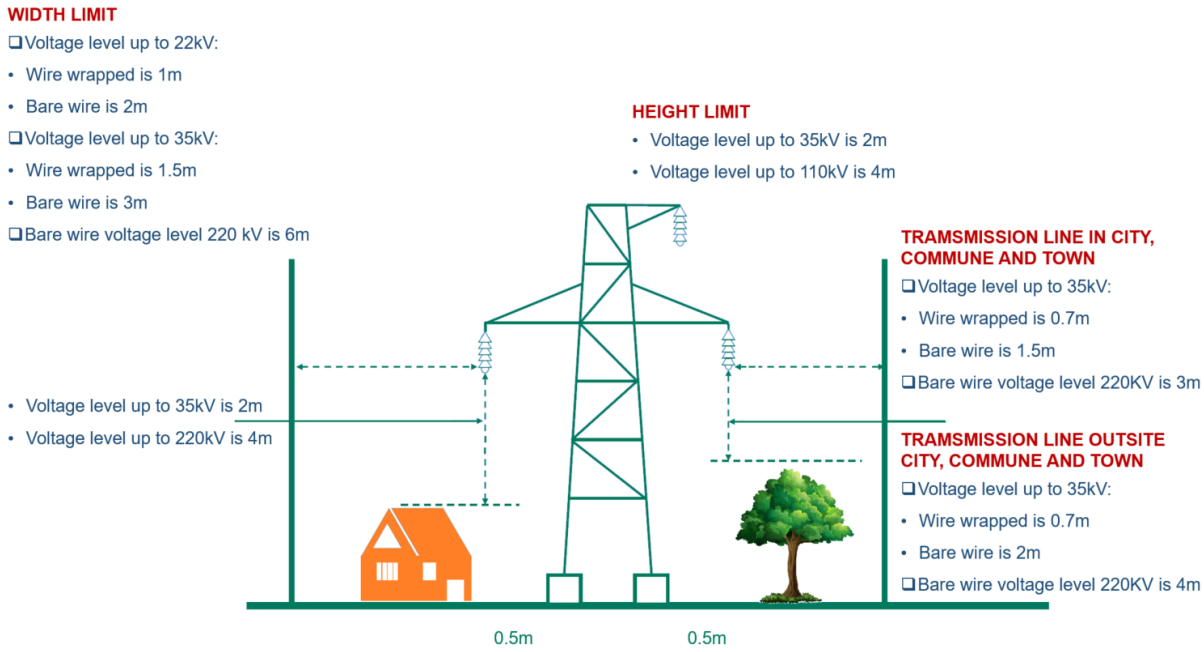


Figure 3.3 Safety Corridor Required for Transmission Lines

Other regulations on electricity in Vietnam include:

- *Decree No. 51/2020/ND-CP* dated 21 April 2020 on amending a number of Articles of the government's Decree No. 14/2014/ND-CP dated 26 February 2014 stipulating implementation of electricity law regarding electrical safety
- *Circular No. 31/2014/TT-BCT* dated 02 October 2014 regulating details on electrical safety
- *Circular No. 02/2019/TT-BCT* dated 15 January 2019 on wind power project development and power purchase agreement sample for wind farm projects
- *QCVN 25/2016/BYT* – National Technical Regulation on Industrial Frequency Electromagnetic Fields – Permissible Exposure Level of Industrial Frequency Electromagnetic Fields in the Workplace and
- *QCVN 21:2016/BYT* - National Technical Regulation on High Frequency Electromagnetic - Permissible Exposure Level of High Frequency Electromagnetic Intensity in the Workplace.

3.3.5 National Regulations on Grievances

Community grievances mechanisms in Vietnam are regulated by the Law on Grievance 2011. Generally, it stipulates that if a person has a grievance they must first submit it to local authorities at the lowest level (commune PC). If their grievance cannot be solved at that level, they are entitled to a second and third submission to authorities of higher administrative levels (i.e., district PC/Court and then provincial PC/ Court).

3.3.6 National Regulations on Occupational Health and Safety (OHS)

Law No. 84/2015/QH13 on occupational safety and hygiene dated 25 June 2015, deals with occupational hygiene and safety assurance, policies and benefits for victims of occupational accidents and occupational diseases (hereinafter referred to as victims), the rights and obligations of organisations or individuals relating to occupational hygiene and safety, and the roles of regulatory agencies in occupational hygiene and safety.

In addition to this law, a number of Decrees, Circulars, Decisions and Standards have been issued relating to labour rights, health, sanitation and safety. Particularly, *Decree No. 39/2016/ND-CP*, dated 15 May 2016 and *Decree No. 44/2016/ND-CP*, dated 15 May 2016 provide guidance on implementation of the Law on Occupational Safety and Hygiene The employer has the responsibility to fully provide employees with the technical equipment required for labour safety and labour sanitation and to improve their working conditions wherever possible. The employee must follow regulations on safety, sanitation and health of the business. Under the above Decrees, *Circular No. 07/2016/TT-BLDTBXH* dated 15 May 2016, *Circular No. 08/2016/TT-BLDTBXH* dated 15 May 2016, *Circular No. 19/2016/TT-BYT* dated 20 June 2016, etc. were issued to provide instruction on implementation of those Decrees All organisations and individuals associated with labour and production must observe and comply with national legislations on safety, sanitation and health management.

3.3.7 National Regulations on Chemicals

Law No. 06/2007/QH12 sets national requirements on the classification, labelling, packaging, transportation, storage and use of chemicals. For any projects where chemicals listed in Appendix IV of *Decree No. 113/2017/ND-CP* are used onsite, the project owners are required to i) develop and implement chemical-related incident prevention and response plans and establish safety distances; or ii) develop and implement chemical-related incident prevention and response measures. A list of chemicals subject to conditional production or trading, chemicals restricted from production or trading, as well as banned chemicals were provided in the *Decree No. 113/2017/ND-CP*, dated October 09, 2017 *Circular No. 32/2017/TT-BCT* dated 28 December 2017 under this Decree guide project owners on labelling, packaging, storage and usage of chemicals.

The Stockholm Convention was signed on 22/5/2001 and entered into force on 17/5/2004 with the aim of protecting human health and the environment from the risks of Persistent Organic Pollutants (POPs). Vietnam ratified the Stockholm Convention on 22/7/2002 and was the 14th party to the Convention. To implement the Stockholm Convention, Vietnam issued the National Implementation Plan for the Stockholm Convention, under *Decision No. 184/2006/QD–TTg* dated 10 August 2006 pertaining to safety management, minimisation and eventual elimination of POPs in Vietnam. The Decision meets both the requirements of the Stockholm Convention and Vietnam's goal of sustainable development.

3.3.8 National Regulations on Fire Prevention and Fire Fighting

Law No. 27/2001/QH10 on Fire Prevention and Fighting mandates that every entity has responsibilities in fire prevention and firefighting and that the heads of agencies, organisations and households must support the organisation and regularly inspection of fire prevention and firefighting activities, within the ambit of their respective responsibilities. Fire prevention and firefighting plans for all developments listed in Annex IV of *Decree No. 79/2014/ND-CP* dated 31 July 2014 of the Government must be prepared, appraised, and approved by the relevant authorities before project construction. To have a fire prevention and firefighting plan approved, a dossier must be prepared and submitted to the Fire Police for appraisal and approval, as specified in Article 15 of *Decree No. 79/2014/ND-CP*.

3.3.9 Regulations on Labour Rights

The main legislation in Vietnam relating to labour rights, health and safety is the *Labour Code No. 10/2012/QH13* by the Vietnamese National Assembly, effective from 1 January 2021. It stipulates that everyone has the right to work without discrimination based on sex, nationality, social background, beliefs or religion. Maltreatment of an employee and forced labour in any form are strictly forbidden. The government protects workers through its relevant legislation on employment, apprenticeship, labour contracts, collective labour accord, salary, work and break time, labour discipline, material liability, specific provisions for female workers, minors and other types of workers (elderly workers, disabled workers, highly-skilled professionals and technically-skilled workers, employees working for foreign organisations and individuals in Vietnam, foreigners working in Vietnam and Vietnamese

employees working abroad, as well as other types of labour), social insurance, trade unions, and settlement of labour disputes.

3.3.10 National Regulations on Ethnic Minorities

3.3.10.1 National Level

The Vietnam government recognises 53 ethnic minority groups in the territory of Vietnam. Vietnam has one of the most complex ethnolinguistic patterns in Asia. The focus of the Vietnamese government is on "unity in diversity". The Constitution of Vietnam recognises equity amongst all ethnic groups as a priority and as reflected in the documents issued by the 9th National Congress, the cause of ethnic groups and ethnic solidarity hold a long term strategic position in the revolutionary cause of the country. The Party and State have made substantial efforts to develop and enforce national policies which support cultural and ethnic diversity, with the aim of ensuring equal development, strengthening solidarity, promoting mutual support among ethnic groups, improving material and spiritual lives, reducing poverty, broadening people's knowledge, and reducing socio-economic disparity between all 54 ethnic groups in Vietnam[11].

These focuses were consistently mentioned in the next four Amended Constitutions and received close attention in the 2013 Amended Constitution ratified by the National Assembly. Accordingly, Article 5 of the Constitution 2013 indicates that:

- The State of Vietnam is the united state of the various ethnic communities co-habiting on the territory of Vietnam;
- All ethnic minorities are equality, solidarity, respect and mutual assistance among all nationalities, and forbids all acts of national discrimination and division;
- National language is Vietnamese, every ethnic community has the right to use its own language and system of writing, to preserve its national identity, and to promote its fine customs, habits, traditions and culture; and
- The State applies a policy of comprehensive development and give good conditions for ethnic minorities to promote their internal force for the country development.

Articles 58 and 60 of the Constitution 2013 stipulate that:

- The State of Vietnam is in charge of preserving and developing Vietnamese culture of the various ethnic communities; and
- The State undertakes priority policies for education development in mountainous areas, ethnic community regions, particularly difficult areas and the State implements foreground programs of heath care for mountainous people and ethnic minorities.

The Government has introduced a system of policies to incorporate ethnic minorities in the national development process, amounting to over 100 legal documents enacted by more than 10 State authorities since the 1980s[12]. Five of the most important policies are:

- Program 135: Socio-economic development of extremely difficult communes in ethnic minority and mountainous areas under the *Decision No. 135/1998/QD-TTg* of the Prime Minister. The program was started from 1998 to present;
- The Program 134[13]: Support agricultural land, residential land, housing and clean water for poor ethnic minority households under the *Decision No. 134/2004/QD-TTg* dated 20 July 2004 of the Prime Minister. ;

[11] UNFPA (2011)

[12] Open Development Mekong (2020)

[13] Expired on 30 December 2020

- Program 132: Distribute production land and residential land for ethnic minority households in the Central Highlands according to the *Decision No. 132/2002/QD-TTg* dated 8 October 2002;
- Program 167[13]: Support housing for the poor under the *Decision No. 167/2008/QĐ-TTg* dated 12 December 2008. The beneficiaries of the program are poor households in rural areas who are homeless (or own temporary and damaged houses) and are not eligible for the Program 134; and
- Program 168: Youth Development of CEMA for the 2016-2020 period under the *Decision No. 167/168/QD-UBDT.*
- In addition, the "Master Plan on Socio-economic Development of Ethnic Minorities and Mountainous Areas 2021-2030" issued by the Government in 2020 unifies these policies.

3.3.10.2 Provincial Level

Dak Lak province promulgated some documents to implement national policies and programs to develop socio-economic development in ethnic minority areas (see Table 3.1).

Table 3.1 Dak Lak's Policies on Ethnic Minority Development

Year	Document Number	Core Information
2020	Decision 1089/QĐ-UBND	Approving principles of funding allocation for implementation of the specific policy on support of socio-economic development in ethnic minority and mountainous areas for the period of 2017 - 2020 according to Decision No. 2085/QD-TTg of the Prime Minister in 2020
	Plan 160-KH/TU	Implementing Conclusion No. 65-KL/TW dated on 30 October, 2019 of the Political Bureau on continuing to implement Resolution No. 24-NQ/TW on ethnic minority affairs
	Plan 3665/KH-UBND	Implementing Plan No. 160-KH/TU dated on 30 March, 2020 of the Provincial Party Committee on the implementation of Conclusion No. 65-KL/TW
2019	Decision 3858/QD-UBND	Assigning targets and plans on development investment capital for the implementation of the National Target Program in 2020

Source: Dak Lak Province CEMA (2020)

In Dak Lak province, there are some regulations related to community development programs for ethnic minorities in 2020, including (see Table 3.2):

Table 3.2 Regulations related to Community Development Programs for Ethnic Minorities in Dak Lak Province 2020

No.	Program	Budget Allocated in 2020 (million VND)	Details
1	Program 135	108,259	Sub-project 1: Infrastructure investment for extremely difficult communes
2		3,958	Sub-project 3: Capacity building for communities and grassroots officials in extremely difficult communes
3		70	Sub-project 5: Capacity building on the monitoring and evaluation of the implementation of Program 135
4	Decision 12/2018/QD-TTg	3,370	Support policies for prestigious people among ethnic minorities

No.	Program	Budget Allocated in 2020 (million VND)	Details
5	Decision 45/QD-TTg	In the first six months of 2020, 177,196 publications had been distributed	Providing publication newspapers and magazines for the ethnic minority and mountainous areas
6	Decision 498/QD-TTg	1,140	Implementation of the Scheme “the minimisation of child marriage and consanguineous marriage in ethnic minority areas”
7	Decision 2085/QD-TTg	1,053 Support clean water (by the distribution of plastic tanks) for 702 households in Krong Buk and M’Drak districts	Specific policy on support of socio-economic development in ethnic minority and mountainous areas for the period of 2017 - 2020
8	Decision 1163/QD-TTg	250	Promoting law dissemination and education and advocacy for ethnic minority and mountainous areas in 2017-2021 period
9	Decision 1898/QD-TTg	300	Implementing the project on supporting gender equality activities in ethnic minority areas in the period of 2018 - 2025

Source: Dak Lak Province CEMA (2020)

3.4 International Regulatory Framework

The Applicable International Standards that will be adopted for this Project are as follows.

3.4.1 Equator Principles IV (2020)

The “Equator Principles 4” [14] which have been adopted by 111 of the world’s leading investment banks in 37 countries in developed and developing countries, are based on IFC’s Performance Standards, covering the majority of international project finance debt within developed and emerging markets. The EP4 must be implemented by 1 October 2020.

The EPs establish voluntary principles for addressing environmental and social risks and issues in global project finance transactions, including adherence to IFC PS. The EPs are designed to serve as a benchmark for the financial industry to manage social and environmental risks in project financing. They apply to all new project financings with total project capital costs of USD10 million or more, across all industry sectors. Key aspects of the advice addressed in the final EP4 text, include:

- Revision on the approach to Free, Prior and Informed Consent (FPIC) in Designated Countries;
- Strengthened commitments on human rights;
- Recognition of the Paris Agreement and introduction of the Climate Change Risk Assessment for physical and transition risks, aligned with the risk categories of the TCFD (Task Force on Climate Related Financial Disclosure);
- Broadened scope including reduced threshold for Project;

[14] Equatorial Principle 4: accessed at https://equator-principles.com/wp-content/uploads/2020/05/The-Equator-Principles-July-2020-v2.pdf on 4 December 2020.

- Related Corporate Loans and named reporting of these transactions. Identification of a lead EPFI to promote consistency in name reporting. Removal of exemption for sovereign borrowers for all Category A Projects; and
- Commitment to develop guidance and undertake training amongst members to successfully implement these new commitments

The Principles (EPs 1 to 10) are:

- Principle 1: Review and Categorization
- Principle 2: Environmental and Social Assessment
- Principle 3: Applicable Environmental and Social Standards
- Principle 4: Environmental and Social Management System and Equator Principles Action Plan
- Principle 5: Stakeholder Engagement
- Principle 6: Grievance Mechanism
- Principle 7: Independent Review
- Principle 8: Covenants
- Principle 9: Independent Monitoring and Reporting, and
- Principle 10: Reporting and Transparency.

The EPs IV (2020) can be found on the Equator Principle website[15].

3.4.2 AIIB Environmental and Social Framework – 2019

The Environmental and Social Framework (ESF) of the Asian Infrastructure Investment Bank (AIIB) was approved by the Board in February 2016, amended in February 2019, amended in February 2019, strengthened its commitment to Environmental and Social Standard in May 2021 (effective in October 2021)[16], and sets forth in the Environmental and Social Policy (ESP) mandatory environmental and social requirements for each Project funded by the Bank to achieve outcomes consistent with its mandate to support infrastructure development and enhance interconnectivity in Asia. The Bank has also established an Environmental and Social Exclusion List and will not knowingly finance projects involving activities included on this list.

As part of its vision provided in the ESF, AIIB has established the following:

- The Bank requires the integration of environmental and social sustainability in the identification, preparation and implementation of the Project, which in turns become part of its decision-making process.
- The Bank requires meaningful consultation of Stakeholders by its Clients throughout the Project life-cycle.
- The Bank supports its Clients to identify potential gender-specific opportunities as well as gender-specific adverse risks and impacts under their Projects and to develop mitigation measures to avoid or reduce such impacts and risks.
- The Bank recognizes the important role played by workers and their representatives in the development process and their contribution to sustainable economic growth, thus requires protection to be afforded to workers on their rights and working conditions, and avoidance of forced, harmful or exploitative forms of labour.

[15] https://equator-principles.com/wp-content/uploads/2020/05/The-Equator-Principles-July-2020-v2.pdf

[16] The 2021 version of AIIB ESF will take effect in October 2021. Hence, the 2019 AIIB ESF is applied at the time of developing this ESIA.

- The Bank recognizes that protecting and conserving biodiversity, sustainably managing terrestrial and aquatic natural resources and maintaining core ecological functions and services are fundamental to sustainable development.

The ESP sets out the general processes and requirements for Project screening and categorization, environmental and social due diligence, environmental and social assessment, environmental and social management plans, environmental and social assessment tools and management planning frameworks, information disclosure, consultation, monitoring and reporting, as well as grievance redress. It also defines the roles and responsibilities between AIIB and its Clients, and must be complied with to secure AIIB financing.

The Bank requires each proposed Project to be assigned one of the following four categories:

- **Category A.** A Project is categorized A if it is likely to have significant adverse environmental and social impacts that are irreversible, cumulative, diverse or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works and may be temporary or permanent in nature.
- **Category B.** A Project is categorized B when: it has a limited number of potentially adverse environmental and social impacts; the impacts are not unprecedented; few if any of them are irreversible or cumulative; they are limited to the Project area; and can be successfully managed using good practice in an operational setting.
- **Category C.** A Project is categorized C when it is likely to have minimal or no adverse environmental and social impacts.
- **Category FI.** A Project is categorized FI if the financing structure involves the provision of funds to or through a financial intermediary (FI) for the Project, whereby the Bank delegates to the FI the decision- making on the use of the Bank funds, including the selection, appraisal, approval and monitoring of Bank-financed subprojects.

AIIB will be responsible to categorize the project of interest.

The Bank conducts an Environmental and Social Due Diligence on all its prospective Projects to inform its decision-making process, and requires its Client to prepare instruments in compliance with its ESP, comprising an assessment of key activities and project components (including associated facilities) and the development of management plans or planning frameworks. The Bank then supports implementation of the environmental and social mitigation and management measures in projects it decides to finance, requires regular reporting on performances and conducts supervision at regular intervals. The Bank also requires its Clients to disclose relevant information about environmental and social risks and impacts of the Project in a timely and accessible manner, understandable by Project-affected people. It also posts the Client's documentation on its website for consultation.

The Bank requires the establishment of a project-level Grievance Redress Mechanism to receive and facilitate resolution of the concerns or complaints of people who believe they have been adversely affected by the Project's environmental or social impacts, and to inform Project-affected people of its availability. The grievance mechanism includes provisions to protect complainants from retaliation and to remain anonymous, if requested.

AIIB further requires compliance, where relevant to the Project, with three Environmental and Social Standards (ESS), for identification and management of environmental and social risks and impacts:

- **AIIB ESS 1:** Environmental and Social Assessment and Management
- **AIIB ESS 2:** Involuntary Resettlement, and
- **AIIB ESS 3:** Indigenous Peoples.

The following section provides an overview of the key requirements of AIIB's ESS:

3.4.2.1 AIIB ESS 1: Environmental and Social Assessment and Management

- Introduces concept of proportionality: ES assessment and management measures are to be proportional to Project risks and impacts
- Mentions effective mitigation and monitoring measures for quality assessment and management of ES risks and impacts
- Applies during the course of Project implementation
- Requires the tracking of risks and impacts and the management of related procedures to be reflected in an Environmental and Social Management Plan
- Focus: general requirements for the assessment and management structure and process, and specific environmental, social, working conditions and community; health and safety considerations
- Requires the examination of alternatives to proposed project and related risks and impacts
- Whatever the risks and impacts involved, AIIB will not finance projects involving the activities included in its Environmental and Social Exclusion List (e.g. forced labour, production of, or trade in illegal or dangerous products such as PCBs, weapons, tobacco, alcoholic beverages)
- Requires the preparation of an Environmental and Social Management Planning Framework (ESMPF) when details are missing at time of project's approval by the AIIB or when the AIIB determines that the ES assessment should be conducted in phases
- Monitoring results should be documented and communicated in accordance with Information Disclosure requirements
- Project changes requiring approval from the AIIB
- Grievance mechanism: Necessary 'to receive and facilitate resolution of the concerns of people who believe they have been adversely affected', and
- Information Disclosure addresses the sharing of documents, including of the draft ES assessment documents, in a timely manner and in locations and languages accessible to stakeholders.

3.4.2.2 AIIB ESS 2: Involuntary Resettlement

- Focuses on involuntary: 'as a result of: (a) involuntary resettlement of land; or (b) involuntary restrictions on land use or on access to legally designated parks and protected areas'
- Defines 'physical' (relocation, loss of residential land or loss of shelter) and 'economic' (loss of land or access to land and natural resources; loss of assets or access to assets, income sources or means of livelihood) displacements
- Introduces notions of time, of proportion, and of direct correlation with project: "involuntary resettlement of the recent past or foreseeable future that is directly linked to the Project"; "whether such losses and involuntary restrictions are full or partial, permanent or temporary", and
- Includes notions of obligation and of quality of restoration: 'If these impacts are found to be adverse at any stage of the Project, the Client is required to develop and implement a management plan to restore the livelihoods of affected persons to at least pre-Project level or better"

Requirements proportionate to risks and impacts of the involuntary resettlement:

- Resettlement Plan or Framework proportional to degree of impacts in accordance to scope of physical/economic displacement and vulnerability of the displaced; Abbreviated Resettlement Plan allowed where less than 200 people displaced or where entire displaced population not physically displaced and lose less than 10% of productive assets
- Where impacts significant, consider transforming Involuntary Resettlement as a stand-alone project

- Where risks and impacts highly complex and sensitive, encourages a social preparation phase before compensation and resettlement decision – making (involving consultation with affected people and host population): to build capacity of the vulnerable and address resettlement issues (include social preparation cost in resettlement budget)
- Existing formal or informal grievance mechanisms will be utilised as long as they are in well designed, implemented, and determined by the Bank to be suitable for the Project. Grievance mechanisms process to be transparent and understandable, gender – sensitive, culturally appropriate and readily accessible to affected people
- Information disclosure to include grievance redress and outcomes reports, draft and final resettlement plans/frameworks, updates, and monitoring reports to all stakeholders in the same manner
- Improve or restore all person's livelihood displaced by the Project through (i) land-based resettlement strategies or cash compensation, (ii) quick assets replacement, (iii) promp compensation at full replacement cost for unrestorable assets, and (iv) capacity building program
- The living standard improvement of the poor and other vulnerable groups displaced by the Project should be performed to at least national minimum standards, for whom living in both rural areas or urban areas
- Those people who are illegally settled on the land will be exluded from compensation for structures at replacement cost plus any other compensation/rehabilitation measures related to vulnerability, livelihood restoration, etc.
- A transparent, consistent, and equitable manner procedures of land acquisition sand land use right shall be developed for eligible people to ensure the same or better income and their livelihood status
- Reminds to closely supervise implementation, and
- The compensation cost and other resettlement entitlements shall be done before commencing any physical or economic displacement under the Project.

3.4.2.3 AIIB ESS 3: Indigenous Peoples

- Clients shall take into account national legislation, customary law and any international conventions to which the country is a party in assessing the above characteristics
- Includes vulnerability in its generic definition of 'Indigenous Peoples'[17]: term refers 'to a distinct, vulnerable, social and cultural group possessing the following characteristics in varying degrees
- Asks for an Indigenous Peoples Framework to be prepared when project details undefined
- Specifies that a social assessment should be conducted to define project impacts on Indigenous Peoples and the Assessment should be culturally appropriate and gender-sensitive of positive and adverse impacts should be assessed
- Participation of Indigenous Peoples should also be in monitoring and evaluation of arrangements
- Where FPICon is especially required, engage suitably qualified and experienced independent experts for identifying risks and impacts on Indigenous Peoples

[17] As stated in the AIIB ESF: "There is no universally accepted definition of Indigeneous Peoples. Indigeneous Peoples may be referred to in different countries by such terms as "indigeneous ethnic minorities", "aboriginals", "hill tribes", "minorities nationalities", "scheduled tribes", "first nations", or "tribal groups". As the applicability of such terminology varies widely from country to country, the Client may agree with the Bank on an alternative terminology for the Indigeneous Peoples as appropriate to the circumstances of the Client.

- Documentation of FPICon evidence of agreement should also demonstrate broad community support (BCS)[18]. Otherwise AIIB will exclude doubtfully supported activities from project;
- Impacts on protected areas and natural resources (access restriction, displacement) should particularly be avoided or otherwise benefits shared equitably, and
- Requires grievance mechanism, with same conditions then for Involuntary Resettlement grievance mechanism (see above). Have provisions for complainants to remain anonymous and be protected from retaliation if requested.

3.4.3 IFC's Performance Standards on Environmental and Social Sustainability (2012)

In April 2006, the IFC, a member of the World Bank Group, released a set of Performance Standards (PS) based upon the original World Bank Group Safeguard Policies, which recognised further the specific issues associated with private sector projects. The IFC PS have been broadened to include issues such as greenhouse gases, human rights, community health, and safety and security. A revised set of PS came into force on January 1, 2012. The complete list of IFC PS is provided in Figure 3.4 and more details can be found on the IFC website[19].

Source: IFC, 2019

Figure 3.4 IFC Performance Standards

3.4.4 World Bank/ IFC General EHS Guidelines

Supplementing the IFC PS are the General EHS Guidelines that were released in April 2007. The EHS Guidelines are technical reference documents with general and industry-specific examples of Good

[18] In order for the AIIB client to proceed with the Project, it mus first conduct FPICon and obtain "broad community support". The Client mus be able to show AIIB that"

- A consultation process took place between the Client and Infigenous Peoples regarding the Project degign, plans, to avoid or manage impacts, and to share benefits;
- The the consultation process was accepted by both parties; and
- That a good faith negotiation resulted in "broad community support" for the Project

If the AIIB Client can not provide evidence of broard community support for the Project, it must stop project activities that would affect the Indigenous communities's land, natural resources and cultural and spiritual sites. In this case, the Project would need to be regesigned.

[19] http://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/IFC+Sustainability/Sustainability+Framework/Sustainability+Framework+-+2012/Performance+Standards+and+Guidance+Notes+2012/ .
The Guidance Note of PS6 is the basis of the Critical Habitat Assessment for this project.

International Industry Practice (GIIP). They are categorised by environment, occupational and community health and safety, and construction and decommissioning. The General EHS Guidelines are designed to be used together with the relevant Industry Sector EHS Guidelines, which provide guidance to users on EHS issues within specific industry sectors.

3.4.4.1 World Bank EHS Guidelines for Electric Power Transmission and Distribution (2007)

The EHS Guidelines for Electric Power Transmission and Distribution include information relevant to power transmission between a generation facility and a substation located within an electricity grid, in addition to power distribution from a substation to consumers located in residential, commercial, and industrial areas.

The EHS Guidelines for Electric Power Transmissions and Distribution are organised in the following sections:

- Section 1.0 – Industry – Specific Impacts and Management
- Section 2.0 – Performance Indicators and Monitoring
- Section 3.0 – References and Additional Sources

Annex A – General Description of Industry Activities

3.4.4.2 World Bank EHS Guidelines for Wind Energy

The EHS Guidelines for Wind Energy include information relevant to environmental, health, and safety aspects of onshore and offshore wind energy facilities. It should be applied to wind energy facilities from the earliest feasibility assessments, as well as from the time of the environmental impact assessment, and continue to be applied throughout the construction and operational phases.

3.4.5 IFC and EBRD's Guidance Note on Workers' Accommodation: Processes and Standards

This guidance was issued by IFC and EBRD to provide specific and practical guidance on appropriate policies and standards relating to workers' accommodation, which is required in IFC Performance Standard 2 and EBRD Performance Requirement 2.

The Guidance Note on Workers' Accommodation is organised in the following sections:

- Section I: Planning and assessing requirements for workers' accommodation. This section provides guidance on assessing the need for workers' accommodation, assessing potential impacts of workers' accommodation on communities, and types of workers' accommodation, and;
- Section II: Standards for and management of workers' accommodation. This section provides instruction on standards applicable to a project, including national/ local standards as well as international standards and good practices on general living facilities; sanitary facilities; canteen, cooking and laundry facilities; and nutrition and food safety.

3.5 International Conventions

3.5.1 The Kyoto Protocol on Climate Change (UNFCC)

Vietnam became a signatory to the UNFCC in 1998 with full accession in 2002. This obligates Vietnam to assure that future development in the country meets the conditions of the Convention. Relevant to this project are the requirements associated with the potential generation of greenhouse gas. Further conditions of relevance include:

- Enhancement of energy efficiency in relevant sectors
- Protection and enhancement of sinks and reservoirs of greenhouse gases

- Promotion of sustainable forest management practices, afforestation and reforestation
- Promotion of sustainable forms of agriculture
- Implementation of measures to limit and/ or reduce emissions of greenhouse gases, and
- Limitation and/ or reduction in methane emissions.

3.5.2 The United Nations Convention on Biodiversity 1992

This Convention seeks to conserve biodiversity and promote its sustainable use. It requires the identification and monitoring of the biodiversity in an area and adopting the necessary conservation measure. Vietnam became party to this Convention in 1994.

3.5.3 The Basel Convention 1989

This was developed under the auspices of the United Nations Environmental Programme (UNEP) in response to the growing worldwide awareness of the problem of international traffic in hazardous waste. The *Basel Convention 1989* is the first and foremost global environmental treaty that strictly regulates the trans-boundary movement of hazardous wastes. It obligates parties to ensure environmentally sound management, especially during the disposal process.

The objectives of the Convention are to:

- Ensure that waste is disposed of as near as possible to the place or source of its generation
- Reduce trans-boundary waste and where it cannot be avoided, to be disposed of in an environmentally sound and efficient manner
- Provide assistance to developing countries in the management of hazardous waste and the generation, and
- The Convention places a ban on the export of hazardous waste from Organization for Economic Cooperation and Development (OECD) countries to non-OECD countries.

3.5.4 International Union for Conservation of Natural and Natural Resources, Red List of Threatened Species

The IUCN Red List, in 1964, was founded in order to provide a comprehensive inventory of the global conservation status of biological species, and to set of precise criteria to evaluate the extinction risk of thousands of species and subspecies. These criteria are applicable to all species and all regions of the world. Following the guidelines of the IUCN Red List, Vietnam's Red List was produced in 1992, updated in 2007, and has been an effective guideline for conservation of extinction species in Vietnam.

3.5.5 The United Nations Declaration on the Rights of Indigenous Peoples

The United Nations Declaration on the Rights of Indigenous Peoples was adopted on 13 September 2007. Currently, the Declaration is the most comprehensive international instrument on the rights of Indigenous Peoples. It establishes a universal framework of minimum standards for the survival, dignity and well-being of the Indigenous Peoples of the world and it elaborates on existing human rights standards and fundamental freedoms as they apply to the specific situation of Indigenous Peoples.

3.5.6 International Covenant on Economic, Cultural and Social Rights

The International Covenant on Economic, Social and Cultural Rights is a multilateral treaty adopted by the United Nations General Assembly on 16 December 1966 and came in force from 3 January 1976. It commits its parties to work toward the granting of economic, social, and cultural rights, including labour rights and the right to health, the right to education, and the right to an adequate standard of living.

3.5.7 The International Labour Organization's Labour Standards

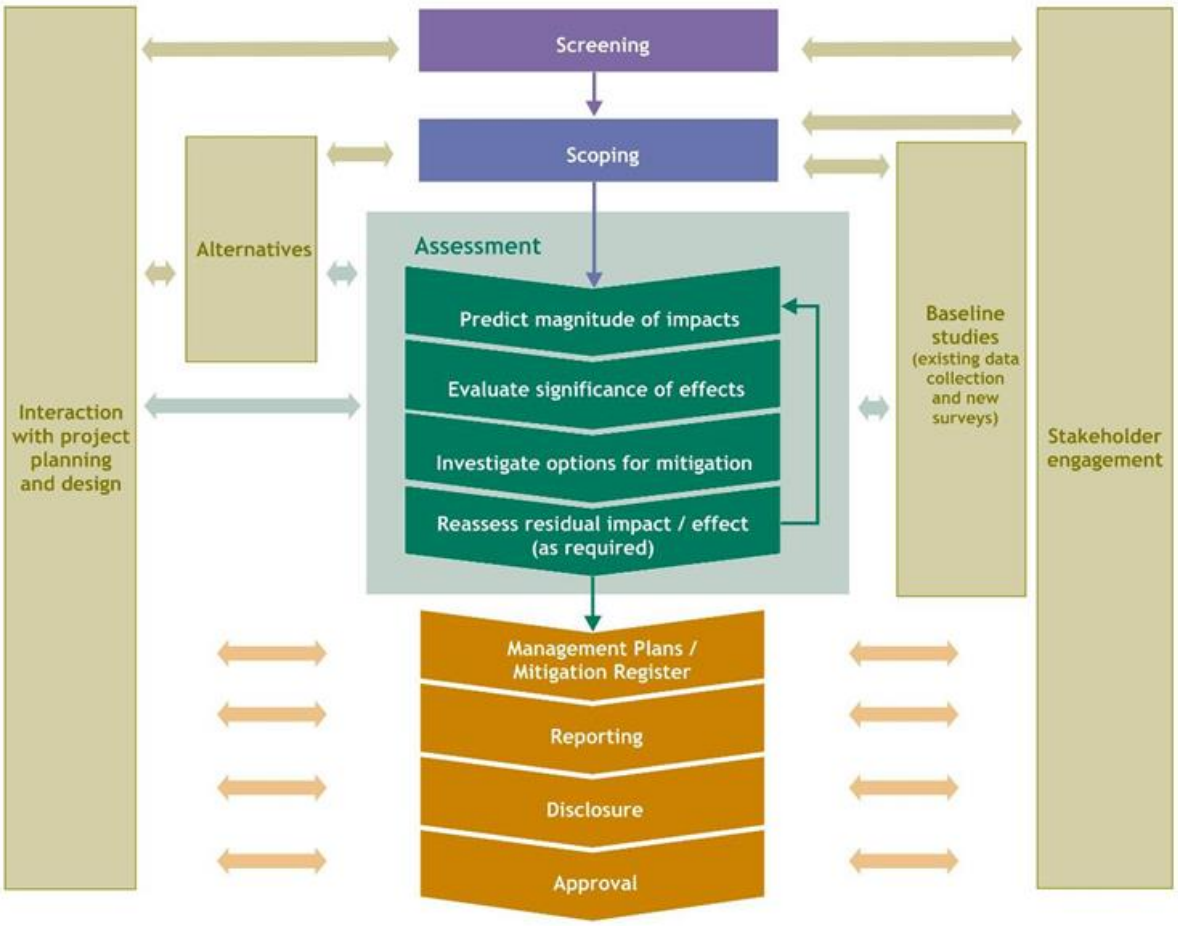
The international labour standards developed and adopted by The International Labour Organization (ILO) sets out basic principles and rights at work. They are conventions which are legally binding international treaties that may be ratified by member states. The eight fundamental Conventions of ILO are:

- Freedom of Association and Protection of the Right to Organise Convention, 1948
- Right to Organise and Collective Bargaining Convention, 1949
- Forced Labour Convention, 1930
- Abolition of Forced Labour Convention, 1957
- Minimum Age Convention, 1973
- Worst Forms of Child Labour Convention, 1999
- Equal Remuneration Convention, 1951, and
- Discrimination Convention, 1958.

Vietnam has been a member of ILO since 1994. Afterwards, labour management regulations in Vietnam have also been developed, updated and issued to ensure the alignment with requirements of the above convention. Therefore, local regulations on labour management, together with above conventions are requirements applicable to a project developed in Vietnam.

4. IMPACT ASSESSMENT METHODOLOGY

This section presents the methodology used to conduct this ESIA, which follows the approach illustrated in Figure 4.1.This ESIA has been undertaken following a systematic process that: evaluates the potential impacts the Project could have on aspects of the physical, biological, social/socio-economic and cultural environment; identifies preliminary measures that the Project will take to avoid, minimise/reduce, mitigate, offset or compensate for potential adverse impacts; and identifies measures to enhance potential positive impacts where possible.



Source: ERM, 2019

Figure 4.1 ESIA Process

This section also details the methodology used for the collection and analysis of primary and secondary data used in this report. Primary and secondary information from the Project Owner, government sources, non-governmental organisations (NGOs) and other Project-related stakeholders have been collected to support the preparation of this report.

4.1 Screening

At the initial stage of this ESIA, preliminary information was provided to aid in the determination of what legal and other requirements should be applied to the Project. This step was completed utilizing a high-level description of the Project and its associated facilities.

4.2 Scoping

Scoping has been undertaken to delineate the potential Area of Influence for the Project (and thus the appropriate Study Area) and to identify potential interactions between the Project and resources/

receptors in the Area of Influence. It also helps in developing and selecting alternatives to proposed action and in identifying the issues to be considered in this ESIA.

The content of this ESIA report has been prepared according to the output from the scoping process, which is further detailed in Section 1.5.

4.3 Project Description

In order to set out the scope of the Project features and activities, with particular reference to the aspects which have the potential to impact the environment, a Project Description has been prepared. Details of the Project facilities' design characteristics, as well as planned and possible unplanned Project activities, are provided in Chapter *2* of this ESIA Report.

4.4 Baseline Conditions

To provide the context within which the impacts of the Project can be assessed, a description of physical, biological, social/socio-economic and cultural conditions that would be expected to prevail in the absence of the Project is presented. The Baseline includes information on all resources/receptors that were identified during scoping as having the potential to be significantly affected by the Project.

The baseline characterisation is reported in Chapter 7, 8 and 9 of this ESIA Report

4.5 Stakeholder Engagement

An effective ESIA Process requires engagement with relevant stakeholders throughout the key stages. This assists in understanding stakeholder views on the Project and in identifying issues that should be taken into account in the prediction and evaluation of impacts.

Details of the Stakeholder Engagement activities undertaken for this Project to date are presented in Chapter 6 of this ESIA Report.

4.6 Impact Assessment (IA)

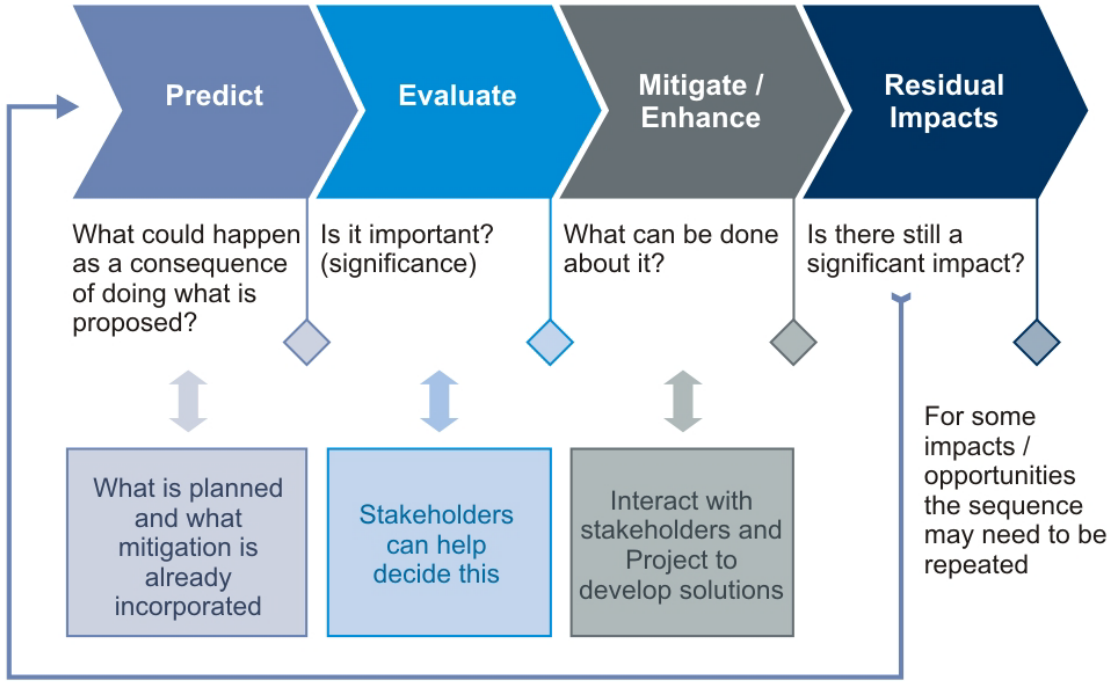
Impact identification and assessment starts with scoping and continues throughout the remainder of the ESIA Process. The main ESIA steps are summarised below and comprise of:

Potential Impact Identification: to determine what could potentially happen to resources/receptors as a consequence of the Project and its associated activities;

Impact Evaluation: to evaluate the significance of the predicted impacts by considering their magnitude and likelihood of occurrence, and the sensitivity, value and/or importance of the affected resource/receptor;

Management and Mitigation Enhancement Measures: to identify appropriate and justified measures to mitigate potential negative impacts and enhance potential positive impacts; and

Residual Impact Evaluation: to evaluate the significance of potential impacts assuming effective implementation of mitigation and enhancement measures.



Source: ERM, 2019

Figure 4.2 The IA Process

4.6.1 Impact Prediction

Prediction of impacts is essentially an objective exercise to determine what is likely to happen to the environment as a consequence of the Project and its associated activities. From the potentially significant interactions identified during the Scoping phase, the impacts to the various resources/receptors are elaborated and evaluated. The diverse range of potential impacts considered in the ESIA Process typically results in a wide range of prediction methods being used, including quantitative, semi-quantitative and qualitative techniques.

4.6.2 Impact Evaluation

Once the identification of potential impacts is completed, each potential impacts is described in terms of its various relevant characteristics (e.g. type, scale, duration, frequency, extent). The terminology and designations used to describe impact characteristics are shown in Table 4.1.

Table 4.1 Impact Characteristic Terminology

Characteristic	Definition	Designations
Type	A descriptor indicating the relationship of the potential impact to the Project (in terms of cause and effect).	Direct Indirect Induced
Extent	The “reach” of the potential impact (e.g., confined to a small area around the Project footprint, projected for several kilometres, etc.).	Local Regional International
Duration	The time period over which a resource / receptor is potentially affected.	Temporary Short-term Long-term

Characteristic	Definition	Designations
Scale	The size of the potential impact (e.g. the size of the area with the potential to be damaged or impacted, the fraction of a resource that could potentially be lost or affected, etc.)	[no fixed designations; intended to be a numerical value or a qualitative description of "intensity"]
Frequency	A measure of the constancy or periodicity of the potential impact.	[no fixed designations; intended to be a numerical value or a qualitative description]

The definitions for the type designations are shown in Table 4.2**.** Definitions for the other designations are resource/receptor-specific, and are discussed in the resource/receptor-specific IA chapters presented later in this ESIA.

Table 4.2 Impact Type Definitions

Type	Definition
Direct	Potential impacts that result from a direct interaction between the Project and a resource/receptor (e.g. between occupation of a pilot of land and the habitats which are affected)
Indirect	Potential impacts that follow on from the direct interactions between the Project and its environment as a result of subsequent interactions within the environment (e.g. viability of a species population resulting from loss of part of a habitat as a result of the Project occupying a plot of land)
Induced	Potential impacts that result from other activities (which are not part of the Project) that happen as a consequence of the Project (e.g. influx of camp followers resulting from the importation of a large project workforce)

The above characteristics and definitions apply to planned and unplanned events. An additional characteristic that pertains only to unplanned events is *likelihood*. The *likelihood* of an unplanned event occurring is designated using a qualitative scale, as described in Table 4.3.

Table 4.3 Definitions for Likelihood Designations

Likelihood	Definition
Unlikely	The event is unlikely but may occur at some time during normal operating conditions
Possible	The event is likely to occur at some time during normal operating conditions
Likely	The event will occur during normal operating conditions (i.e., it is essentially inevitable)

Once impact characteristics are defined, the next step in the IA phase is to assign each potential impact a "magnitude". Magnitude is typically a function of some combination (depending on the resource/receptor in question) of the following impact characteristics:

- Extent
- Duration
- Scale
- Frequency, and
- Likelihood (for unplanned event)
- Magnitude essentially describes the intensity of the change that is predicted to occur in the resource/receptor as a result of the potential impact. The magnitude designations themselves are universally consistent, but the definitions for these designations vary depending on the resource/receptor. The universal magnitude designations are:

- Positive
- Negligible
- Small
- Medium, and
- Large.

In the case of a potential *positive* impact, no magnitude designation (aside form "positive") is assigned. It is considered sufficient for the purpose of the ESIA to indicate that the Project is expected to result in a potential *positive* impact, without characterising the exact degree of positive change likely to occur.

In the case of potential impacts resulting from unplanned events, the same resource/receptor-specific approach to concluding a magnitude designation is utilised. However, the 'likelihood' factor is considered, together with the other impact characteristics, when assigning a magnitude designation.

In addition to characterising the magnitude of impact, the other principal impact evaluation step is definition of the sensitivity/vulnerability/importance of the impacted resource/receptor. There are a range of factors to be taken into account when defining the sensitivity/vulnerability/importance of the resource/receptor, which may be physical, biological, cultural or human. Other factors may also be considered, such as legal protection, government policy, stakeholder views and economic value. As in the case of magnitude, the sensitivity/vulnerability/importance designations themselves are universally consistent, but the definitions for these designations vary on a resource/receptor basis. The sensitivity/vulnerability/importance designations used herein for all resources/receptors are:

- Low
- Medium, and
- High.

Once magnitude of impact and sensitivity/vulnerability/importance of resource/receptor have been characterised, the significance can be assigned to each impact. Impact significance is designated using the matrix shown in Table 4.4.

Table 4.4 Impact Significance

		Sensitivity/Vulnerability/Importance of Resource/Receptor		
		Low	**Medium**	**High**
Magnitude of Impact	**Negligible**	Negligible	Negligible	Negligible
	Small	Negligible	Minor	Moderate
	Medium	Minor	Moderate	Major
	Large	Moderate	Major	Major

The matrix applies universally to all resources/receptors, and all impacts to these resources/receptors, as the resource/receptor-specific considerations are factored into the assignment of magnitude and sensitivity/vulnerability/importance designations that enter into the matrix. The context for what the various impact significance ratings signify is presented in the box below.

It is important to note that impact prediction and evaluation take into account any embedded controls (i.e., physical or procedural controls that are already planned as part of the Project design, regardless of the results of the ESIA Process). This helps avoid a situation where an impact is assigned a magnitude based on a hypothetical version of the Project that considers none of the embedded controls.

Context of Impact Significance

An impact of **negligible** significance is one where a resource/receptor (including people) will essentially not be affected in any way by a particular activity or the predicted effect is deemed to be 'imperceptible' or is indistinguishable from natural background variations.

An impact of **minor** significance is one where a resource/receptor will experience a noticeable effect, but the impact magnitude is sufficiently small and/or the resource/receptor is of low sensitivity/vulnerability/importance. In either case, the magnitude should be well within applicable standards.

An impact of **moderate** significance has an impact magnitude that is within applicable standards, but falls somewhere in the range from a threshold below which the impact is minor, up to a level that might be just short of breaching a legal limit. Clearly, to design an activity so that its' effects only just avoid breaking a law and/or cause a major impact is not best practice. The emphasis for moderate impacts is therefore on demonstrating that the impact has been reduced to a level that is as low as reasonably practicable (ALARP). This does not necessarily mean that impacts of moderate significance have to be reduced to minor, but that moderate impacts are being managed effectively and efficiently.

An impact of **major** significance is one where an accepted limit or standard may be exceeded, or large magnitude impacts occur to highly valued/sensitive resource/receptors. An aim of ESIA is to get to a position where the Project does not have any major residual impacts, certainly not ones that would endure into the long-term or extend over a large area. However, for some aspects there maybe be major residual impacts after all practicable mitigation options have been exhausted (i.e., ALARP has been applied). An example might be the visual impact of a facility. It is then the function of regulators and stakeholder to weigh such negative factors against the positive ones, such as employment, in coming to a decision on the Project.

4.6.3 Mitigation and Enhancement Measures

Once the significance of a potential impact has been characterised, the next step is to evaluate what mitigation and enhancement measures are warranted. For the purposes of this ESIA, ERM has adopted the following Mitigation Hierarchy, which is shown in Figure 4.3.

- **Avoid at Source; Reduce at Source:** avoiding or reducing at source through the design of the Project (e.g., avoiding by siting or re-routing activity away from sensitive areas or reducing by restricting the working area or changing the time of the activity).
- **Abate on Site:** add something to the design to abate the impact (e.g., pollution control equipment, traffic controls, perimeter screening and landscaping).
- **Abate at Receptor:** if an impact cannot be abated on-site then control measures can be implemented off-site (e.g., noise barriers to reduce noise impact at a nearby residence or fencing to prevent animals straying onto the site).
- **Repair or Remedy**: some impacts involve unavoidable damage to a resource (e.g. agricultural land and forestry due to creating access, work camps or materials storage areas) and these impacts can be addressed through repair, restoration or reinstatement measures.
- **Compensate in Kind; Compensate Through Other Means:** where other mitigation approaches are not possible or fully effective, then compensation for loss, damage and disturbance might be appropriate (e.g., planting to replace damaged vegetation, financial compensation for damaged crops or providing community facilities for loss of fisheries access, recreation and amenity space).

Figure 4.3 Hierarchy of Mitigation Options

The priority in mitigation is to first apply mitigation measures to the source of the potential impact (i.e., to avoid or reduce the magnitude of the potential impact from the associated Project activity), and then to address the resultant effect to the resource/receptor via abatement or compensatory measures or offsets (i.e., to reduce the significance of the effect once all reasonably practicable mitigations have been applied to reduce the impact magnitude). This mitigation hierarchy is compatible to that applied by AIIB, that is to: (a) anticipate and avoid risks and impacts; (b) where avoidance is not feasible, minimise or reduce risks and impacts to acceptable levels; (c) once risks and impacts have been minimised or reduced, mitigate them; and (d) where residual risks or impacts remain, compensate for or offset them, where technically and finalcially feasible.

4.6.4 Residual Impact Evaluation

Once mitigation and enhancement measures are declared, the next step in the ESIA Process is to assign residual impact significance. This is essentially a repeat of the IA steps discussed above, considering the implementation of the proposed mitigation and enhancement measures.

4.6.5 Management, Monitoring and Audit

The final stage of the ESIA Process is defining the basic management and monitoring measures that are needed to identify whether: a) impacts or their associated Project components remain in conformance with applicable standards; and b) mitigation measures are effectively addressing impacts and compensatory measures and offsets are reducing effects to the extent predicted.

A Register of Commitments, which is a summary of all actions the Project Proponent has committed to executing, with respect to environmental/social/health performance for the Project, is also included as part of this Report. The Register of Commitments includes mitigation measures, compensatory measures and offsets, and management and monitoring activities.

4.7 Cumulative Impact

According to IFC 2013, “Cumulative impacts (CI) are those that result from the successive, incremental, and/or combined effects of an action, project, or activity when added to other existing, planned, and/or reasonably anticipated future ones”. According to the IFC (IFC 2013), the assessment and management of cumulative impacts is necessary when the Project and other developments under consideration could contribute to generating cumulative impacts on valued environmental and social component.

In order to gain an understanding of the projects overall contribution to impacts, a cumulative impact assessment (CIA) was undertaken. Whilst total cumulative impacts due to multiple projects within a given area should be identified within government- led spatial planning efforts, the Project owner needs to determine the degree to which it is contributing to these overall cumulative impacts. In this regard, the objectives of the CIA are twofold:

- Determine if the cumulative impacts caused by the Project and other existing or predictable future projects that would threaten the sustainability of valuable environmental component (VEC) in the area, and
- Develop mitigation measures to prevent unacceptable conditions of VECs. The measures could include additional mitigation measures for the Project and also additional mitigation measures for other existing or predictable future projects in the area.

The ESIA and CIA are prepared based on similar logical framework, analytical process and tools. Unlike the ESIA that centres on the Project as a source of impacts, the CIA focuses on VECs under influence from different projects (Figure 4.4). In a CIA, the overall resulting condition of the VEC and its related viability are assessed. This CIA closely follows the six (6) steps of the IFC Guidance (IFC 2013), as shown in Figure 4.5.

IFC Guidance takes into consideration the limitations that a private developer may face carrying out a CIA as part of an ESIA, or difficulties encountered in compiling such information. The limitations applicable to this CIA include:

- Incomplete information about other projects and activities (e.g. the information is not available in the public domain)
- Uncertainty with respect to the implementation of future projects, and
- Difficulty in establishing thresholds or limits of acceptable change for VECs, and therefore the significance of cumulative impacts.

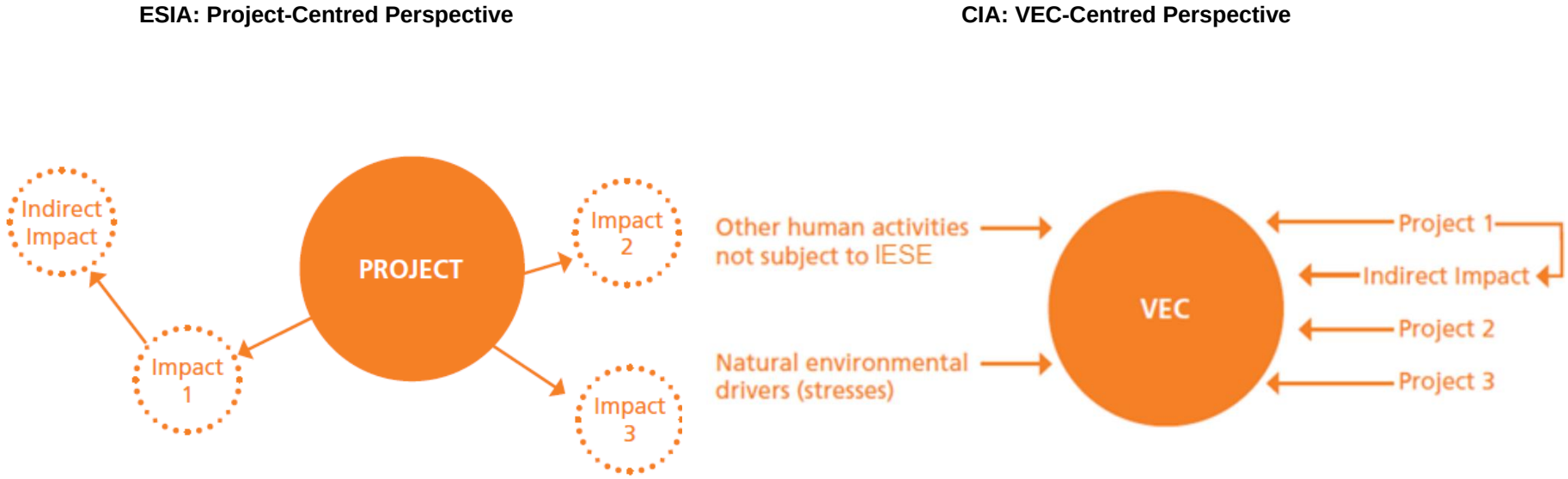


Figure 4.4 ESIA and CIA Analysis (IFC 2013)

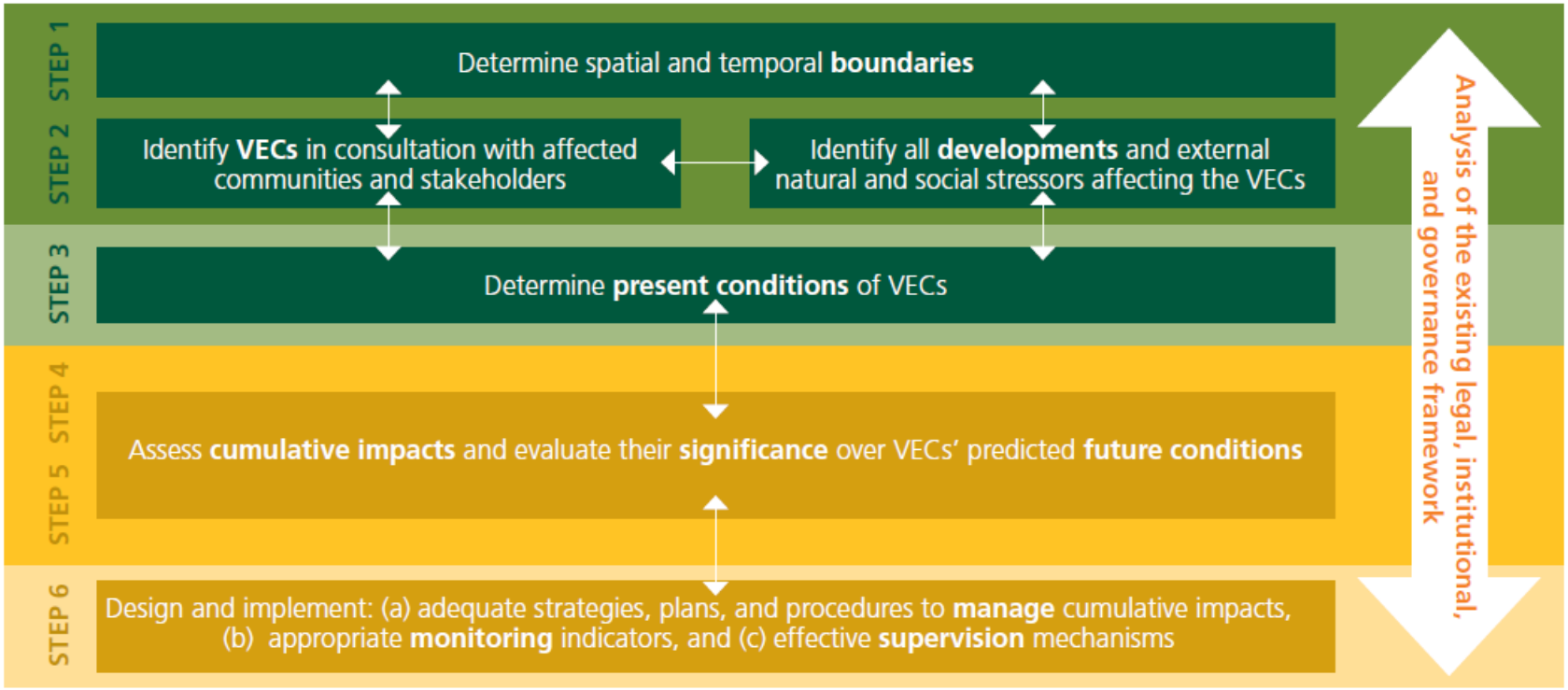


Figure 4.5 Six-Step Approach for CIA (IFC 2013)

4.8 Risk Assessment for Unplanned Events

To evaluate potential impacts from unplanned events, a risk-based approach is used to define: 1) the most likely unplanned events leading to environmental, social and/or community health impacts; and 2) those unplanned events with the most significant potential environmental, social and/or community health impacts overall. Impact significance for unplanned events is therefore determined by evaluating the combination of likelihood and consequence.

4.8.1 Assess the Scale of Consequence

Indicative levels of consequence for potential impacts from unplanned events can be defined for the physical, biological, and social environment as provided below.

Table 4.5 Indicative Levels of Consequence for Potential Impacts from Unplanned Events

	Incidental	Minor	Moderate	Major	Severe
Physical Environment	Impacts such as localised or short term effects or environmental media, meeting all environmental standards	Impacts such as widespread, short-term impacts to environmental media, meeting all environmental standards	Impacts such as widespread, long-term effects on environmental media, meeting all environmental standards	Impacts such as significant, widespread and persistent changes in environmental media OR Exceedance of environmental standards	Exceedance of environmental standards and fine/ prosecution
Biological Environment	Impacts such as localised or short term effects on habitat or species	Impacts such as localised, long term degradation of sensitive habitat or widespread, short-term impacts to habitat or species	Impacts such as localised but irreversible habitat loss or widespread, long-term effects on habitat or species	Impacts such as significant, widespread and persistent changes in habitat or species	Impacts such as persistent reduction in ecosystem function on a landscape scale or significant disruption of a sensitive species.
Social Environment	Slight, temporary, adverse impact on a few individuals	Temporary (<1 year), adverse impacts on community which are within international health standards	Adverse specific impacts on multiple individuals that can be restored in <1 year OR One or more injuries, not severe.	Adverse long-term, multiple impacts at a community level, but restoration possible. OR One or more severe injuries to a member of the public including permanently disabling injuries.	Adverse long-term, varied and diverse impacts at a community level or higher – restoration unlikely. OR Fatalities of public.

4.8.2 Assess the Likelihood

For the purposes of assessment, the likelihood of an unplanned event occurring can be classified as follows:

1 - Remote, not known in the industry

2 - Very unlikely, known of in the industry

3 - Unlikely, may occur once or more in life of the Project

4 - Likely, may occur once or twice per year, and

5 - Expected, may occur more than twice per year.

4.8.3 Assess the Significance

The consequences and likelihood of potential unplanned events are combined to determine the overall impact significance using the risk matrix shown in Table 4.6.

For potential impacts that are determined to have an impact significance of Moderate or Major, risk reduction measures are identified; these can include measures that reduce the likelihood of the event from occurring (i.e. preventive barriers), those that reduce the consequences on sensitive receptors/resources if the event were to occur (i.e. mitigation or recovery measures), and those that affect the likelihood and consequence.

Table 4.6 Risk Matrix for Potential Unplanned Events

		Likelihood of Occurrence				
		1	2	3	4	5
Consequence	Incidental	Negligible	Negligible	Negligible	Negligible	Negligible
	Minor	Negligible	Minor	Minor	Minor	Moderate
	Moderate	Minor	Minor	Moderate	Moderate	Major
	Major	Moderate	Moderate	Major	Major	Major
	Severe	Major	Major	Major	Major	Major

5. ESIA SCREENING AND SCOPING

5.1 Introduction

The scoping exercise is intended to ensure that the IA focuses on those issues that are most important for design, decision – making and stakeholder interests. Table 5.1 presents the resources/receptors considered during scoping.

Table 5.1 Resources/Receptors Considered during Scoping

Resources/Receptors	Impacts
Environmental	
Biodiversity	■ Presence of endangered, restricted-ranged species, invasive/alien species and habitats supporting congregation of migratory species
Air	■ Emissions of NOx, SOx, PM, CO.
Water resource (Surface water and Groundwater)	■ Changes to physical, chemical or biological quality of rivers, lakes, and other surface water bodies. ■ Introduction of exotic species; changes in habitat quality, abundance, diversity. ■ Effluent discharge. ■ Contamination of shallow or deep groundwater resources. Change in groundwater resources
Soil	■ Changes to physical and chemical properties and soil ecology
Noise	■ Changes in noise level
Visual Amenity	■ Changes in landscape and visual amenity
Electromagnetic Field (EMF)	■ Potential of electromagnetic interference (EMI) may occur from the Project development.
Shadow Flicker	■ Potential impacts on health of project-affected people (eyes, vision) and vegetation growth
Social / Socio-economic	
Economy and employment	■ Change in national/local economy, employment, standard of living, occupations
Resource ownership and use	■ Temporary or permanent restriction for accessing or using land, changes in livelihood activities based on land-based resources; changes in ownership of such resources.
Infrastructure and public services	■ Improvement or pressure on existing urban/rural infrastructure or services e.g. transportation, power, water, sanitation, waste handling facilities
Community Health	
Environmental change	■ Potential degradation in air quality (e.g. NOx, SOx, VOC, CO, PM), contamination of surface water and potable ground water, increased vibration and noise, increased night time light beyond acceptable limits, changes to the visual environment.
Communicable and non-communicable diseases	■ Change in incidence and /or prevalence of communicable and non-communicable diseases or disease causing factors

Resources/Receptors	Impacts
Vector borne diseases	■ Changes in the incidence and or prevalence of vector borne diseases, the density of these vectors and their breeding grounds
Sexually Transmitted Diseases (STDs)	■ Changes in the incidence and /or prevalence of STDs and the factors that contribute to this (e.g. external workforce, transport routes)
Health care/recreational facilities	■ Changes in availability of and access to health care and recreational facilities including green space
Traffic Safety	■ Changes in traffic volume contributes to increase risks of traveller safety, especially the Project is located in a mountainous area.
Cultural	
Cultural Heritage	■ Changes and impacts on cultural heritage in the course of the project activities
Cross-sector	
Indigenous People	■ Changes in cultural resources, livelihood of indigenous people, impacts on customary right of use and access to land and natural resources, socio-economic status, cultural and community integrity; health, education, social security status, indigenous knowledge.
Human Rights	■ Changes and impacts on the human rights enjoyment of impacted rights-holders such as workers and community members
Gender	■ Changes in gender equity, impacts on labor division, income and livelihoods, women empowerment

5.2 Screening of Social-cultural Characteristics of Ethnic Minorities

5.2.1 Socio-cultural Characteristics of Ethnic Minority Communities in the Project's area

The Central Highlands is one of the regions with a large number of ethnic minorities and diversity of ethnic composition (see Table 5.2). According to statistics of the completed results of the 2019 Vietnam Population and Housing Census, the Central Highlands have the population of 5,842.7 thousand people (accounting for 6.1% of the Vietnamese population), of which Kinh people account for 62.3% of the region's population[20]. This region is the home to 52 of the 54 existing ethnic groups in Vietnam.

Table 5.2 Population of Provinces in the Central Highlands

Province	Total Population	Kinh Population	Ethnic minority Population	Percentage of Ethnic Minority Population (%)
Kon Tum	540,438	243,572	296,866	54.9
Gia Lai	1,513,847	814,056	699,791	46.2
Dak Lak	1,869,322	1,202,000	667,322	35.7
Dak Nong	622,168	419,808	202,360	32.5
Lam Dong	1,296,906	963,290	333,616	25.7
Total	**5,842,681**	**3,642,726**	**2,199,955**	**37.7**

Source: Vietnam Population and Housing Census (2019)

[20] GSO (2020)

By 2019, Dak Lak had 1,869,322 inhabitants of 50 ethnic groups, excluding foreigners and unidentified ethnic minority people. The Kinh group numbered 1,202,000 (64.3% of the Dak Lak population), the Ede population was 351,278 people (18.8%), and the other ethnic minority groups had 316,044 people (16.9%)[21]. Dak Lak had 184 communes in ethnic minority areas with 2,485 villages[22].

The Krong Buk district has 14 ethnic minority groups[23] with 24,344 people from 5,397 households, accounting for 32.2% of the total district population[24]. Of the ethnic minority population, there are 5,080 households with 23,238 people recognised as indigenous ethnic minority groups. Ede is the main ethnic minority group in the district while other ethnic minorities such as Muong, Tay, Thai, Nung, and Dao only account for a small population.

Four Project-affected communes include Cu Ne, Cu Pong, Ea Sin, and Chu Kbo. Cu Pong and Cu Ne communes are predominant with Ede ethnic minority communities. Potentially affected communities include:

- Cu Hriet and Ea Bro villages of Cu Pong commune;
- Ea My village of Ea Sin commune;
- Kdro 1, Kdro 2, Drah 1, Drah 2, Ea Kung, Ea Siek, Ea Krom, Kmu, and Ea Nguoi villages of Cu Ne commune;
- Kty 4 and Kty 5 villages of Chu Kbo commune.

Of the 14 affected villages, seven ethnic minority villages (*Buôn)* including Cu Hriet, Ea Bro, Kdo 1, Kdo 2, Drah 1, Drah 2, and Kmu have a high proportion of Ede people. Specifically, Drah 1 has 100% of Ede households while in the remaining villages, Ede households account for from 50% to over 90%. Meanwhile, the proportion of ethnic minority households in Kinh dominant villages such as Ea My, Ea Siek, Ea Nguoi, Ea Kung, Kty 4, and Kty 5 remains modest. In these villages, Ede group with other Muong, Thai, and San Dui ethnic minority groups have been integrated with the Kinh majority.

5.2.2 Applicability of AIIB ESS3 and IPC PS7

5.2.2.1 Indigenous People Screening and AIIB ESS3 and IFC PS7 Applicability

AIIB ESS3 and IFC PS7 defines Indigenous Peoples as a distinct social and cultural group possessing the following characteristics in varying degrees:

- Self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;
- Collective attachment to geographically distinct habitats or ancestral territories in the project area and to the nature resources in these habitats and territories;
- Customary cultural, economic, social and political institutions that are separate from those of the mainstream society or culture; and
- A distinct language or dialect, often different from the official language or languages of the country or region in which they reside.

Based on the IP screening in Table 5.3, it is concluded that the Ede (“Ê-đê”) located in the Project’ area fulfil all four characteristics of IPs as per AIIB ESS3 and IFC PS7. ERM recommends that the current project considers the Ê-đê as IPs and that the AIIB ESS3 and IFC PS7 provisions apply to them. The engagement of the Project will be conducted in the form of Informed Consultation and Participation (ICP).

[21] General Statistics Office (2020)

[22] Committee for Ethnic Minority Affairs and GSO (2019)

[23] Krong Buk District Ethnic Minority Affairs Office (2021)

[24] Krong Buk Distric Ethnic Minority Affairs Office (2021)

Table 5.3 Indigenous People Screening and Identification

Characteristics	Ede	Conclusion
Self-identification (as members of a distinct indigenous cultural group and recognition of this identify by others)	The Ede recognised by the Government of Vietnam as distinct ethnic groups. The Ede are the 12th most populous of the 54 ethnic groups in Vietnam[25].	Yes, it could be confirmed that the Ede people obtain the characteristics of self-identification and recognition of this identity by others as a distinct ethnic group
Collective attachment (to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories)	The Ede have lived in their own villages in the Project's areas and Dak Lak for generations. Originally, the Ede moved to Vietnam's central region and then to the central highlands between the 8th century and the 15th century. They live Dak Lak, Gia Lai, Khanh Hoa and Phu Yen province.	Yes. Ede have collective attachment to the project area and the natural resources.
Customary Institutions (cultural, economic, social or political institutions that are separate from those of the mainstream society or culture)	Even though the Ede communities have well integrated into the national mainstream development, their cultural, economic, social or political institutions, to a large extent, are distinctive. Traditionally, the Ede enjoyed a considerable degree of autonomy vis-à-vis the Kinh (Vietnamese). Ede society was organised around the basic elements of family, longhouse, and village in descending order of importance. Their traces are reflected in epics, architecture, fine-arts and folklore. Ede families are matriarchal. Previously, the Ede were engaged in hunting, fishing, farming, knitting and weaving. Now they practice the alternation of crops and plant industrial trees like coffee, rubber, pepper and cacao. Some raise buffaloes, cows, and elephants. Ede handicraft items include cloth, bronze, wooden and pottery products and jewellery. Many traditional Ede festivals are maintained, including the buffalo stabbing festival, the house warming ritual, and the adulthood ceremony. The Ede boast their rich folklore, which has been passed down orally. Their myths, fairy tales, proverbs and Khan Dam San and Khan Dam Keth M'lan epics are famous throughout Vietnam. In	Yes. Ede had separate socio-cultural institutions that were different from the mainstream Kinh ethnic majority community.

[25] Committee for Ethnic Minority Affairs Web Potal, January 2016. The Ede ("Ê-đê"). Available at http://english.ubdt.gov.vn/vietnam-image-of-the-commtnity-of-54-ethnic-groups/the-e-de.htm (Accessed on 30 July 2021)

Characteristics	Ede	Conclusion
	terms of performance, it is a type of immersion accompanied by some movements to convey emotions. Regarding folk songs, there are quizzes, genealogy songs. Ede music is famous for its gong set. No festival, no cultural activity of the community can be absent from the sound of gongs. Besides the gongs, there are musical instruments made of bamboo and dried gourd shells which are like other ethnic minority groups in Central Highlands but made with their unique techniques. The traditional house of the E De is a long stilts house with a wooden-boat-shaped architecture with two basic features that two erected walls are wider in the upper and narrower in the lower part; and two roof tops protrude. Ede costume constitutes a high level of aesthetic and sensational values. Red and black dominate the Ede's costume colour	
Distinct Language (or dialect, often different from the official language or languages of the country or region in which they reside)	The Ede language belongs to the Cham and the Malayo-Polynesian language group. According to the village patriarch of Tuor Y Thut Bya, since the early time, the Ede people talk to each other by their own language and tend to use Vietnamese to communicate with those who do not understand the Ede language. The preservation of their language was stipulated in the village conventions. However, many local Ede teenagers have recently hesitated to communicate in their own language. The other recorded situation is that there are just few Ede people being proficient in writing although all of people in Ede community being master in speaking their own language.	Yes. Ede was considered to be the distinct language, which is different form the official language in Vietnam.

Source: ERM Scoping Site visit during ESIA development, May 2021.

Ede traditional costume during wedding event

Traditional music instrument

Ede traditional house

Woman in her house

Source: ERM socio-economic baseline, July 2021

Figure 5.1 Photos of Ede Traditional Costumes, Musical Instruments, and Traditional Houses

5.2.3 Requirement for Free, Prior, and Informed Consultation (FPICon) and Free, Prior, and Informed Consent (FPIC)

In addition to the general requirements of PS7, project proponents are required to obtain FPIC of the affected communities of IPs in circumstances described in paragraphs 13-17 of PS7 that is applicable to project design, implementation, and expected outcomes related to impacts affecting the communities of IPs. FPIC is required if projects are associated with any of the potentially adverse impacts identified below:

- Impacts on lands and natural resources subject to traditional ownership or under customary use;
- Relocation of Indigenous Peoples from lands and natural resources subject to traditional ownership or under customary use;

- Significant impacts on critical cultural heritage that is essential to the identity and/or cultural, ceremonial, or spiritual aspects of Indigenous Peoples lives, including natural areas with cultural and/or spiritual value such as sacred groves, sacred bodies of water and waterways, sacred trees, and sacred rocks; or
- Use of cultural heritage, including knowledge, innovations, or practices of Indigenous Peoples for commercial purposes.

To date, the assessment indicates that FPICon/FPIC is not applicable to the Project.The relevance of these special circumstances is assessed in Table 5.4.

Table 5.4 FPICon/FPIC Identification

Circumstance	Observations	Applicability
Impact on lands and natural resources subject to traditional ownership or under customary use	Land acquisition from households is required. The use of land from 44 local households were transferred to the Project via recent land use right-holders who reside in Hanoi and Haiphong. These 44 land plots are used for turbine construction, which is required to follow the land use conversion process. The land for the construction of remaining turbines, access and internal roads, transmission lines, and substation will be a State-led acquisition process under the support by the District's Land Fund Development Center. Based on ERM's site observations and discussions with Land Fund Development Center, People' Committees of affected communes and local communities, including Ede communities, the Project will acquire land used by households and a Coffee Company Ltd. As such, there is no potential impact on lands and natural resources subject to traditional ownership or under customary use. More details are provided in Vol 3 of the ESIA.	Not Applicable
Relocation of IPs from lands and natural resources subject to traditional ownership or under customary use	All of Project affected households relate to economical displacement. According to the information provided at the moment this ESIA was prepared, it seems that there will not be relocation due to land acquisition for this Project, nevertheless the land acquisition process has not yet concluded. It is important to note that relocation might need to take place due to land acquistion impacts linked to noise sensitive receptors, shadow flickering and blade throw. ERM would need to verify these through additional fieldwork that is the exact number and type of residential dwellings and if so, perform consultations with affected households through this additional fieldwork. According to the information provided by the Project Owner and local authorities, physical displacement (if any), would involve relocation of IPs from their household's land, not land or natural resources subject to traditional ownership or under customary use by IPs.	Not Applicable
Significant impact on critical cultural heritage	Based on current location and design of the project component and ERM's consultations with local authorities and affected IP communities, no significant impacts on Ede critical	Not Applicable

Circumstance	Observations	Applicability
	cultural heritage are anticipated. There is no Ede critical cultural heritage located within the Project areas.	
Commercial use of cultural heritage	The project will not make commercial use of Ede cultural heritage or traditional knowledge and practices.	Not Applicable

Source: ERM Socio-economic baseline survey, July 2021

5.2.4 Conclusion

In general, the applicability scope of AIIB ESS3 and IFC PS7 is defined for the Project as follows:

- The Ede communities affected by the Project are considered as IPs in accordance with the four characteristics required by IFC and AIIB;
- The AIIB ESS3 and IFC PS7 provisions are applicable to Ede communities within Project areas;
- Mitigation measures should be tailored to the specific circumstances of the Affected Communities of Ede in considering their attachment to the larger regional IPs population and integration into the mainstream society; and
- FPICon/FPIC is not applicable to the Project so Broad Community Support (BCS) is not required and documented as FPICon outcome.

In compliance with AIIB ESS3 and IFC PS7 requirements, the Project is recommended to:

- Disclose and on-going consultation with affected IPs based on Informed Consultation and Participation (ICP);
- Include an analysis of vulnerability of IPs communities;
- Design and implement as soon as possible an IPP to make sure that the IPs may receive the benefit from the project; and
- Confirm any displacements (physical or economic), especially the IPs through a land acquisition audit.

5.3 Scoping

Scoping has been undertaken to identify the potential Area of Influence (hereinafter as “AoI”), potential interactions between the Project’s activities and environmental and social resources or receptors in the AoI. This was based on:

- the project information currently available at the time of the ESIA preparation process and it should be noted that the Project description in Chapter 6 remains the most up to date outline of the Project’s activities
- the baseline information collected at the scoping time, and
- the experience gained in similar projects constructed in similar environmental and socioeconomic contexts.

The ESIA covers the following project elements which have been described in details in Chapter 6, including:

- Site preparation (site clearance, excavation, and levelling), fencing, and civil works
- Wind turbine transportation and construction
- Construction of Wind turbine foundation, transmission line pylons, internal roads
- Wind turbine installation

- Wind turbine operation, maintenance, and decommissioning, and
- Supporting facilities such as the existing batching plant and auxiliary works.

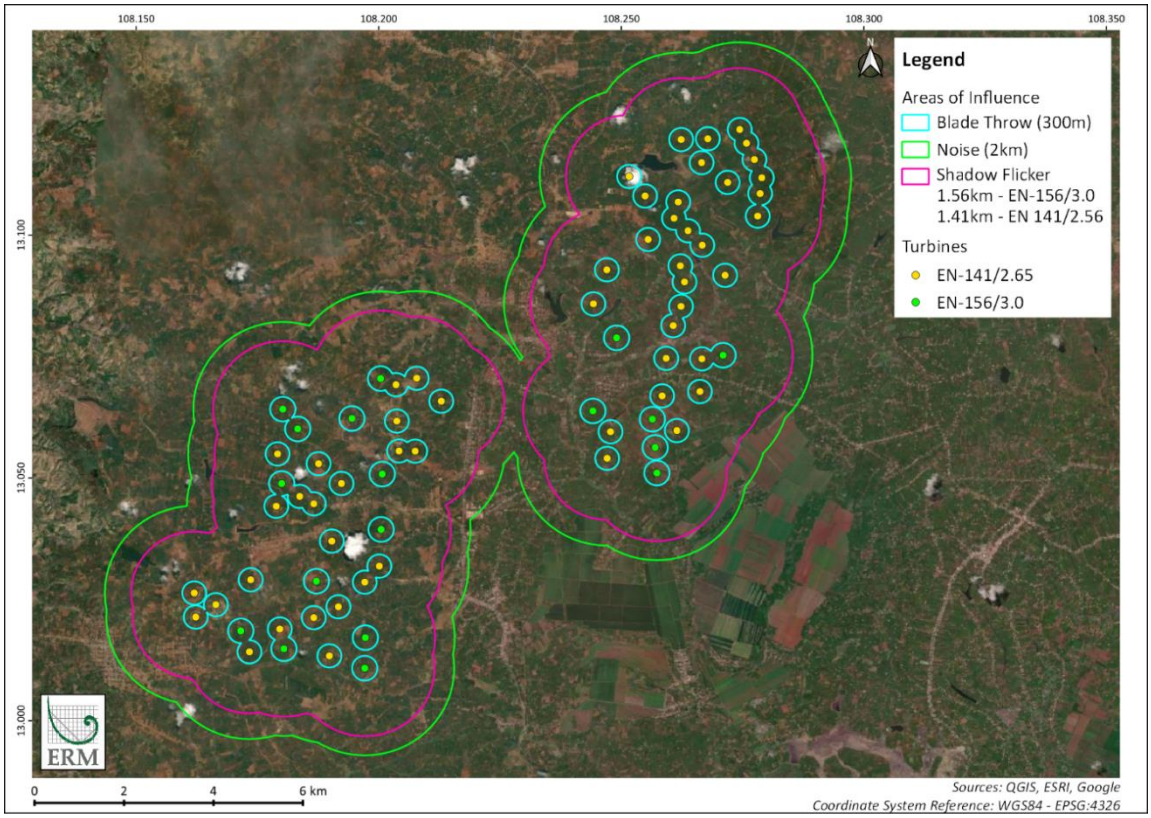
5.3.1 Project Area of Influence (AoI)

The Area of Influence (AoI) varies depending on the nature of Project and its receptors. Under AIIB ESF's definition, the AoI includes the area likely to be affected by the Project including all its ancillary aspects, such the Project components and unplanned developments induced by the Project.

Based on available information of the Project provided by the Client, and information obtained from the site visit, the scoping opinion meeting with local authorities and good international industry practice on potential E&S impacts of a wind power project, the Project's AoI is defined as below:

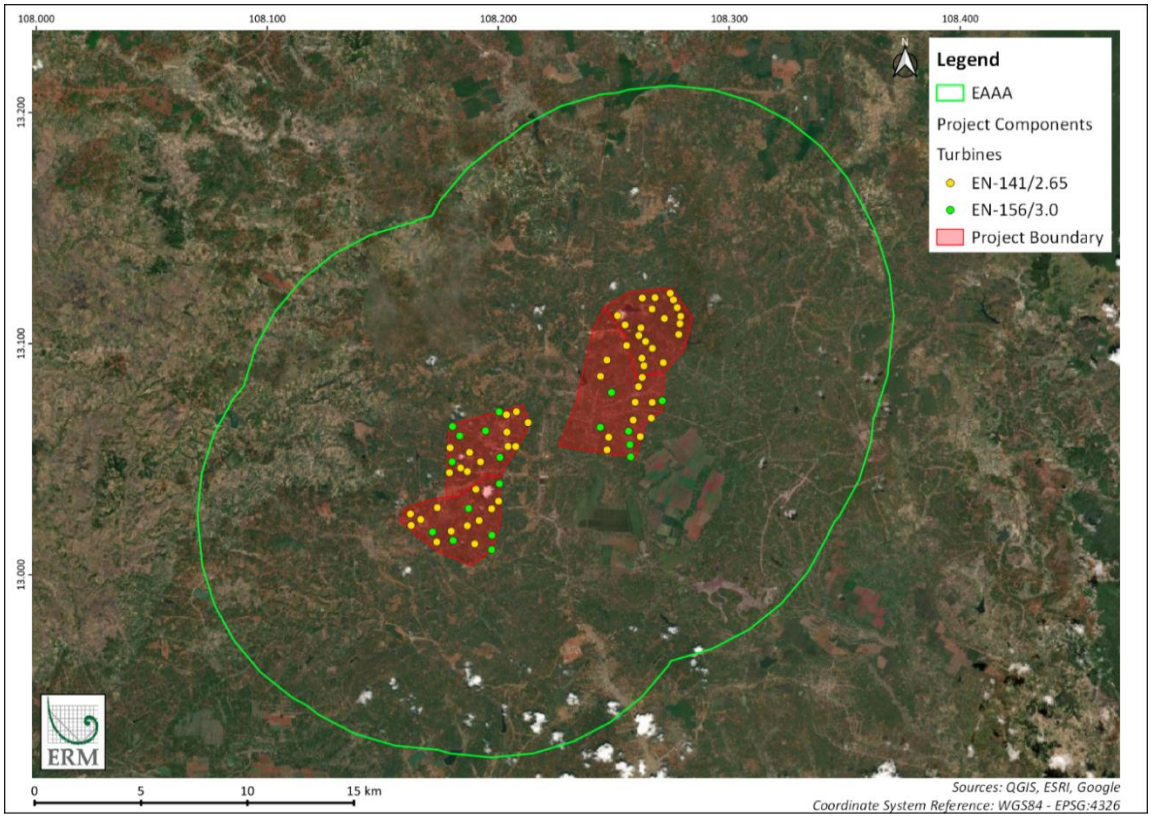
- Project AoI of noise impact should be determined within 2,000m of any turbines
- Project AoI of shadow flicker should be determined as 10 times of rotor diameters from each turbine location
- Project AoI of blade throw should be determined as 1.5 times of turbine height (tower and rotor radius)
- Project AoI of biodiversity is considered as Ecological Appropriate Area for Analysis (EAAA) to be assessed to define habitat values in the immediate project vicinity where species regularly dwell, and
- Project AoI of Social aspect includes the region surrounding the Project where various social interactions will take place, which includes Project area and the area of potential environmental physical and biological impacts.
- It is important to note that within the safety buffer areas agriculture actities are allowed, as there are no restrictions imposed by national laws nor international standards forbidding these, nevertheless a validation survey is recommended to fully understand the number and type and structure of households located within the safety buffer areas, as well as better understanding of the type of activities being performed within these areas.

Area of Influence of the Project is presented in Figure 5.2 and Figure 5.3.



Source: QGIS, ESRI, Google, June 2021

Figure 5.2 Project's AoI of Noise, Shadow Flicker, and Blade Throw



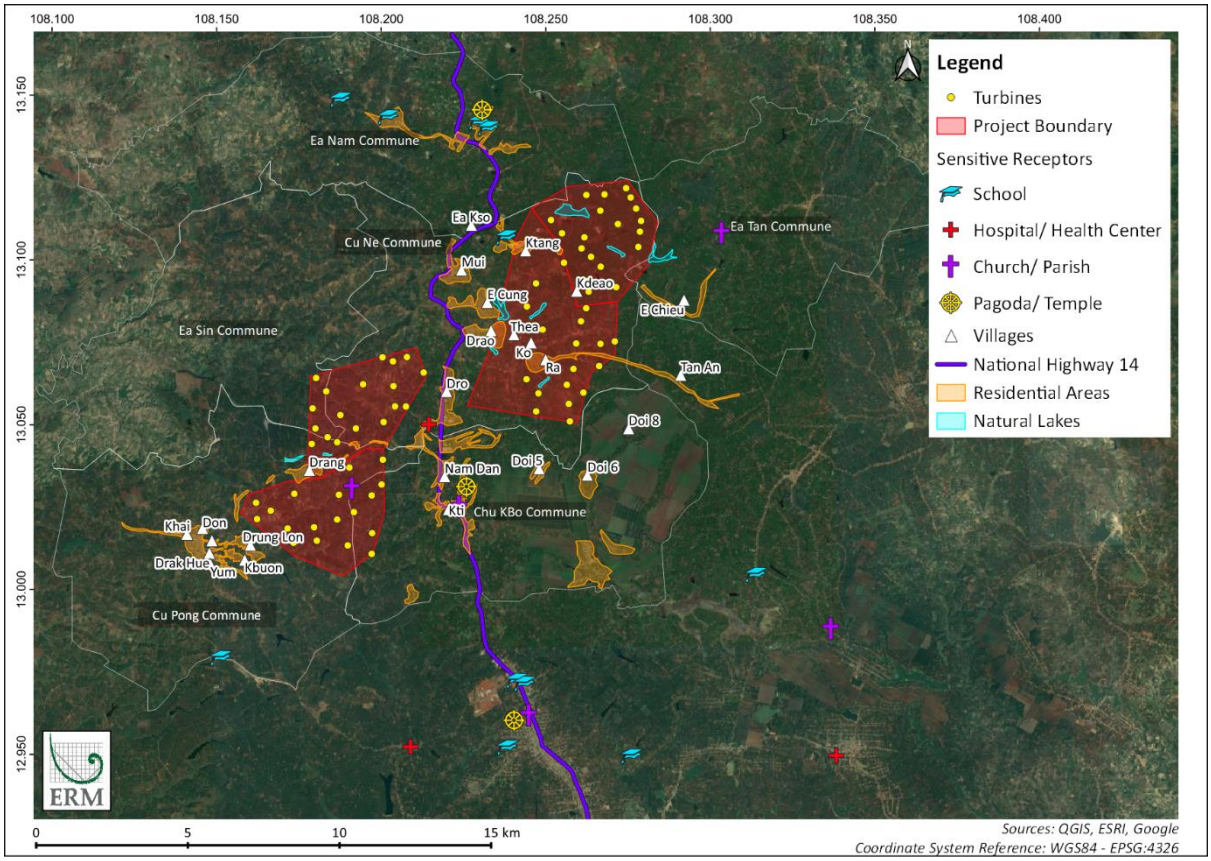
Source: QGIS, ESRI, Google, June 2021

Figure 5.3 Ecological Area of Influence

Nearby sensitive receptors have been identified at the initial site visit, including:

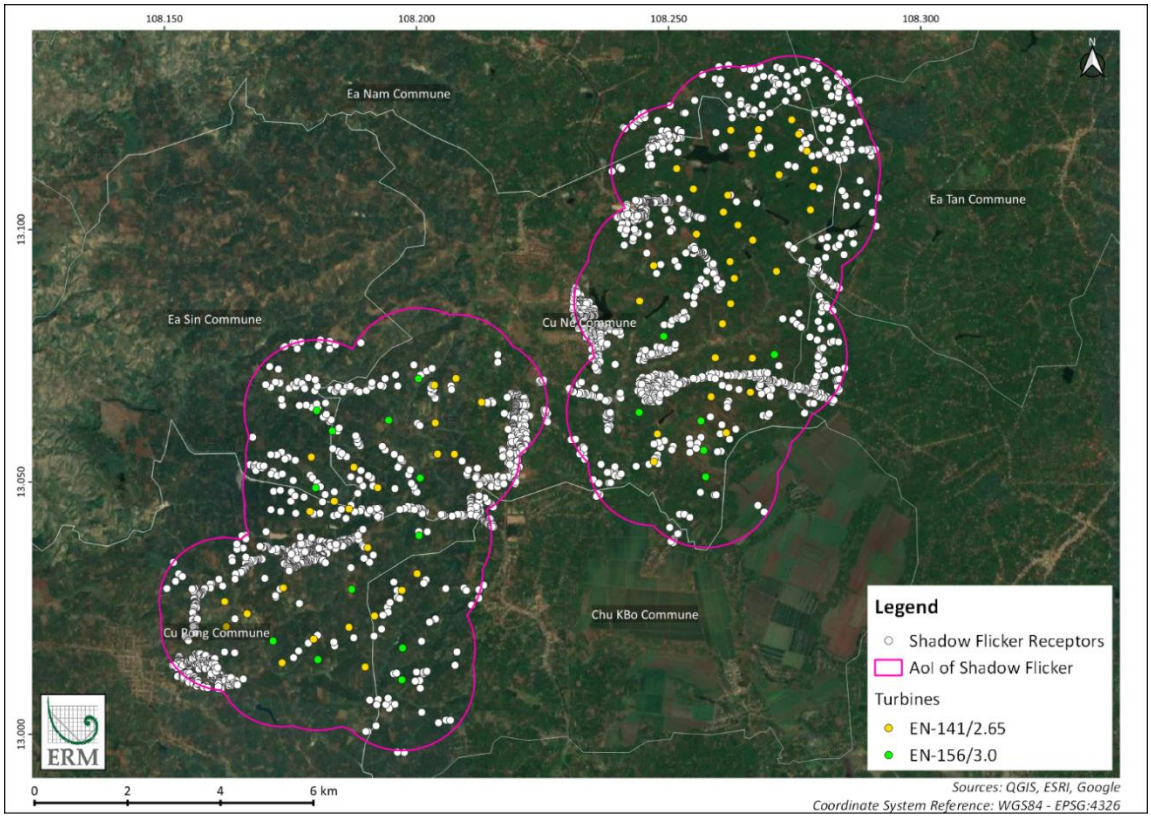
- Residential areas: The nearest residential structure is approximately 39 m from the WTG B2 which is located in Dro Village, Cu Ne Commune. Dro village is resided by Ede Ethnic Minority.
- Water bodies: There are approximately nine small lakes, and a dense system of streams within the Project area where local people using for agricultural irrigation.
- There are four nationally protected areas that are situated within the 50km radius of the Project Area, three of which are nature reserves (Ea Ral, Trap Kso and Ea So) and one is national park (Yok Don). Four key biodiversity areas (KBAs) are detected within a 50 km radius of the Project area, which area Ya Lop, Ea So, Yok Don and Lake Earal. The first three are also classified as Important Bird Areas (IBA).

Project's potential sensitive receptors are presented in Figure 5.4, Figure 5.5 and Figure 5.6.



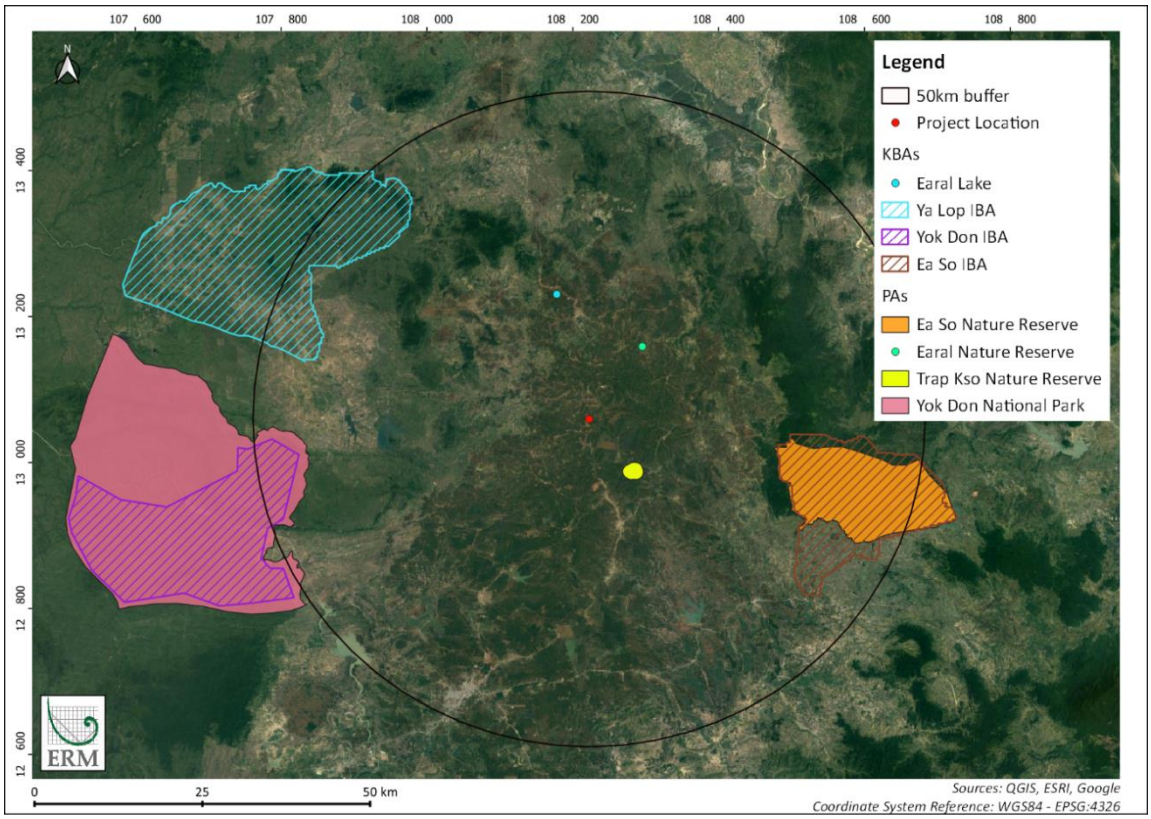
Source: QGIS, ESRI, Google, June 2021

Figure 5.4 Social Sensitive Receptors



Source: QGIS, ESRI, Google, September 2021

Figure 5.5 Shadow Flicker Sensitive Receptors



Source: QGIS, ESRI, Google, August 2021

Figure 5.6 Key Biodiversity Areas

5.3.2 Scope of the ESIA Assessment

Based on the level of Project information provided by the Project Owner and available information during the scoping exercise as well as desktop study, ERM has a reasonable level of confidence regarding the important environmental and social interactions that have been identified and presented within the next section. The environmental and social impact assessments will focuses on those issues that are most important for design, decision-making and stakeholder interests.

5.3.3 Potential Interactions and Impacts

5.4 Scoping Matrix

Potential impacts are identified and screened throughout the Scoping Study and integrated into a Potential Interactions Matrix (PIM). This PIM comprises two axes, namely project activity and resource/receptor. The Project activities during the pre-construction phase, construction phase and operation phase are listed down the vertical axis while the environmental, socio-economic and health receptors are listed across the horizontal axis of the matrix. Each cell in the PIM thus represents a potential interaction between a Project activity and a resource or receptor. The interactions may or may not result in significant impacts on the resource/receptor. Note that the potential interactions identified in the PIM may change as new information becomes available.

Potential interaction can be classified into one of the categories depicted in Table 5.5. Table 5.6 elaborates further the context to justify the necessity to further analyze the potential impacts of these interactions with justifications are given in Table 5.7 and Table 5.8 for the inclusion and exclusion of these interactions in the main impact assessment, respectively.

Table 5.5 Interaction Categories

Scope in/out	Description
Scoped Out	An interaction is not reasonably expected
Scoped Out or integrated with other major interactions	An interaction is reasonably possible but none of the resulting impacts are likely to lead to significant effects
Further Consideration in Impact Assessment	The interaction is reasonably possible and at least one of the resulting impacts is likely to lead to an effect that is significant
Interaction likely to lead to Potential Positive Impacts	An interaction with positive impact expected

All potential interactions, regardless of probability of occurrence, are considered at this stage. Those cells that are coloured white are ‘scoped out’ of further consideration in the IA. Interactions marked as grey are also ‘scoped out’ with supporting reasons provided to justify the decision. Those interactions that are shaded black are retained for further consideration in the IA process.

Note that at this stage, detailed construction methodology is not available and so the scoping of these potential impacts has been based on experience with similar projects and professional judgment. A conservative approach is undertaken at this preliminary stage. When this information is available, the potential impacts associated with the activities will be revisited in the ESIA.

Table 5.6 Scoping Matrix

PROJECT PHASES AND ACTIVITIES	Environment							Social-economic and Health Receptors							
	Ambient Air Quality	Noise and Vibration	Soil Quality	Surface Water Quality	Groundwater Quality	Terrestrial Fauna and Flora	Avifauna	Economy& Employment	Livelihood	Visual Amenity	Land Use	Infrastructure/ Public Services	Occupational Health and Safety	Community Health, Safety and Security	Indigenous People
Pre-Construction															
Land Acquisition															
Workforce Mobilisation and Presence															
Land Preparation (site clearance, excavation and levelling), fencing, and civil works															
Construction															
Equipment and material transport and supply															
Construction of turbine foundations, transmission line pylons , internal road, auxiliary works and turbine installation															
Wastes, emissions and discharges generation, handling and disposal															
Operation of associated facilities such as the concrete batching plant,															
Construction water usage															

PROJECT PHASES AND ACTIVITIES	Environment							Social-economic and Health Receptors							
	Ambient Air Quality	Noise and Vibration	Soil Quality	Surface Water Quality	Groundwater Quality	Terrestrial Fauna and Flora	Avifauna	Economy& Employment	Livelihood	Visual Amenity	Land Use	Infrastructure/ Public Services	Occupational Health and Safety	Community Health, Safety and Security	Indigenous People
Commissioning and Operation															
Workforce Presence															
WTG Operation															
WTG Inspection and Maintenance															
Waste, emissions and discharge generation, handling and disposal															
Unplanned Events															
Leakage and spill incident															
Fire and explosion															
Vehicle collision															
Blade throw															
Transmission line snapping															
Natural Hazards (Flood, Storm, etc.)															

Table 5.7 Preliminary Interaction Matrix

Interactions		Justification for Expectation of Potential Impacts	Applicable AIIB ESS and IFC PSs
Activities / Hazards	**Receptors**		
Pre-construction Phase			
Land acquisition	■ Land Use	■ The vicinity of Project site will experience land use change from perennial tree, seasonal agriculture, forestry, irrigation area, and community access roads. All of these land uses will be converted into Project components.	■ ESS2 / PS5
	■ Livelihood	■ Securing the required land will result in economic displacement due to the agricultural activities that will no longer take place, of local communities of which the IP Group will be the main impacted community. At the time this ESIA was completed, no physical displacement had occurred, nevertheless the land acquisition process has not yet been concluded. Further details would need to be obtained through a land acquisition audit.	■ ESS2 and ESS3 / PS5
Construction Phase			
Labour influx	■ Terrestrial Ecosystem ■ Biodiversity	■ Presence and activities of a large number of immigrant workers, who presumably have different living style and culture to the local people, can introduce unacquainted activity and disturb the local terrestrial ecosytem and biodiversity.	■ AIIB ESS1 / PS6
	■ Economy and Employment	■ Project benefit sharing including induced service demand, direct and indirect employment is envisioned for any investment.	PS5
	■ Community Health, Safety, and Security	■ Use of security force having a potential threat to local community, and potential emerging conflicts among social groups	PS4
	■ Infrastructure and Public Services	■ Presence of migrant workers will likely put more pressure on local health services (e.g. in the context of COVID-19 outbreaks)	PS4
	■ Indigenous Peoples	■ Presence of workers from overseas and other areas who might not appreciate the distinct culture and custom of local tribes might lead to potential misunderstanding and conflicts.	AIIB ESS3 / PS7

Interactions		Justification for Expectation of Potential Impacts	Applicable AIIB ESS and IFC PSs
Activities / Hazards	**Receptors**		
Land preparation and earthworks	■ Terrestrial Ecosystem ■ Greenhouse Gas Emission	■ Regarding the data provided by the Project owner, an area of 119.71 ha will be used for the Project development wherein 61.47 ha will be occupied throughout the project lifetime and 58.24 ha will be used temporarily during the construction phase only. A large proportion of the area is rural roads, plantation forest of mainly coffee, black pepper trees, and fruits (avocado and durian). Removal of the land covers and subsequent earthworks induce a high potential of affecting the terrestrial ecosystem existing at the area.Further details of the impacts on people's incomes are discuss in the social impact assessment section. ■ At the time of this report, many turbine foundations have been levelled and the construction activities have been ongoing which are inducing impacts on terrestrial ecosystem. ■ In addition, operation of machinery and equipment will contribute to the overall emission of greenhouse gases to the atmosphere.	■ AIIB ESS1
	■ Community Health, Safety and Security ■ Occupational Health and Safety	■ Both local community and Project workforce could be exposed to high level of dust, noise generated from construction works in general which requires further impact assessment in other sections. ■ Accidents, injuries, fatalities and safety risk may arise from inappropriate working or unsafe condition, fatigue, lack of health and safety training, insufficient personal protective equipment, and equipment failure.	PS2 / PS4
	■ Traffic and Transport Safety	■ Temporary access of Project vehicles as transporting equipment and materials to the Project's area will likely increase the risk of accidents for the local community who have not been exposed to dense traffic.	PS4
Operation of concrete batching plant	■ Community Health, Safety and Security	■ Local community and Project workforce could be exposed to high level of dust, noise generated from construction works in general.	■ AIIB ESS1 / PS2

Interactions		Justification for Expectation of Potential Impacts	Applicable AIIB ESS and IFC PSs
Activities / Hazards	**Receptors**		
	■ Occupational Health and Safety		
Pilling and foundation works	■ Greenhouse Gas Emission	■ Operation of machinery and equipment will contribute to the overall emission of greenhouse gases to the atmosphere.	■ AIIB ESS1 / PS3
	■ Community Health, Safety and Security ■ Occupational Health and Safety	■ Local community and Project workforce could be exposed to high level of dust, noise generated from construction works in general. ■ Accidents, injuries, fatalities and safety risk may arise from inappropriate working or unsafe condition, fatigue, lack of health and safety training, insufficient personal protective equipment, and equipment failure.	
Installation of WTGs	■ Community Health, Safety and Security ■ Occupational Health and Safety	■ Installation of WTGs involves the use of heavy machines and equipment which may introduce the risks of acute and chronic diseases and injuries from elevated noise, working at height, falling objects to the passing-by villagers and Project workers. ■ Accidents, injuries, fatalities and safety risk may arise from inappropriate working or unsafe condition, fatigue, lack of health and safety training, insufficient personal protective equipment, and equipment failure.	■ AIIB ESS1
Generation of construction noise	■ Terrestrial Ecosystem ■ Avifauna	■ The WTGs are scattered around a large area of plantation and natural forests. Presence of wildlife animals and avifauna in the area is expected to be of great frequency. Noise generated from construction activities, including transport of construction materials and equipment, therefore, has a high potential to disturb natural patterns and behaviours of the wildlife. Careful investigation is required to ensure correct assessment of the potential impacts, and in turn, proposition of effective mitigation measures.	■ AIIB ESS1
	■ Community Health, Safety and Security ■ Occupational Health and Safety	■ Local community and Project workforce could be exposed to high level noise of generated from construction works which could cause disturbance to daily routines.	

Interactions		Justification for Expectation of Potential Impacts	Applicable AIIB ESS and IFC PSs
Activities / Hazards	**Receptors**		
Transportation of materials/ equipment/workers/wastes	■ Greenhouse Gas Emission ■ Terrestrial Ecosystem	■ The construction phase involves intense transport of materials, equipment, workers and wastes to and from the project components (turbine areas, substation area, and along the 220 kV transmission line). ■ The internal roads that support these transportation within the turbine areas comprise mainly those rural roads passing through the aforementioned plantation and natural forests. The potential impacts of such transport activity is considered of great importance. More thorough assessment of the impacts will be conducted in the Biodiversity Impact Assessment (Vol 3 of this ESIA). ■ Operation of transport vehicles will contribute to the overall emission of greenhouse gases to the atmosphere.	■ AIIB ESS1
	■ Community Health, Safety and Security ■ Traffic and Transport Safety ■ Occupational Health and Safety	■ The movement of Project vehicles will increase the risk of traffic congestion and collision in the nearby localities	
	■ Infrastructure and Public Services	■ The surge in number of vehicles will likely have a negative impact on the strength and capacity of inter-communal roads	
Discharge of wastewater (construction and domestic)	■ Community Health, Safety and Security	■ The Project construction will generate solid waste, wastewater and hazardous waste with the potential impact to the local health and hygiene condition.	■ IFC General EHS Guidelines
Disposal of solid waste (including hazardous waste)	■ Community Health, Safety and Security	■ The Project construction will generate solid waste, wastewater and hazardous waste with the potential impact to the local health and hygiene condition.	■ IFC General EHS Guidelines

Interactions		Justification for Expectation of Potential Impacts	Applicable AIIB ESS and IFC PSs
Activities / Hazards	**Receptors**		
Operation Phase			
Labour influx	■ Terrestrial Ecosystem ■ Avifauna	■ Similar to the construction phase, presence and activities of a large number of immigrant workers can introduce unacquainted activity and disturb the local terrestrial ecosytem and avifauna. Further assessment of the impact significance will be conducted.	■ AIIB ESS1
Presence of the WTGs	■ Flying fauna	■ The spinning of WTGs at high speed can pose multiple threats to flying wildlife such as birds and bats. Among the potential impacts are disruption of migration routes, loss of foraging and nesting habitat, etc. The impact expects further investigation and proper mitigation measures, if required.	■ AIIB ESS1
	■ Visual Amenity	■ The presence of WTGs can sometimes be perceived as having negative visual impacts on the surrounding area, especially those areas with high tourism value.	■ WBG EHS Guidelines for Wind Energy
Noise and vibration from the WTGs	■ Terrestrial Ecosystem ■ Avifauna	■ Operation of the WTGs generates both noise and vibration from the turbine machinery and that generated by the movement of the blades through the air. The noise generated due to WTGs' operation is generally a relatively weak but characteristic swishing noise in rate with the rotation of the blades. ■ Operational noise is expected to cause disorder to living rhythm of the households, local terrestrial ecosystem and avifauna.	■ AIIB ESS1 ■ WBG EHS General Guidelines ■ WBG EHS Guidelines for Wind Energy
	■ Community Health, Safety, and Security	■ Operational noise can create nuisance and/or health risk to human receptors in the vicinity of the WTG. Quantitative assessment will be conducted to determine whether the noise is of safe or harmful level to human.	
Shadow flicker from the WTGs	■ Community Health and Safety	■ Shadow flicker happen during the operation phase due to the sun (low on the horizon) shining through rotating blades of a WTG and repeatedly cast a moving shadow to the ground. The shadow flicker can potentially create nuisance or sometimes health risk for	■ WBG EHS Guidelines for Wind Energy

Interactions		Justification for Expectation of Potential Impacts	Applicable AIIB ESS and IFC PSs
Activities / Hazards	**Receptors**		
		households in close proximity to the WTGs as shadow flickering effect lasts over 30 minutes/day and 30 days/year.	
Electro-magnetic Field (EMF) from the transmission line	■ Community Health and Safety	■ Transformers and high-voltage transmission lines, in operation, emit a type of low frequency, non-ionizing radiation referred to as Electromagnetic Fields (EMF). The EMF compriss of electric and magnetic fields which are produced respectively by electric charges and flow of electrical current through wires or electrical devices. ■ Exposure to high levels of EMF can pose certain health risks to human receptors, i.e. local people living/working nearby the transmission line and substation.	■ WBG EHS Guidelines for Wind Energy
Unplanned events			
■ **Fire** and explosion (including UXO and bushfires) ■ Spillage of fuel, oil, chemicals and hazardous materials ■ Transport accidents ■ Occupational accidents ■ Natural hazards ■ Blade throw ■ Traffic accident	■ Air Quality ■ Greenhouse Gas Emission ■ Terrestrial Ecosystem ■ Biodiversity (fauna and flora) ■ Surface Water Reserve and Quality ■ Soil and Groundwater Quality	■ A range of unplanned/non-routine events can happen throughout the project's timeline and affect a variety of environmental as well as social/health receptors. Given the particular condition of the fires (including bushfires), natural disaster (landslides, and flooding) are among the most important hazards that can cause detrimental effects to the project, local residents and the environment at large. ■ On the other hand, unexpected incidents associated with the project's activities, such as spillage of fuel, oil, chemicals, etc., transport and occupational accidents, also have great potential to negatively impact certain sensitive receptors.	■ AIIB ESS1
	■ Community Health and Safety ■ Traffic and Transport Safety ■ Occupational Health and Safety ■ Infrastructure and Public Services		

Table 5.8 Interactions Unlikely to Generate Significant Impacts

Interactions		Justification for Exclusion from ESIA
Activities / Hazards	**Receptors**	
Construction Phase		
Labour influx	■ Surface Water Reserve and Quality ■ Soil and Groundwater Quality	■ During the construction phase, 506 workers and personnel, both local and immigrant, will be present at the area. Beside some personnel accommodating in the complex building in the area of office site, other workers stay in rented houses nearby the construction areas and will be working onsite mainly. Their normal daily activities will unlikely generate major impacts on the surface water, groundwater resources and soil quality of the area. Further details are provided in the social impact assessment section.
Land preparation and earthworks	■ Air Quality ■ Biodiversity (fauna and flora) ■ Soil and Groundwater Quality	■ The removal of land cover happens intermittently at scattering remote areas, i.e. turbine and substation areas. Key concerns to the air quality include dust suspended from vegetation clearance. Nevertheless, as a majority of the earthworks have been done by the time of this report with no remarkable issue raised by local residents, detailed analysis into this interaction is considered not necessary. ■ Similarly for avifauna, soil and groundwater quality, the land preparation and earthworks are unexpected to cause significant impact.
Pilling and foundation works	■ Air Quality ■ Terrestrial Ecosystem ■ Surface Water Reserve and Quality ■ Soil and Groundwater Quality	■ Pilling and foundation works usually generate minor impacts on the air quality, terrestrial ecosystem, surface and groundwater resources due to the scattering layout and small scale construction.
Installation of WTGs	■ Terrestrial Ecosystem ■ Avifauna	■ The installation of WTGs will happen rather briefly and will unlikely pose major threats on the terrestrial ecosystem as well as flying wildlife.
Operation phase		
Solid waste disposal (including hazardous waste)	■ Surface Water Reserve & Quality ■ Soil & Groundwater Quality	■ During the operation phase, only a small amount of solid waste (including hazardous waste) will be generated, mainly at the administration and substation areas. These areas are essentially industrial, concrete areas in the construction phase. Interactions of waste to the soild and water sources are highly unlikely and thus are scoped out.

6. STAKEHOLDER ENGAGEMENT

This section is to summarise the engagement prior to and during ESIA development conducted by ERM and Project Owner. Detailed stakeholder engagement and its future plan is presented in the Stakeholder Engagement Plan (SEP).

6.1 Stakeholder Engagement Prior to the ESIA Process

Pre-ESIA engagement activities of the Project has mainly implemented with the provincial (Dak Lak) and district (Krong Buk) authorities for:

- Business and investment registration and arrangement;
- Land use planning;
- Foreiger worker registration and approval;
- EPP development and registration;
- Construction permit.

The Project also carried out informal contacts with commune authorities and local communities during land acquisition process for the Project.

6.2 Stakeholder Engagement during ESIA Process

6.2.1 Multiple Methods of Engagement

During the ESIA process, the Project representatives and consultants have conducted intensive egagements with local authorities and communities, particularly IPs and vulnerable groups, via multiple approaches and methods, including:

- Meetings and semi-structured interviews with local authorities;
- Key informant interviews (KIIs);
- Focus group discussions (FGDs); and
- Household interviews.

Table 6.1 ESIA Stakeholder Engagements by Geographical Location and Method

Level of Administration				Number of Engagements			
Province	District	Commune	Village	Interviews with local authorities	KIIs	FGDs	Household Interviews
Dak Lak				4			
	Krong Buk			3			
		Cu Ne		1			
			Kdro 1		1	1	15
			Kdro 2		1	2	11
			Drah 1		1	1	11
			Drah 2		1	1	7
			Kmu		1		
			Ea Kung		1	1	5
			Ea Siek		1		
			Ea Krom		1		
			Ea Nguoi		1		

Level of Administration				Number of Engagements			
		Cu Pong		1	2		
			Cu Hriet		1	3	22
			Ea Bro		1	2	24
		Ea Sin		1	2		
			Ea My		2	1	28
		Chu Kbo		1			
			Kty 4		1	1	11
			Kty 5		1	1	10
Total				11	19	14	144

Source: Socio-economic survey conducted by ERM, May and July 2021

6.2.2 Engagement with Local Authorities and Relevant Organisations

6.2.2.1 Engagement with Local Authorities and Relevant Organisations

Using semi-structured interviews, ERM collected updated information on the socio-economic conditions of the area as well as the key concerns and perceptions of local authorities about the Project. Suggestions were also presented to the Project for environmental and social performance management and impact mitigation. This consultation assisted the team in confirming development trends and any changes in socio-economic conditions, infrastructure, and public services.

The consultation process also aimed to inform stakeholders about Project progress, while assessing awareness at different levels and identifying some of the key issues, concerns, and expectations of the community. The minutes of meetings are provided in Appendix A.

Table 6.2 Consultation with Local Authorities

Interviewed Group	Organisations	Date of Consultation	Topics Covered in the Meetings
Provincial level	Department of Natural Resources and Environment (DONRE)	15 July 2021	■ Update about Project progress and current status of the ESIA; ■ Obtain data related to natural resources and environmental and biological conditions of the Project areas; and ■ Gain feedback or perceptions about the Project development.
	Department of Labour, Invalid, and Social Affairs (DOLISA)	15 July 2021	■ Update about Project progress and current status of the ESIA; ■ Obtain data related to labour and employment issues of the province and Project's expat labour working and local recruitment; and ■ Gain feedback or perceptions about the Project development.
	Department of Foreign Affairs (DOFA)	15 July 2021 (indirect response[26])	■ Update about Project progress and current status of the ESIA;

[26]According to the Letter No. 565/SNgV-LS dated 12 July 2021 issued by DOFA, DOFA refused the meeting with the Project Owner and ERM due to the COVID-19 situation. Nevertheless, DOFA sent to us the list of existing NGOs currently work in the Dak Lak province. None of perceptions has been recorded.

Interviewed Group	Organisations	Date of Consultation	Topics Covered in the Meetings
			■ Obtain data related to foreign supporting programs for ethnic minority and vulnerable groups in the province and Krong Buk; and ■ Gain feedback or perceptions about the Project development.
	Women's Union	15 July 2021	■ Update about Project progress and current status of the ESIA; ■ Obtain data related to women's development policies and programs for women in the province and Ede women in the Project area; and ■ Gain feedback or perceptions about the Project development.
District level	Krong Buk District People's Committee (DPC)	16 July 2021 (informal discussion with District Chief of staff[27])	■ Update about Project progress and current status of the ESIA; ■ Obtain up to date socio-economic data regarding demography, infrastructure and public services, health, livelihoods and employment, and cultural sites in the district; and ■ Gain feedback or perceptions about the Project development.
	Krong Buk District Land Fund Development Center (LFDC)	14 July 2021	■ Update about Project progress and current status of the ESIA; ■ Obtain data related to land use and management of the district and Project's land acquisition update; and ■ Gain feedback or perceptions about the Project development.
	Krong Buk District Committee for Ethnic Minority Affairs	16 July 2021	■ Update about Project progress and current status of the ESIA; ■ Obtain data related to ethnic minority development policies and programs; and ■ Gain feedback or perceptions about the Project development.
Commune level	Cu Pong Commune People's Committee (CPC)	19 May 2021	■ Update about Project progress and current status of the ESIA; ■ Obtain up to date socio-economic data regarding demography, infrastructure and public services, health, livelihoods and employment, and cultural sites in the commune; ■ Gain feedback or perceptions about the Project development; and ■ Obtain acceptance and support from the People's Committee to conduct the household survey in the area.
	Cu Ne CPC	13 July 2021	
	Ea Sin CPC	13 July 2021	
	Chu Kbo CPC	14 July 2021	

Source: Socio-economic survey conducted by ERM, May and July 2021

[27] Due to the COVID-19 situation in this area, there were no formal meeting organised in Krong Buk DPC. The Krong Buk DPC assigned Mr. Dam Dinh Oanh (District Chief of Staff) to coordinate with relevant divisions (e.g. Krong Buk District Committee for Ethnic Minority Affairs, Statistic division) to collect the secondary data/reports. None of perceptions has been recorded.

Consultation with Dak Lak Department of Natural Resource and Environment, 15 July 2021

Consultation with Dak Lak Women's Union, 15 July 2021

Consultation with Krong Buk Land Fund Development Center, 15 July 2021

Consultation with Krong Buk Committee for Ethnic Minority Affairs, 16 July 2021

Consultation with Ea Sin Commune People's Committee, 13 July 2021

Consultation with Cu Ne Commune People's Committee, 13 July 2021

Source: Socio-economic survey conducted by ERM, July 2021

Figure 6.1 Consultations with Local Authorities

6.2.2.2 Perceptions from Interviewed Authorities

The perceptions of local authorities regarding environmental, health, social, and economic issues related to the Project, collected from the aforementioned engagement activities, are summarised in Table 6.3.

Table 6.3 Perceptions from Authorities during ESIA Engagement

No	Comments of Stakeholders	Criteria				Response from the Project Representatives[28]
		Environmental	Health & Safety	Social	Technical	
Department of Natural Resources and Environment (DONRE)						
1.	The use of water needs to set up exploration procedures, apply for a mining license issued by the Department of Natural Resources and Environment during the time of use and after the use period, it is necessary to fill the mining area according to regulations	✓	✓		✓	Noted for future actions.
2.	Climate change is not currently being evaluated, and an impact assessment committee should be formed.	✓		✓		
3.	DONRE requests the Project Owner to share the final ESIA with them	✓	✓	✓	✓	
Department of Labour, Invalid, and Social Affairs (DOLISA)						
4.	DOLISA is responsible for the Work Permit of foreign workers. Contractors who hire foreign workers are required to submit reports on a regular basis (6 months or 1 year). When the labor permit expires, contractors must notify the department and return the work permit.			✓		Noted for impact assessment and proposed measures
5.	DOLISA recommends the Project Owner to ensure the lives of people affected by the project.	✓	✓	✓		
Provincial Women's Union						
6.	The Provincial Women's Union showed their high appreciation for the Project's consultation with the women's organisation.			✓		Noted for future development projects.
7.	The Women's Union suggests the Project Owner to create livelihoods, local social security programs impacted by the project, build playgrounds, sports, fitness for the community, and kindergarten construction.		✓	✓		

[28] Due to the availability of the Project Representatives, the meetings with Ea Sin, Chu Kbo, and Cu Ne CPC has been conducted with the present of the Project Representatives.

No	Comments of Stakeholders	Criteria				Response from the Project Representatives[28]
		Environmental	Health & Safety	Social	Technical	
Krong Buk District Land Fund Development Center (LFDC)						
8.	Ensure the compensation and reasonable support for local people, especially ethnic minorities			✓		Noted for impact assessment and proposed measures
9.	Support the ethnic minorities via development programs (e.g. vocational training, job recruitment)			✓		
Krong Buk District Committee for Ethnic Minority Affairs (CEMA)						
10.	CEMA showed their high appreciation for the Project's consultation with the organisation.	✓	✓	✓	✓	Noted for furture engagement plan, impact assessment and design of mitigation measures and development interventions
11.	CEMA have not clarity about the Project information. Many industrial projects pay little attention on ethnic minority affairs.	✓	✓	✓	✓	
12.	In terms of Ede cultural values, people often organize a ceremony before conducting any activities. The Project may consider this issue before commencing any activity in the locality.			✓		
13.	Local people are concerned about long-term impacts of the project on their agricultural production, the influx of migrant foreign people who come to work in the locality, and land acquisition process			✓		
14.	Environment pollution and infrastructure degradation during the Project construction need to be mitigated and controlled to ensure local living conditions of ethnic minority households	✓	✓			
15.	CEMA proposes the Project Owner to support the community development such as: social welfare fund for local people, supporting local agricultural production such as breeding (cows, pigs and goats), seeding (high-yield crops) or agricultural inputs and training, and job creation for the local			✓		
Cu Pong Commune People's Committee (CPC)						
16.	Currently, the CPC has not been updated with sufficient information on the Project's status and schedule	✓	✓	✓	✓	Noted for furture engagement plan, impact assessment and design of

No	Comments of Stakeholders	Criteria				Response from the Project Representatives[28]
		Environmental	Health & Safety	Social	Technical	
17.	During the construction phase, Cư Pong CPC has confirmed that there are some specific impacts induced from the Project implementation including dust and concentrated traffic density at local area caused by heavy-duty vehicles. The quality of the existing road systems are estimated not to meet the demand in case of the competition of the Project development. The CPC recommends to reinstate the local roads to the initial state after the completion of the Project construction	P	✓	✓	✓	mitigation measures and development interventions
18.	Regarding the land acquisition, the CPC has not been updated with any specific procedures from the Project Owner. Presently, the situation recorded is the private purchase between the Project Owner and local people who are in the list of land acquisition at the notary public's office			✓		
19.	The CPC expects that the Project's owner shall develop and apply sufficiently preventive and mitigation measures to protect people's life and properties during the construction phase, particularly in rainy and stormy season with strong wind	✓	✓	✓		
20.	Other relevant information on the length and location of transmission line traversing through the residential area has not been updated so that the potential impact from the Project's activities on local residents are not clearly identified at the meeting time	✓	✓	✓	✓	
Cu Ne Commune People's Committee (CPC)						
21.	The impact assessment of the project should consider all the related impacts.	✓	✓	✓		Acknowledged and agreed with the proposed risks and concerns; These initiatives will take into consideration when designing the social management plans to mitigate the Project's impact and support the existing community investment enhancement.
22.	Prioritising the local recruitment (e.g. project's affected households and wider community)			✓		

No	Comments of Stakeholders	Criteria				Response from the Project Representatives[28]
		Environmental	Health & Safety	Social	Technical	
Ea Sin Commune People's Committee (CPC)						
23.	The Ede people are the main ethnic group in the area, and they follow a matrilineal system. Working in the area can be difficult due to language barriers and the need to capture 2-way information during the work process.			✓		Acknowledged and agreed with the proposed concerns regarding the Ede people; These initiatives will take into consideration when designing the social management plans to mitigate the Project's impact and support the existing community investment enhancement.
24.	The CPC proposes that the project include a support program for the commune's new rural program, which includes concentrated residential areas, markets, reservoirs, and dams, as well as the construction of schools and roads		✓	✓		
Chu Kbo Commune People's Committee (CPC)						
25.	The CPC has not been updated with sufficient information on the Project's status and schedule	✓	✓	✓	✓	Acknowledged and agreed with the proposed risks and concerns; These initiatives will take into consideration when designing the social management plans to mitigate the Project's impact and support the existing community investment enhancement.
26.	Some villagers are concerned about the project's impact on life and agriculture production, including noise, dust, and risks	✓	✓	✓		
27.	The CPC proposes having programs for local community development and livelihood restoration			✓		

6.2.3 Engagement with Local Communities

6.2.3.1 Types of Engagement

6.2.3.1.1 Key Informant Interviews (KIIs)

Nineteen key informant interviews (KIIs) were conducted in the affected communities including Cu Ne, Cu Pong, Ea Sin, and Chu Kbo communes. Representatives of village management board (i.e. village head, deputy village head, and village security officer) and representatives of the commune-level Women's Unions and Farmer's Unions were identified as key informants for KIIs. A total of 20 participants (five representatives of the commune-level Women's Unions and Farmer's Unions, 14 village heads, and one village security officer) were engaged in the KIIs (see Appendix B). They include:

- By gender, 18 males and two females;
- By ethnicity, 15 Kinh people and five Ede people.

Table 6.4 Key Informants for KIIs by Geographical Location

Commune	Village	Representative of Women's Union	Representative of Farmer's Union	Representatives of the Village Management Board
Cu Ne				
	Kdro 1			1
	Kdro 2			1
	Drah 1			1
	Drah 2			1
	Kmu			1
	Ea Kung			1
	Ea Siek			1
	Ea Krom			1
	Ea Nguoi			1
Cu Pong		1	2	
	Cu Hriet			1
	Ea Bro			1
Ea Sin		1	1	
	Ea My			2
Chu Kbo				
	Kty 4			1
	Kty 5			1
Total		2	3	15

Source: Socio-economic survey conducted by ERM, July 2021

KII with Village Security Officer of Ea My village, Ea Sin commune, 14 July 2021

KII with Village Head of Kdro 2 village, Cu Ne commune, 15 July 2021

KII with Chairwoman of Ea Sin commune Women's Union, 14 July 2021

KII with Deputy Village Head of Kdro 1 village, Cu Ne commune, 14 July 2021

Source: Socio-economic survey conducted by ERM, July 2021

Figure 6.2 Conducting KIIs in the Surveyed Communes

The KII was semi-structured with major questions prepared in advance in the form of checklists. The questions for key informants concentrated on general information about the community, social networks, community context, employment, perceptions about the Project and suggestions for community development schemes. The list of KII respondents and further KII photos are provided in Appendix B.

6.2.3.1.2 Focus Group Discussions (FGDs)

A focus group discussion (FGD) approach enables ERM to observe interactions between group members and to listen to their views, opinions, experiences, and attitudes about their socio-economic conditions. This method is useful to get a consensus as people collectively address concerned topics which they may not have previously considered as individuals. By conducting the FGDs, ERM has obtained an understanding of the current socio-economic condition of the impacted villages, their livelihoods, customs and culture, their dependence on natural resources, their access to utility services, and their opinions or concerns about the Project.

Data from 14 FGDs was used in this report, including:

- Four agri-forestry groups;

- Three vulnerable groups;
- Two ethnic minority groups;
- Two women groups;
- Two wage and enterprise-based groups; and
- One general group.

Each FGD involved a heterogeneous group of 6-13 people with distinctive backgrounds in terms of age, gender, economic, cultural and social status in order to obtain an inclusive perspective and objective reporting. A total of 135 people were engaged in FGDs including 55 males and 80 females (see Table 6.5). By ethnicity, of the 135 FGD participants, 44 are of Kinh group and 91 are of Ede community.

Table 6.5 FGD Participants by Geographical Location and Group

Commune	Village	Group	Date of FGDs	Total Participants	Gender		Ethnicity	
					Male	Female	Kinh	Ede
Cu Pong	Cu Hriet	Ethnic minority group	13 July 2021	11	8	3	2	9
		Vulnerable group	13 July 2021	8	1	7		8
		Wage and enterprise-based group	13 July 2021	11	1	10		11
	Ea Bro	Women group	13 July 2021	11		11		11
		Agri-forestry group	13 July 2021	9	7	2	3	6
Cu Ne	Kdro 1	Ethnic minority group	14 July 2021	9	4	5		9
	Kdro 2	Vulnerable group	15 July 2021	9	5	4	2	7
		General group	15 July 2021	11	2	9		11
	Drah 1	Agri-forestry group	15 July 2021	13	8	5		13
	Drah 2	Women group	14 July 2021	7		7	1	6
	Ea Kung	Wage and enterprise-based group	14 July 2021	10		10	10	
Ea Sin	Ea My	Agri-forestry group	14 July 2021	6	4	2	6	
Chu Kbo	Kty 4	Vulnerable group	15 July 2021	8	5	3	8	
	Kty 5	Agri-forestry group	15 July 2021	12	10	2	12	
Total				135	55	80	44	91

Source: Socio-economic survey conducted by ERM, July 2021

The FGD began with an introduction about objectives and methods. The focus group was structured around the following main sections:

- ERM enquired about the participants' socio-economic condition, and their perception about the Project; and
- Participatory mapping was conducted in FGDs. Participants visualised their community cartographically based on their local knowledge and understanding. These community maps were illustrated and noted in details to provide a clear snapshot about public infrastructure and livelihood activities of the surveyed communities;

- Participants were requested to develop a community vision through developing their future community that they want in the next five years. The desired quality-of-life outcomes were identified that local people and different stakeholders can contribute towards achieving these outcomes over time; and
- Participants, with a focus on women's and vulnerable groups, were asked to list stakeholders who might support them during time of need. These might include friends, family, local authorities or non-governmental organisations (NGOs). Based on a list of stakeholders, participants were invited to rank them in terms of importance for their needs. Visual illustrations were presented to support illiterate people during the discussion.

Photos and note-taking were carried out during the focus group, which lasted from one to one and a half hours. The list of FGD respondents and further FGD photos are provided in Appendix B.

Several participatory tools and techniques were adopted during the group work, including:

- Community resource mapping;
- Gendered labour division raking;
- Seasonal calendar;
- Public infrastructure and service ranking;
- Well-being ranking;
- Support circle;
- Community needs ranking.

FGD with ethnic minority group in Cu Hriet village, Cu Pong commune, 13 July 2021

FGD with agri-forestry group in Ea My village, Ea Sin commune, 14 July 2021

FGD with vulnerable group in Ea Bro village, Cu Pong commune, 13 July 2021

FGD with women group in Drah 2 village, Cu Ne commune, 14 July 2021

FGD with general group in Kdro 2 village, Cu Ne commune, 15 July 2021

FGD with wage and enterprise-based group in Ea Kung village, Cu Ne commune, 14 July 2021

Source: FGDs conducted by ERM, March 2021

Figure 6.3 Conducting FGDs in the Surveyed Communes

6.2.3.1.3 Household Surveys

Household interview is one among multiple research methods that help the researcher to have fuller understanding of potential impacted community. It is not aimed to generalise to the commune's

population given the nature and scale of impacts of wind power project components. ERM proposed a non-probabilistic sampling strategy, particularly purposing sampling technique for the household survey. Households will be selected to be inclusive in terms of socio-economic conditions, vulnerability, ethnicity, and impact significance.

The survey was conducted in Cu Ne, Cu Pong, Ea Sin, and Chu Kbo communes where the Project components will be located and/or impact on local communities. At the community level, a sample of 144 households residing near to the Project site was purposively selected for household interviews (see Appendix B). The 144 surveyed households have a population of 704 people, including:

- By gender, 359 males and 345 females;
- By ethnicity, 328 Kinh people, 376 Ede people. (There are six people from other ethnicities, including three Gia Rai, two Muong, and one Thai. These people moved to Kinh or Ede households via interethnic marriage and therefore will be analysed under their Kinh or Ede families).

AT the time the social baseline was performed by ERM, there was no information linked to the affected households by lthe land acquisition process. The surveyed population includes households ranging in size from two to 13 people with the average being nearly five people per household. Table 6.6 details the surveyed population by geographical location, while a named list of interviewed households and further household survey photos are provided in Appendix B.

Table 6.6 Household Interviews by the Surveyed Village

Province	District	Commune	Village	No. of Surveyed Households	No. of Surveyed Population				
					By Gender		By Ethnicity		Total
					Male	Female	Kinh	Ede	
Dak Lak	Krong Buk	Cu Ne	Kdro 1	15	34	42	44	32	76
			Kdro 2	11	29	27	0	56	56
			Drah 1	11	29	31	0	60	60
			Drah 2	7	21	15	0	36	36
			Ea Kung	5	9	13	15	7	22
		Cu Pong	Cu Hriet	22	58	49	21	86	107
			Ea Bro	24	60	57	18	99	117
		Ea Sin	Ea My	28	67	59	126	0	126
		Chu Kbo	Kty 4	11	26	27	53	0	53
			Kty 5	10	26	25	51	0	51
Total				144	359	345	328	376	704

Source: Socio-economic survey conducted by ERM, July 2021

Household interview in Ea My village, Ea Sin commune, 14 July 2021

Household interviews in Ea My village, Ea Sin commune, 14 July 2021

Household interviews in Drah 2 village, Cu Ne commune, 14 July 2021

Household interview in Kdro 1 village, Cu Ne commune, 14 July 2021

Household interview in Kty 5 village, Chu Kbo commune, 15 July 2021

Household interview in Kty 5 village, Chu Kbo commune, 15 July 2021

Source: Socio-economic survey conducted by ERM, June 2021

Figure 6.4 Conducting Household Interviews in the Surveyed Communes

6.2.3.2 Perceptions from the Surveyed Local Communities

6.2.3.2.1 Local Knowledge of the Project

About 79.1% out of the 144 surveyed households confirmed that they had some knowledge about the Project (see Table 6.7). Specifically, 56.3% knew about the Project for less than six months, 16.7% have known it since six to twelve months ago, and 6.1% have learned about it for more than a year. Noticeably, 20.9% or 30 households including nine Kinh households and 21 Ede households only have heard about the Project for the first time. It should be noted that prior to the social baseline interviews, local knowledge about the Project had been quited limited as well as stakeholder engagement. No grievance mechanism had been developed and implemented yet. During the social baseline survey, Project information, impacts, and mitigation measures were disclosed with some members of the surrounding communities and discussed with surveyed households. Therefore, local perceptions could significantly be changed.

Table 6.7 Local Knowledge of the Project

Local Knowledge of the Project (%)	Cu Ne Commune (N=49)		Cu Pong Commune (N=46)		Ea Sin Commune (N=28)	Chu Kbo Commune (N=21)	All Surveyed Communes (N=144)		All Surveyed Communes (N=144)
	Kinh	Ede	Kinh	Ede	Kinh	Kinh	Kinh	Ede	
Heard for first time	0.0	12.2	2.2	32.6	25.0	4.8	6.3	14.6	20.9
Less than six months	12.2	46.9	13.0	39.1	57.1	57.1	27.8	28.5	56.3
6 months - 1 year	6.1	12.2	6.5	4.3	14.3	28.6	11.1	5.6	16.7
Over one year	6.2	4.2	0.0	2.3	3.6	9.5	4.1	2.0	6.1

Source: Socio-economic survey conducted by ERM, July 2021

Of these 114 surveyed respondents[29] with information about the Project, main information sources are from relatives, friends and neighbours with 68.4%. Notably, about 16.7% only know about the Project by seeing the construction site around their residence areas, while the same figure gets the information from local authorities (see Table 6.8). In addition, about 9.6% receive the information from Project staff, 2.6% from the internet, and 1.8% from national, local press or television.

Table 6.8 Project Information Channels

Source of information (%)	Cu Ne Commune (N=43)		Cu Pong Commune (N=30)		Ea Sin Commune (N=21)	Chu Kbo Commune (N=20)	All Surveyed Communes (N=114)		All Surveyed Communes (N=114)
	Kinh	Ede	Kinh	Ede	Kinh	Kinh	Kinh	Ede	
Final	14.0	58.1	20.0	46.7	52.4	80.0	34.2	34.2	68.4
Final	2.3	7.0	3.3	20.0	23.8	15.0	8.8	7.9	16.7
Final	4.7	23.3	3.3	3.3	9.5	15.0	7.0	9.6	16.7
Final	7.0	4.7	6.7	3.3	14.3	0.0	7.0	2.6	9.6
The internet	2.3	4.7	0.0	0.0	0.0	0.0	0.9	1.8	2.6

29 This data analysis excluded 30 households who have never heard about the Project before.

Source of information (%)	Cu Ne Commune (N=43)		Cu Pong Commune (N=30)		Ea Sin Commune (N=21)	Chu Kbo Commune (N=20)	All Surveyed Communes (N=114)		All Surveyed Communes (N=114)
	Kinh	Ede	Kinh	Ede	Kinh	Kinh	Kinh	Ede	
National/local press/ TV	0.0	2.3	0.0	3.3	0.0	0.0	0.0	1.8	1.8

Source: Socio-economic survey conducted by ERM, July 2021

6.2.3.2.2 Existing Community Consultations and Local Concerns about the Project

Out of the 144 surveyed respondents, there were only six respondents (including four Kinh households and two Ede households) participating in community consultation about the Project, accounting for 4.2%. Of these six households, three of them hold positions in village management board and the other two people are engaged in Women's Union (see Table 6.9). On the other hand, the rest of the respondents did not attend any public consultation. Of which about 93.1% or 134 households did not know about the consultation but they would like to attend while other 1.4% (including one Kinh and one Ede households) did not want to attend the consultation by any means. In addition, 1.4% (two Kinh respondents) heard about the consultation but could not attend.

Table 6.9 Participation in Public Consultations

Participation in Public Consultation (%)	Cu Ne Commune (N=49)		Cu Pong Commune (N=46)		Ea Sin Commune (N=28)	Chu Kbo Commune (N=21)	All Surveyed Communes (N=144)		All Surveyed Communes (N=144)
	Kinh	Ede	Kinh	Ede	Kinh	Kinh	Kinh	Ede	
Participated in the consultation	2.0	4.1	2.2	0.0	7.1	0.0	2.8	1.4	4.2
Did not know about the consultation but want to participate in	22.4	69.4	17.4	78.3	89.3	95.2	44.4	48.6	93.1
Did not know about the consultation and did not want to attend	0.0	2.0	0.0	0.0	0.0	4.8	0.7	0.7	1.4
Heard about the consultation but could not attend	0.0	0.0	2.2	0.0	3.6	0.0	1.4	0.0	1.4

Source: Socio-economic survey conducted by ERM, July 2021

Of six people participating in the consultation, half of them want to have more information on the Project, of which one Kinh household got enough details (16.7%) while the other two households (including one Kinh and one Ede) did not (33.3%). The remaining respondents do not want more the information, of which one Ede household got the full information (16.7%) and two Kinh households did not (33.3%) (see Table 6.10).

Table 6.10 Perception on the Adequacy of the Project Information

Adequacy of the Project Information	Cu Ne Commune (N=3)		Cu Pong Commune (N=1)		Ea Sin Commune (N=2)		All Surveyed Communes (N=6)	
	N	%	N	%	N	%	N	%
Not sufficient, want to know more	1	33.3	1	100.0	0	0.0	2	33.3
Not sufficient, not want to know more	1	33.3	0	0.0	1	50.0	2	33.3
Sufficient, not want extra information	1	33.3	0	0.0	0	0.0	1	16.7
Sufficient, want to know more	0	0.0	0	0.0	1	50.0	1	16.7

Source: Socio-economic survey conducted by ERM, July 2021

Of these three respondents who want to get more information on the project, they all concern about compensation schemes, the implementation timeline of the Project, employment opportunities for the local people, and the Project impacts on community environment. In addition, two of them concern about Project impacts on community health, issues that might happen to the village and commune when the Project starts, and negative impact mitigation strategies (see Table 6.11).

Table 6.11 Further Specific Information about the Project

Further Specific Information about the Project	Surveyed Households (N=3)	
	N	%
Compensation	3	100.0
Project implementation timeline	3	100.0
Employment opportunities for the locals	3	100.0
Project impacts on community environment	3	100.0
Project impacts on community health	2	66.7
What happens to the village or commune when the Project starts	2	66.7
Negative impact mitigation strategies	2	66.7

Source: Socio-economic survey conducted by ERM, July 2021

Of three respondents want extra information, they would want to have the Project information being announced through public community consultation (100%), local authorities (33.3%), and face-to-face meetings (33.3%).

6.2.3.3 Social Management Initiatives Including the Supports on Indigenous Peoples and Community Development

The findings from the engagement with local authorities and communities with local representatives and participants in the surveyed communes revealed community strengths, changes, and also many challenges in terms of public infrastructure and local environment. Indigenous Peoples and Community development needs are strategised as Table 6.12 below.

Identification of the perceived needs of surveyed people always present a major challenge. The ample consultations with surveyed communities carried out during the present study have pointed to the following prominent needs.

Table 6.12 Indigenous Peoples and Community Development Needs

No.	Indigenous Peoples Initiatives	Community Development Initiatives
1.	Public infrastructure (e.g. intervillage road)	Public infrastructure (e.g. intervillage road)
2.	Education infrastructure development and scholarship (e.g. school equipment and facilities)	Education development (e.g. school equipment and facilities)
3.	Health station improvement (e.g. medicine and equipment)	Environment protection
4.	Water supply	Local security
5.	Seedling and animal breeds	Livelihood development
6.	Solid waste collection improvement	
7.	Strengthening migrant worker management	

These needs may vary across the surveyed localities that should be considered and integrated in the short, medium, and long term development interventions by the government, non-government organisations, and the Project.

6.3 Incorporating Stakeholder's Feedback into ESIA Development

The major concerns and suggestions of the local authorities and local people focused on:

- Social issues: livelihood restoration, compensation payment, indigenous peoples and community development, future agricultural activities of local people depending on the land;
- Environment, Health and Safety (EHS) issues: environmental mitigation and management measures for noise, dust and waste; and
- Project management: grievance mechanism, issues related to the Project's information.

Based on the interviews and observations during the site visit, these concerns were recognised as key issues required to be taken into account in the ESIA. In particular, social issues will be included within the Social Impact Assessment of the ESIA. EHS issues, particularly those pertaining to noise, will be assessed quantitatively within the ESIA and appropriate mitigation measures developed. The outcomes of these assessments, alongside project management issues will be incorporated throughout the Environmental and Social Management Plan, the Stakeholder Engagement Plan, Indigenous Peoples Plan and Community and Worker Grievance Mechanisms. Suggestions from the stakeholders on mitigation measures for environmental impacts will be incorporated into the Environmental and Social Management Plan, where appropriate.

APPENDIX A MINUTES OF MEETING DURING ESIA PROCESS

MINUTE OF MEETING WITH DAK LAK DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT (DONRE)

Project	0599549D – Dele Wind Farm Project
Subject	**ESIA Engagement with Dak Lak Department of Natural Resources and Environment**
Date	15 July 2021
Location	Office of Dak Lak Department of Natural Resources and Environment
Attendees	Dak Lak DONRE: Mr. Le Minh Duc - Deputy Director, and related Divisions (Land Management, Environment, Ground Water, Environment ERM (Nguyen Quy Hanh & Y Ksor Hue)

Procedure

- Update on the Project progress and ESIA development;
- Confirmation on the environmental impact assessment requirements of the Project;
- Information sharing and discussion on environmental issues raised in the Official Letter that the Project sent to the DONRE;
- Question and answer session.

Main Content

- The Approvals of Intention of Investment were issued
- The Projects comply with environmental impact assessment requirements
- For land acquisition, the Project Owners are negotiating directly with the people to expedite the process and will follow required steps in accordance with the land acquisition procedure. Apart from 44 land plots of which land use rights were transferred for turbine construction, land for other turbine locations are under cadastral mapping and measurements.
- According to the Land Management Department, Krong Buk is currently underdeveloped, with two industrial clusters: Krong Buk 1 (currently operational) and Krong Buk 2 (under planning for 2021-2030 period). The district currently lacks urban centers or towns and is in the process of constructing one. Other projects: Ea Sin 1, Krong Buk 3, Cu Kbo, and Thuan Phong are among the 5-6 wind power projects currently being surveyed and proposed. In addition, there are projects on irrigation, renovation and upgrading, and small businesses.
- The Provincial People's Committee must approve the location (currently there is no agreement on the location, creating problems in the locality)
- The water resource planning is located in the Basalt aquifer, which has abundant water reserves and good water quality, according to a representative from the Water Department. The use of water needs to set up exploration procedures, apply for a mining license issued by the Department of Natural Resources and Environment during the time of use and after the use period, it is necessary to fill the mining area according to regulations.
- Climate change is not currently being evaluated, and an impact assessment committee should be formed.
- Waste management: There are currently a number of collection companies in the province, including Dak Lak Environment Joint Stock Company (Hoa Phu commune), Dong Phuong company, and Viet environment company, which collects hazardous waste. Except for hazardous waste, which is sent for treatment, landfilling is the primary treatment method.
- DONRE appreciates if the Project shares the final ESIA with the Department.

MINUTE OF MEETING WITH DAK LAK DEPARTMENT OF LABOUR, INVALID, AND SOCIAL AFFAIRS (DOLISA)

Project	0599549D – Dele Wind Farm Project
Subject	**ESIA Engagement with Dak Lak Department of Labour, Invalids, and Social Affairs**
Date	15 July 2021
Location	Office of Dak Lak DOLISA
Attendees	DOLISA: Mr.Nguyen Chien Thang - Deputy Head of Department of Labor, Employment and Vocational Education. ERM (Nguyen Quy Hanh & Y Ksor Hue)

Procedure

- Update on the Project progress and ESIA development;
- Information sharing and discussion on environmental issues raised in the Official Letter that the Project sent to the organisation;
  - Department's 2020 comprehensive report and 2021 semi-annual report provided
- Question and answer session.
  - Consultation on foreign workers
  - Regulations on using local labor
  - Job Creation Policies: Restoring livelihoods.
  - Labor system operating in areas such as Binh Duong and Ho Chi Minh City, etc.

Main Content

Regarding the use of foreign workers: according to the law, priority is given to using local labor, and when Vietnamese workers do not meet the requirements, they must explain the reasons for recruiting foreign workers.

The decision on foreign worker recruitment must be followed:

The Provincial People's Committee authorizes the Department of Labor - Invalids and Social Affairs to approve foreign worker recruitment and issue a work permit if the following criteria are met:

+ Labor management and business administration.

+ Expert (qualified)

+ Technical (qualified)

Unskilled workers are not allowed to be recruited from other countries.

Labor recruitment process: the department collaborates with relevant parties to post a notice of domestic worker recruitment within one month for the contractor to interview in the case of fewer than 100 employees. If Vietnamese workers do not meet the requirements, a document will be sent to the Provincial People's Committee to recruit foreign workers.

Work permit: the province approved 393 positions for foreign workers for the Project. In August 2021, 74 positions for foreign workers are recruited and under recruitment.

Contractors who hire foreign workers are required to submit reports on a regular basis (6 months or 1 year).

When the labor permit expires, contractors must notify the department and return the work permit.

- Gender equality programs have their own goals and criteria.

- The use of labor does not distinguish between men and women.

- Child labor: Some occupations are allowed to use children of a certain age according to regulations, in addition, the use of child labor is prohibited.

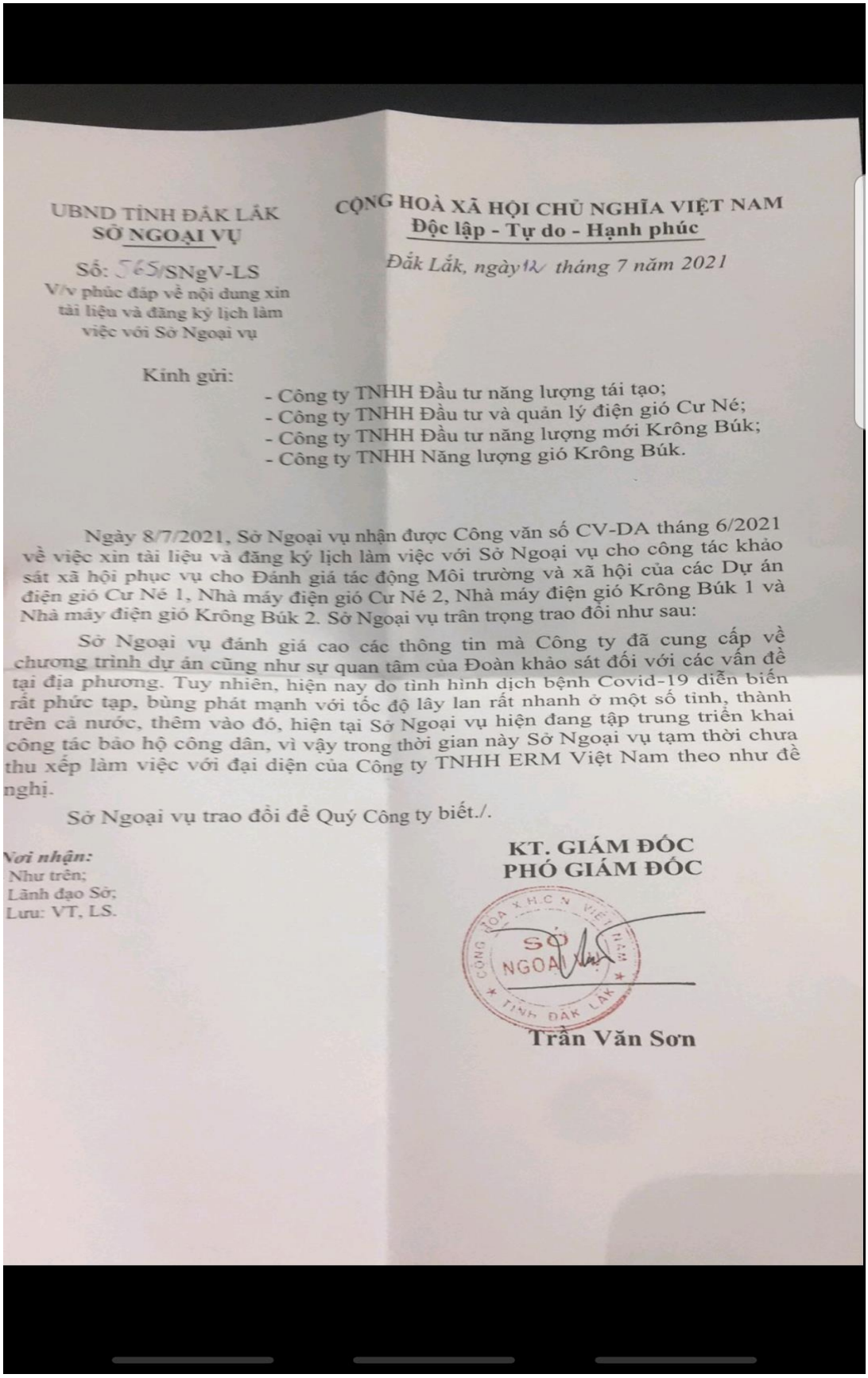
- Policy on job training and livelihood restoration.

The government has policies in place for households whose land has been reclaimed in accordance with regulations, such as vocational training and job creation.

Each district has a vocational education and training center at the elementary level.

Representatives from the Department of Invalids, Labor, and Social Affairs will provide the survey team with information, reports, and supporting documents, as well as make recommendations to ensure the lives of people affected by the project.

REFUSING LETTER FROM DAK LAK DEPARTMENT OF FOREIGN AFFAIRS (DOFA)



UBND TỈNH ĐẮK LẮK
SỞ NGOẠI VỤ

Số: 565/SNgV-LS
V/v phúc đáp về nội dung xin tài liệu và đăng ký lịch làm việc với Sở Ngoại vụ

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc

Đắk Lắk, ngày 12 tháng 7 năm 2021

Kính gửi:
- Công ty TNHH Đầu tư năng lượng tái tạo;
- Công ty TNHH Đầu tư và quản lý điện gió Cư Né;
- Công ty TNHH Đầu tư năng lượng mới Krông Búk;
- Công ty TNHH Năng lượng gió Krông Búk.

Ngày 8/7/2021, Sở Ngoại vụ nhận được Công văn số CV-DA tháng 6/2021 về việc xin tài liệu và đăng ký lịch làm việc với Sở Ngoại vụ cho công tác khảo sát xã hội phục vụ cho Đánh giá tác động Môi trường và xã hội của các Dự án điện gió Cư Né 1, Nhà máy điện gió Cư Né 2, Nhà máy điện gió Krông Búk 1 và Nhà máy điện gió Krông Búk 2. Sở Ngoại vụ trân trọng trao đổi như sau:

Sở Ngoại vụ đánh giá cao các thông tin mà Công ty đã cung cấp về chương trình dự án cũng như sự quan tâm của Đoàn khảo sát đối với các vấn đề tại địa phương. Tuy nhiên, hiện nay do tình hình dịch bệnh Covid-19 diễn biến rất phức tạp, bùng phát mạnh với tốc độ lây lan rất nhanh ở một số tỉnh, thành trên cả nước, thêm vào đó, hiện tại Sở Ngoại vụ hiện đang tập trung triển khai công tác bảo hộ công dân, vì vậy trong thời gian này Sở Ngoại vụ tạm thời chưa thu xếp làm việc với đại diện của Công ty TNHH ERM Việt Nam theo như đề nghị.

Sở Ngoại vụ trao đổi để Quý Công ty biết./.

Nơi nhận:
Như trên;
Lãnh đạo Sở;
Lưu: VT, LS.

KT. GIÁM ĐỐC
PHÓ GIÁM ĐỐC

CỘNG HOÀ X.H.C.N VIỆT NAM
SỞ NGOẠI VỤ
TỈNH ĐẮK LẮK

Trần Văn Sơn

MINUTE OF MEETING WITH DAK LAK WOMEN'S UNION

Project	0599549D – Dele Wind Farm Project
Subject	**ESIA Engagement with Dak Lak Women's Union**
Date	15 July 2021
Location	Office of Dak Lak Women's Union
Attendees	Ms. Nguyen Thi Thanh Huong – Permanent Vice Chairwoman of the Dak Lak Women's Union ERM (Nguyen Quy Hanh & Y Ksor Hue)

Procedure

- Update on the Project progress and ESIA development;
- Information sharing and discussion on environmental issues raised in the Official Letter that the Project sent to the organisation;
  - The 2020 comprehensive reports and the early 2021 reports and information based on the functions and duties of the union were provided.
- Question and answer session.
  - The overall assessment of the progresses of women, especially ethnic minority women
  - Programs, policies of the union and national programs related to women.
  - Models of livelihood development for women.

Main Content

Dak Lak Women's Union showed their high appreciation for the Project's consultation with the organisation.

Women's advancements: The majority of the ethnic minority women in the area are the Ede people, who follow the matriarchy, but they have improved in their lifestyles and employment. They have had access to a wealth of information and have taken part in highly specialized training programs to better serve their lives and work structures in government agencies.

Women today have economic independence, proactivity in socioeconomic development, confidence in social integration, and active access to family and childcare knowledge.

Union program and policy: The Party and the State always pay attention to women; create conditions for women to gain access to cultural and social knowledge; there are many programs to develop for women, such as the campaign "Ethnic minority women change their way of thinking and doing" to assist women in becoming self-sufficient in economic and business development; the program "building a happy family, building an equal and progressive family," "supporting women for economic development," "5 no-s and 3 clean-s," and many other policy programs geared toward women.

There are also challenges: some women in remote areas lack access to new information and knowledge, so they are not brave, and they are still passive when it comes to their family life and farming for economic development.

In addition, the Party and the State have separate policies for women, such as cadre work, routine health care, protecting women's rights, women's democratic rights, and policies for disadvantaged women; dialogue with leaders to address women's issues; and policies for disadvantaged women; Always supervise the law on gender equality, children, marriage, and family to meet the requirements of women, etc.

-Models of livelihood development: Support poor households' livelihood models (99 poor ethnic minority's livelihood models), support technical knowledge about planting and animals breeding; model of "green, clean and beautiful village", "the ethnic minority women's households is twinned with good business and production women's households", "non-violent family". Building a "community advisory group" with the goal of assisting in the propagation of laws and legal aids, among other models, has spread widely in the community.

Union representatives highlighted their opinions on the project to create livelihoods, local social security programs impacted by the project, build playgrounds, sports, fitness for the community, and kindergarten construction.

MINUTE OF MEETING WITH KRONG BUK DISTRICT COMMITTEE FOR ETHNIC MINORITY AFFAIRS

Project	0599549D – Dele Wind Farm Project
Subject	**ESIA Engagement with Krong Buk District Committee for Ethnic Minority Affairs**
Date	15 July 2021
Location	Office of Committee for Ethnic Minority Affairs
Attendees	Committee for Ethnic Minority Affairs: Mr. Y Tuyen Nie – Deputy Head of Division Ms. H Ban – Head of Division Mr. Le Anh Dung - Officer ERM (Nguyen Quy Hanh)

Procedure

- Update on the Project progress and ESIA development;
- Information sharing and discussion on environmental issues raised in the Official Letter that the Project sent to the organisation;
  - The 2020 comprehensive reports and the early 2021 reports and information based on the functions and duties of the union were provided.
- Question and answer session.

Main Content

We are in charge of ethnic minority affairs but we have not known clearly about the Project information. Many industrial projects pay little attention on ethnic minority affairs. Krong Buk District Committee for Ethnic Minority Affairs showed their high appreciation for the Project's consultation with the organisation.

In Krong Buk, there are 106 villages of seven communes. Of which 42 village have ethnic minority people. There are 14 ethnic minority groups in the district. In the district, Kinh people account for 70% of the district population. The remaining are Ede ethnic minority groups and other ethnic minority groups from the North migrating to this area. From 1986, many Kinh and other ethnic minority's households migrated to this area and settled their lives.

Most of ethnic minority households reply on agricultural production which are prone to fluctuating agricultural product prices, pests and diseases.

In terms of Ede cultural values, people often organize a ceremony before conducting any activities. The Project may consider this issue before commencing any activity in the locality.

In Ede households, gender equality can be easily observed even Ede people follow matriarchy system. Husband and wife respect and discuss each other in the decision making process. For them, having a daughter or a son is the same.

Ede woman is always respected. This can be reflected in their daily living. There is no difference in eating habits, both men and women share a meal together. In the family, the oldest woman will be most respected.

The district Committee for Ethnic Minority Affairs is implementing the project on gender equality in the ethnic minority areas.

In terms of community development, there are some proposed programs:

Developing a social welfare fund for local people

Supporting local agricultural production such as breeding (cows, pigs and goats), seeding (high-yield crops) or agricultural inputs and training

Job creation for the local people.

Local people are concerned about long-term impacts of the project to agricultural production, the influx of migrant foreign people who come to work in the locality, and land acquisition. Land acquisition is the most worry to the locals as local people are attached to agricultural production. They find difficulty to purchase another land plots with the land compensation as they tend to spend the compensation amount for daily expense. Difficult living conditions may be a consequence of land acquisition.

In addition, environment pollution and infrastructure degradation during the Project construction need to be tackled to ensure local living conditions of ethnic minority households.

MINUTE OF MEETING WITH KRONG BUK DISTRICT LAND FUND DEVELOPMENT CENTER (LFDC)

Project	0599549D – Dele Wind Farm Project
Subject	**ESIA Engagement with Krong Buk Land Fund Development Center**
Date	14 July 2021
Location	Office of LFDC
Attendees	LFDC: Mr. Dang Ngoc Them, Director of Krong Buk LFDC ERM (Nguyen Quy Hanh & Y Ksor Hue)

Procedure

- Update on the Project progress and ESIA development;
- Information sharing and discussion on environmental issues raised in the Official Letter that the Project sent to the organisation;
- Question and answer session.
  - Land acquisition process
  - Issues related to the implementation process

Main Content

The provincial investment approvals were granted for the projects to create favorable conditions for businesses to invest in the area.

The Project investor purchased land from the locals for 44 turbines but has yet to complete the procedures for changing the land use purpose.

The projects are engaging inn direct negotiations with local residents for land for the remaining turbines and facilities.

The Land Fund Development Center is in contract with the Projects to make the land acquisition process for the projects complied with current State regulations. For the 44 turbine land, LFDC has

- issued a land acquisition notification;
- orgnised meetings with affected households;
- Verified land use origins.

The LFDC is working with commune authorities on inventory of loss and haing it signed. It will take the Disitrict People's Committee around 20 days to approve the Compensation, Support and Resettlement (CSR) plan.

For the internal road, the Project is negotiating with households for compensation. If the negotiated price is lower than that regulated by the State, the Project has to pay the household this different amount.

Land for 13 turbine is under the management of An Thuan coffee farm. This land acquisition is proving difficult (the land is in dispute between farmers and the farm).

For personal reasons, some local residents oppose the land acquisition. Some local residents have not yet responded to the land purchase agreement between the investor and them.

After recovering and restoring livelihoods, ethnic minorities should have a job training program.

MINUTE OF MEETING WITH CU PONG COMMUNE PEOPLE'S COMMITTEE (CPC)

Project	0599549 Dele Wind Power Project
Subject	Consultation for ESIA – Meeting with Cư Pơng Commune People' Committee (CPC)
Date	20 May 2021 – 3:30 PM to 4:30 PM
Location	Cư Pơng Commune, Krông Buk District, Đắk Lắk Province
Attendees	ERM: Ms. Tram Le – Senior Social Consultant; Mr. Hanh Nguyen - Senior Social Consultant; Ms. Truc Pham – Consultant Representatives of Cư Pơng CPC

Agenda

ERM Team – Mr. Hanh Nguyen had started the meeting by introducing the team members, the purpose of the discussion and also its role in developing an Environmental and Social Impact Assessment (ESIA) following the international guidelines for Dele Wind Power Project (WPP) to the local authority of Cư Pơng CPC. The Representative of the CPC - Mr. Thanh Tran also introduced the attending members from the CPC and the overall information received from the Project's owner at the meeting commencement.

Process

General information provided by Cư Pơng CPC:

Ethnicity: Indigenous Peoples (IPs) takes nearly 70% of local people which is Anak Raday (also called as Anak Ê Đê People).

Cultural heritage: Gong Culture (Cồng chiêng) and Intangible cultural heritage (phi vật thể);

Livelihood: Local people uses farmland mainly for coffee cultivation. Land acquisition area for Project development is minor which accounts for a small proportion of cultivating land.

Expectation: More recruitments for local people, particularly the IPs.

Potential impacts caused by the Project's development:

Currently, the CPC has not been updated with sufficient information on the Project's status and schedule.

The Project locates on the territory of two villages named Chư Kric and Chư Krô in Cư Pơng Commune, Krông Buk District, Đắk Lắk Province. During the construction phase, Cư Pơng CPC has confirmed that there are some specific impacts induced from the Project implementation including dust and concentrated traffic density at local area caused by heavy-duty vehicles. The quality of the existing road systems are estimated not to meet the demand in case of the competition of the Project development. The CPC recommends to reinstate the local roads to the initial state after the completion of the Project implementation. Other potential impacts from the Project development have not clearly identified due to the lack of information from the Project's owner updated to the CPC up to now.

Regarding the land acquisition, the CPC has not been updated with any specific procedures from the Project's owner. Presently, the situation recorded is the private purchase between the Project's owner and local people who are in the list of land acquisition at the notary public's office.

In terms of landslide during the construction phase, the CPC presently had not received any grievance or report from local people on this issue. However, the CPC expects that the Project's owner shall develop and apply sufficiently preventive and mitigation measures to protect people's life and properties during the construction phase, particularly in rainy and stormy season with strong wind.

Water resources: The main water source for domestic use of local people is taken from drilling well. However, there is partial lack of water in some specific years, particularly in the dry season leading to the inaccessibility to clean water source of local people. Moreover, local people also uses water well and nearby water bodies for their cultivation. There is no main rivers and streams traversing through the commune in general and in the Project's area in particular.

Security issue during the Project's implementation: With the approach of a worker group to the Project's site, presently, there has not been any record of the social disorders caused by their activities to the residential area. The CPC also calls out the police to supervise regularly the Project's area and the proximity during the implementation. There is also no other wind power projects recorded in the local area.

In the village, the residents live alternately in farming area. There is no households locating inside the radius of 300 m from the wind turbine recorded; only some shelters built by the local people are located near the Project's site serving for their lunch, resting and usage to avoid sunlight and rain during their cultivation. Additionally, the CPC also help provide the information relating to the specific areas where local people are focused living after the meeting.

In Cư Pơng Commune, there are two wind turbine foundations which are under construction. The information relating to the 13 remaining wind turbines has not been updated to the CPC by the Project including the construction status and current land acquisition situation. However, the CPC has already had the key contact person of the Project to communicate if necessary.

Other relevant information on the length and location of transmission line traversing through the residential area has not been updated so that the potential impact from the Project's activities on local residents are not clearly identified at the meeting time.

MINUTE OF MEETING WITH CU NE COMMUNE PEOPLE'S COMMITTEE (CPC)

Project	0599549D – Dele Wind Farm Project
Subject	**ESIA Engagement with Cu Ne Commune People's Committee**
Date	13 July 2021
Location	Office of Cu Ne Commune People's Committee
Attendees	Cu Ne CPC: Mr. Luc Duy Phuong - Chairman of the Commune People's Committee Mrs. H My Nie – Commune Women's Union Mr. Le Huy Thuc – Office of CPC Mr. Vo Thanh Tam - Commune Cadastral ERM (Nguyen Quy Hanh & Y Ksor Hue) Project Representatives: Mr. Nguyen Quy Bac

Agenda

Discussing the commune's overall development in terms of socioeconomics, ethnic groups, women, new countryside, and other distinguishing features.

Working on a community survey in Cu Ne commune to assess the socio-economic situation, the environment, and the impact of the wind power project, as well as local suggestions and aspirations.

Representatives of ERM

Describe the meeting's purpose, including information about wind power projects, local opinions and suggestions, the local economic development situation, requests for socio-economic development reports, data on poor households, new rural areas, and farmer and women's association activities in Cu Ne commune in 2020 and the first six months of 2021.

- The project's goal is to assess the wind power project's impact on society and the environment, as well as the locality's economic development situation and distinguishing features.

Representatives of CPC

The People's Committee's representative delegated the task of providing the necessary information to the appropriate departments.

Representatives of Women Union reported the requirements for programs and models to support women's economic development and family life (see attached report):

The wind power project, according to local women, has an impact on the family's life and affecting crop growth.

The Women's union programs including 3 key tasks: the "5 No-s 3 Clean-s", "Study and work knowledge improvement for women", "support program for women in Creative, Startup, and Development" and other programs.

Supporting production, planting, husbandry, and brocade weaving models for women. It is expected that in the future, the commune will have other models for economic development and environment protection, as well as protection for women's rights.

Due to the difficulties they face when working far away, local women hope for job creation in their community (companies in Sai Gon, Binh Duong, etc).

Representatives of cadastral

Land acquisition: the turbine base and the operator's house, totaling 2.7 hectares, have been recovered.

Access road: work is being done in conjunction with the Land Fund Development Center to expand routes to the foot of the pillar, acquire land, and change the land's purpose. An Thuan coffee farm is developing a plan for the land under its management.

Site clearance: The owner is currently negotiating with the residents about the land, footings, and transportation routes.

Ea Nguoi, Ea Siek, Hamlet 6, Drah village 1, Buon Drah 2, Ea Krom, Buon Kdro 1, Buon Kdro 2, Buon Kmu, Hamlet Ea Kung are potentiall affected villages and hamlets

The Commune People's Committee agreed to provide the group with documents as well as referrals to the survey site.

The impact assessment of the project should consider to all related impacts and prioritising the local recruitment (e.g. project’s affected households and wider community).

MINUTE OF MEETING WITH EA SIN COMMUNE PEOPLE'S COMMITTEE (CPC)

Project	0599549D – Dele Wind Farm Project
Subject	**ESIA Engagement with Ea Sin Commune People's Committee**
Date	13 July 2021
Location	Office of Ea Sin Commune People's Committee
Attendees	Ea Sin CPC: Mr. Chang – Chairman of the People's Committee Ms. H Lora Mlo – Women's Union Ms. Huyen – Officer of CPC Mr. Hoang - Commune Cadastral ERM (Nguyen Quy Hanh & Y Ksor Hue) Project Representatives: Mr. Nguyen Quy Bac

Agenda

The commune's overall development status in terms of socioeconomics, ethnicity, women, new land, and other distinguishing characteristics.

Land acquisition process.

The organization of a community survey on the impact of the wind power project in Ea Sin commune.

Local residents' thoughts, suggestions, and aspirations

Process

-The representative of ERM: Presenting the objectives of the workshop, including information on the wind power project. Local opinions and proposals. Local economic development situation. Asking for socio-economic development reports, poor household data reports, new rural areas, activities of the Ea Sin Farmers and Women's Union in 2020 and the first 6 months of 2021.

- The purpose of the project is to assess the impact of the wind power project on society and the environment, as well as the locality's economic development situation and unique features.

- Representatives of the People's Committee:

The following is an overview of the commune: 816 households with 3100 people; 100% agricultural economy (coffee, pepper, durian, cashew, etc.) (Details to be provided later); 30% of households are poor (send detailed report later).

Wind energy projects in two villages, Ea Mak (Ea My) and Cu Kbieng (Ea Kring), are currently under construction of one pillar and have had an impact on the environment, roads, crops, dust, and other factors. Because construction has not yet begun (according to public feedback), traffic and other factors are unknown.

The commune cadastral reported on the development of the land use plan in 2022, and the contractor will make an agreement to buy back the land on the foundation and widen the road directly with the people.

- The representative of the People's Committee provided additional information that is the place where wind power poles are built, mainly invasive households are affected.

The Ede people are the main ethnic group in the area, and they follow a matrilineal system. Working in the area can be difficult due to language barriers and the need to capture 2-way information during the work process.

- Information from women representative: there are many programs in the local to support women stabilize their lives, such as “5 no-s 3 clean-s programs”, “flower paths”, “areca planting on 2 sides of the paths” and other economic development models such as: planting fruit trees (orange); husbandry models with goats, rabbits, pigs, etc. Furthermore, child marriage is still prevalent in the area.

- Farmers' Association representative: The main crops in the area are industrial crops like coffee, durian, pepper, avocado, and so on, which are the people's main source of income and are affected by prices and weather.

Currently, the commune does not have a cooperative; instead, it has a production chain with the intention of forming one.

The Commune People's Committee representative proposed that the project include a support program for the commune's new rural program, which includes concentrated residential areas, markets, reservoirs, and dams, as well as the construction of schools and roads.

Representatives of the Commune People's Committee agreed to provide reports and facilitate the survey team to work in the commune.

MINUTE OF MEETING WITH CHU KBO COMMUNE PEOPLE'S COMMITTEE (CPC)

Project	0599549D – Dele Wind Farm Project
Subject	**ESIA Engagement with Chu Kbo Commune People's Committee**
Date	14 July 2021
Location	Office of Chu Kbo Commune People's Committee
Attendees	Chu Kbo CPC: Mr. Nguyen Van Hue - Chairman of the Commune People's Committee Mr. Nguyen Truong Minh – Vice Chairman of the Commune People's Committee Mr. Le - Commune Cadastral. ERM (Nguyen Quy Hanh & Y Ksor Hue) Project Representatives: Mr. Nguyen Quy Bac

Agenda

Discussing the commune's overall development situation in terms of socioeconomic, ethnic groups, women, new countryside, and other notable features.

Working on organizing a community survey in Cu Kbo commune on the socio-economic situation, the environment, and the impact of the wind power project, as well as the community's suggestions and aspirations.

Process

Representatives of ERM

The purpose of the working session is presented as follows: information about wind power projects; local opinions and suggestions; the state of local economic development; a request for socio-economic development reports; a report on data from poor households, new rural areas; and the activities of farmers' unions and commune women Cu Kbo in 2020 and the first six months of 2021

Presenting the purpose of the project: assess the impact of the wind power project on society and the environment; assess the local economic development situation and local outstanding features.

Representatives of leaders of Cu Kbo commune

Reports will be sent to delegation on the general development of the commune in terms of economy, society, farmers and new rural areas.

Impact and assessment of the impacts of wind power projects: public opinion has not been captured, and there are some mixed opinions. And, for the time being, the commune is still adhering to the government's guidelines.

And there isn't much information about the project at the moment. The investor implements the project without first establishing procedures for changing the commune's land use purpose.

Some villagers are concerned about the project's impact on life and production, including noise, dust, and risks.

Because it is outside the impact area, the project has no impact on ethnic minorities.

Representatives of commune cadastral

The investor negotiates with individual households during the land acquisition process; the procedures do not go through the local government; the investor buys directly from the people and then transfers the procedures to the Land Fund Development Center.

There are currently no statistics available on road expansion or material transport.

Representatives from the People's Committee agreed to provide the delegation with reports as needed and proposed programs for local development and livelihood restoration.

APPENDIX B LIST OF PARTICIPANTS AND PHOTO LOGS

LIST OF HOUSEHOLD INTERVIEWEES

No.	Households Code	Interviewee's Name	Household head's name	Ethnicity	Village	Commune	Date of Interview
1	CN01	Trần Minh Tứ	Trần Minh Tứ	Kinh	Kdro 1	Cu Ne	14/07/2021
2	CN02	Nguyễn Trọng Lưu	Nguyễn Đình Thọ	Kinh	Kdro 1	Cu Ne	14/07/2021
3	CN03	Phạm Ngọc Phương	Phạm Ngọc Phương	Kinh	Kdro 1	Cu Ne	14/07/2021
4	CN04	Nguyễn Văn Anh	Nguyễn Văn Anh	Kinh	Kdro 1	Cu Ne	14/07/2021
5	CN05	Hoàng Thị Quý	Hoàng Thị Quý	Kinh	Kdro 1	Cu Ne	14/07/2021
6	CN06	Võ Văn Sơn	Võ Văn Sơn	Kinh	Kdro 1	Cu Ne	14/07/2021
7	CN07	Nguyễn Văn Duân	Nguyễn Văn Duân	Kinh	Kdro 1	Cu Ne	14/07/2021
8	CN08	Nguyễn Quốc Trung	Nguyễn Quốc Trung	Kinh	Kdro 1	Cu Ne	14/07/2021
9	CN09	Nguyễn Văn Lập	Nguyễn Văn Lập	Kinh	Kdro 1	Cu Ne	14/07/2021
10	CN10	H Biên Mlô	H Biên Mlô	Ede	Kdro 1	Cu Ne	14/07/2021
11	CN11	H Đin Niê	Y Tim Mlô	Ede	Kdro 1	Cu Ne	14/07/2021
12	CN12	Y Nếch Niê	Y Ke Ju Mlo	Ede	Kdro 1	Cu Ne	14/07/2021
13	CN13	Y Hiếu Mlô	Y Hiếu Mlô	Ede	Kdro 1	Cu Ne	14/07/2021
14	CN14	Y Lâm Mlo	Y Lâm Mlo	Ede	Kdro 1	Cu Ne	14/07/2021
15	CN15	H Mưng Niê	Y Khem Ayun	Ede	Kdro 1	Cu Ne	14/07/2021
16	CN16	Y Bhi Niê	Y Bhi Niê	Ede	Drah 2	Cu Ne	14/07/2021
17	CN17	Y Jin Mlo	H Thâm Mlo	Ede	Kdro 2	Cu Ne	14/07/2021
18	CN18	H Dít Mlô	Y El Niê	Ede	Kdro 2	Cu Ne	15/07/2021
19	CN19	H Nuôc Niê	Y Tưn Ayun	Ede	Kdro 2	Cu Ne	15/07/2021
20	CN20	Y Ngọc Knuôl	Y Ngọc Knuôl	Ede	Kdro 2	Cu Ne	15/07/2021
21	CN21	H Rôda Mlô	Y Sy Mlô	Ede	Kdro 2	Cu Ne	15/07/2021
22	CN22	H Bloan Mlô	Y Glen Knul	Ede	Kdro 2	Cu Ne	15/07/2021
23	CN23	Y Nhô Niê	Y Nhô Niê	Ede	Kdro 2	Cu Ne	15/07/2021
24	CN24	H Mai Niê	Y Pấu Mlo	Ede	Kdro 2	Cu Ne	15/07/2021
25	CN25	H Blem Mlô	Nay Hem	Ede	Kdro 2	Cu Ne	15/07/2021
26	CN26	H Hách Niê	Y Nhân Mlô	Ede	Kdro 2	Cu Ne	15/07/2021
27	CN27	H Hiung Niê	Y Khanh Niê	Ede	Kdro 2	Cu Ne	15/07/2021
28	CN28	Nguyễn Đức Hiểu	Nguyễn Đức Hiểu	Kinh	Ea Kung	Cu Ne	14/07/2021
29	CN29	Nguyễn Văn Đạn	Nguyễn Văn Đạn	Kinh	Ea Kung	Cu Ne	14/07/2021
30	CN30	Y Sơm Mlô	H Chel Ayun	Ede	Ea Kung	Cu Ne	14/07/2021
31	CN31	Nguyễn Đạt Tình	Nguyễn Đạt Tính	Kinh	Ea Kung	Cu Ne	14/07/2021

No.	Households Code	Interviewee's Name	Household head's name	Ethnicity	Village	Commune	Date of Interview
32	CN32	H Duyên Niê	Y Thoang Mlo	Ede	Ea Kung	Cu Ne	14/07/2021
33	CN33	H Giêm Mlô	Y Sik Niê	Ede	Drah 1	Cu Ne	14/07/2021
34	CN34	Y Thoai Mlô	Y Thoai Mlô	Ede	Drah 1	Cu Ne	15/07/2021
35	CN35	H Mol Mlô	H Mol Mlô	Ede	Drah 1	Cu Ne	15/07/2021
36	CN36	Y Sinh Niê	Y Sinh Niê	Ede	Drah 1	Cu Ne	15/07/2021
37	CN37	Y Phon Mlo	Y Phon Mlo	Ede	Drah 1	Cu Ne	15/07/2021
38	CN38	H' Nam Niê	Y Đương Mlo	Ede	Drah 1	Cu Ne	14/07/2021
39	CN39	H BHê Mlô	Y Niêm Niê	Ede	Drah 1	Cu Ne	15/07/2021
40	CN40	H Crep Niê	H Bhê Niê	Ede	Drah 1	Cu Ne	15/07/2021
41	CN41	H Sơm Mlô	Y Ger Niê	Ede	Drah 1	Cu Ne	15/07/2021
42	CN42	H Nenh Niê	Y Đoan Niê	Ede	Drah 1	Cu Ne	15/07/2021
43	CN43	H Niêp Niê	Y Đắt Niê	Ede	Drah 1	Cu Ne	15/07/2021
44	CN44	H Thi Mlô	Y Manh Niê	Ede	Drah 2	Cu Ne	14/07/2021
45	CN45	H Rác Niê	H Rác Niê	Ede	Drah 2	Cu Ne	14/07/2021
46	CN46	H Nghen Mlô	Y Khiêm Niê	Ede	Drah 2	Cu Ne	14/07/2021
47	CN47	Y Nãi MLô	Y Nãi MLô	Ede	Drah 2	Cu Ne	14/07/2021
48	CN48	Y Mú Mlô	Y Mú Mlô	Ede	Drah 2	Cu Ne	14/07/2021
49	CN49	Y Sơ Ba Ksơr	Y Sơ Ba Ksơr	Ede	Drah 2	Cu Ne	14/07/2021
50	CP01	Ra Lan Peo	Ra Lan Peo	Ede	Ea Bro	Cu Pong	13/07/2021
51	CP02	Y Sonh Kđoh	Y Sonh K'Đoh	Ede	Ea Bro	Cu Pong	13/07/2021
52	CP03	H Dớ Kđoh	H Dớ K'Đoh	Ede	Ea Bro	Cu Pong	13/07/2021
53	CP04	Y Doanh Niê	Y Doanh Niê	Ede	Ea Bro	Cu Pong	13/07/2021
54	CP05	Trương Tấn Hùng	Trương Tấn Hùng	Kinh	Ea Bro	Cu Pong	13/07/2021
55	CP06	H Băch Niê	Y Yứk Ayun	Ede	Ea Bro	Cu Pong	13/07/2021
56	CP07	Y Truynh Mjao	Y Truynh Mjao	Ede	Ea Bro	Cu Pong	13/07/2021
57	CP08	H'Việt Niê	Y Wang Niê	Ede	Ea Bro	Cu Pong	13/07/2021
58	CP09	Y Vinh Niê Kđăm	Y thoanh Mlo	Ede	Ea Bro	Cu Pong	13/07/2021
59	CP10	Đinh Văn Hưng	Đinh Văn Hưng	Ede	Ea Bro	Cu Pong	13/07/2021
60	CP11	Nguyễn Thị Huệ	Tô Hồng Phông	Kinh	Ea Bro	Cu Pong	13/07/2021
61	CP12	Y Núi Niê	Y Núi Niê	Ede	Ea Bro	Cu Pong	13/07/2021
62	CP13	Y Brăk Adrơng	Y Brăk Adrơng	Ede	Ea Bro	Cu Pong	13/07/2021
63	CP14	H Cíp Ayun	Y Duyên Niê	Ede	Ea Bro	Cu Pong	13/07/2021
64	CP15	Phạm Đình Phú	Phạm Đình Phú	Kinh	Ea Bro	Cu Pong	13/07/2021
65	CP16	H Min M chơao	Kpia Knon	Ede	Ea Bro	Cu Pong	13/07/2021

No.	Households Code	Interviewee's Name	Household head's name	Ethnicity	Village	Commune	Date of Interview
66	CP17	H But Niê	Y Thinh	Ede	Ea Bro	Cu Pong	13/07/2021
67	CP18	Y Nếch Adrơng	Y Nếch Adrơng	Ede	Ea Bro	Cu Pong	13/07/2021
68	CP19	Y Per Niê	Y Per Niê	Ede	Ea Bro	Cu Pong	13/07/2021
69	CP20	Hồ Tấn Cường	Hồ Tấn Cường	Kinh	Ea Bro	Cu Pong	13/07/2021
70	CP21	Trần Văn Nghĩa	Trần Văn Nghĩa	Kinh	Ea Bro	Cu Pong	13/07/2021
71	CP22	Y Chiên Niê	Y Chiên Niê	Ede	Ea Bro	Cu Pong	13/07/2021
72	CP23	Y Chôi Adrơng	Y Chôi Adrơng	Ede	Ea Bro	Cu Pong	13/07/2021
73	CP24	Y Phu	Y Phu	Ede	Cu Hriet	Cu Pong	13/07/2021
74	CP25	Y Klơng Mlô	Y Klơng Mlô	Ede	Cu Hriet	Cu Pong	13/07/2021
75	CP26	H Liap Niê	H Liap Niê	Ede	Cu Hriet	Cu Pong	13/07/2021
76	CP27	Bùi Văn Nguyên	Bùi Văn Nguyên	Kinh	Cu Hriet	Cu Pong	13/07/2021
77	CP28	Y Sio Ayun	Y Sio Ayun	Ede	Cu Hriet	Cu Pong	13/07/2021
78	CP29	Y Sút Kbuôn	Y Sút Kbuôn	Ede	Cu Hriet	Cu Pong	13/07/2021
79	CP30	H Kiết Niê	Y Ý Kđoh	Ede	Cu Hriet	Cu Pong	13/07/2021
80	CP31	Y Kliu Êban	Y Kliu Êban	Ede	Cu Hriet	Cu Pong	13/07/2021
81	CP32	H Ly Kđoh	Nay Cao	Ede	Cu Hriet	Cu Pong	13/07/2021
82	CP33	Vũ Văn Sơn	Vũ Văn Sơn	Kinh	Cu Hriet	Cu Pong	13/07/2021
83	CP34	Y Jơn Niê	Y Jơn Niê	Ede	Cu Hriet	Cu Pong	13/07/2021
84	CP35	Huỳnh Tấn Thanh	Huỳnh Tấn Thanh	Kinh	Cu Hriet	Cu Pong	13/07/2021
85	CP36	Y Thai Adrơng	Y Thai Adrơng	Ede	Cu Hriet	Cu Pong	13/07/2021
86	CP37	Nguyễn Xuân Trường	Nguyễn Xuân Trường	Kinh	Cu Hriet	Cu Pong	13/07/2021
87	CP38	Y Bưng Niê	Y Bưng Niê	Ede	Ea Bro	Cu Pong	13/07/2021
88	CP39	Y Karo	Y Karo	Ede	Cu Hriet	Cu Pong	13/07/2021
89	CP40	H Ruê Kdoh	Y Sét Niê	Ede	Cu Hriet	Cu Pong	13/07/2021
90	CP41	Ae Sao	Ae Sao	Ede	Cu Hriet	Cu Pong	13/07/2021
91	CP42	Y Suil	Y Suil	Ede	Cu Hriet	Cu Pong	13/07/2021
92	CP43	H Lơr Ka Sơr	H Lơr Ka Sơr	Ede	Cu Hriet	Cu Pong	13/07/2021
93	CP44	Y Brốc Niê	Y Brốc Niê	Ede	Cu Hriet	Cu Pong	13/07/2021
94	CP45	Y Tio Niê	Y Tio Niê	Ede	Cu Hriet	Cu Pong	13/07/2021
95	CP46	Nguyễn Xuân Hòa	Nguyễn Xuân Hòa	Ede	Cu Hriet	Cu Pong	13/07/2021
96	ES01	Nguyễn Thanh Hổ	Nguyễn Thanh Hổ	Kinh	Ea My	Ea Sin	14/07/2021
97	ES02	Phan Thanh Giản	Phan Thanh Giản	Kinh	Ea My	Ea Sin	14/07/2021
98	ES03	Nguyễn Thạc Phong	Nguyễn Thạc Phong	Kinh	Ea My	Ea Sin	14/07/2021

No.	Households Code	Interviewee's Name	Household head's name	Ethnicity	Village	Commune	Date of Interview
99	ES04	Hồ Viết Sinh	Hồ Viết Sinh	Kinh	Ea My	Ea Sin	14/07/2021
100	ES05	Nguyễn Thị Thuỷ	Trần Ngọc Dũng	Kinh	Ea My	Ea Sin	14/07/2021
101	ES06	Trần Hoài Mong	Trần Hoài Mong	Kinh	Ea My	Ea Sin	14/07/2021
102	ES07	Lê Thị Oanh	Phan ĐÌnh Tùng	Kinh	Ea My	Ea Sin	14/07/2021
103	ES08	Phan Thị Dung	Lê Quang Cường Nam	Kinh	Ea My	Ea Sin	14/07/2021
104	ES09	Võ Thành Phi	Võ Thành Phi	Kinh	Ea My	Ea Sin	14/07/2021
105	ES10	Trần Xuân Hoàng	Trần Xuân Huệ	Kinh	Ea My	Ea Sin	14/07/2021
106	ES11	Lê Thị Thảo	Lê Kim Tuấn	Kinh	Ea My	Ea Sin	14/07/2021
107	ES12	Đặng Thị Bé	Lê Thị Loan	Kinh	Ea My	Ea Sin	14/07/2021
108	ES13	Nguyễn Bình Giang	Nguyễn Bình Giang	Kinh	Ea My	Ea Sin	14/07/2021
109	ES14	Hoàng Văn Bền	Hoàng Văn Bền	Kinh	Ea My	Ea Sin	14/07/2021
110	ES15	Nguyễn Ngọc Hùng	Nguyễn Ngọc Hùng	Kinh	Ea My	Ea Sin	14/07/2021
111	ES16	Phan Văn Diện	Phan Văn Diện	Kinh	Ea My	Ea Sin	14/07/2021
112	ES17	Lưu Văn Bích	Lưu Văn Bích	Kinh	Ea My	Ea Sin	14/07/2021
113	ES18	Vy Tấn Lập	Vy Tấn Lập	Kinh	Ea My	Ea Sin	14/07/2021
114	ES19	Phạm Thị Nhung	Vũ Văn Nhất	Kinh	Ea My	Ea Sin	14/07/2021
115	ES20	Phạm Thị Mỹ Hiền	Phạm Văn Dũng	Kinh	Ea My	Ea Sin	14/07/2021
116	ES21	Phạm Văn Vinh	Phạm Văn Vinh	Kinh	Ea My	Ea Sin	14/07/2021
117	ES22	Phạm Hồng Trung	Phạm Hồng Trung	Kinh	Ea My	Ea Sin	14/07/2021
118	ES23	Võ Chí Công	Võ Chí Công	Kinh	Ea My	Ea Sin	14/07/2021
119	ES24	Nguyễn Thị Hà	Ngô Văn Lành	Kinh	Ea My	Ea Sin	14/07/2021
120	ES25	Võ Hồng Đông	Võ Hồng Đông	Kinh	Ea My	Ea Sin	14/07/2021
121	ES26	Ngô Thị Mến	Ngô Thị Mến	Kinh	Ea My	Ea Sin	14/07/2021
122	ES27	Nguyễn Văn Luật	Nguyễn Văn Luật	Kinh	Ea My	Ea Sin	14/07/2021
123	ES28	Đặng Thị Thu Yên	Hồ Trình	Kinh	Ea My	Ea Sin	14/07/2021
124	CK01	Nguyễn Văn Vinh	Nguyễn Văn Vinh	Kinh	Kty 4	Chu Kbo	15/07/2021
125	CK02	Nguyễn Văn Luân	Nguyễn Văn Luân	Kinh	Kty 4	Chu Kbo	15/07/2021
126	CK03	Nguyễn Thị Hoa	Nguyễn Hữu Nghiệm	Kinh	Kty 4	Chu Kbo	15/07/2021
127	CK04	Nguyễn Thị Thơ	Hồ Ngọc Trung	Kinh	Kty 4	Chu Kbo	15/07/2021
128	CK05	Nguyễn Thị Châu	Nguyễn Văn Châu	Kinh	Kty 4	Chu Kbo	15/07/2021
129	CK06	Trần Thị Hương	Phạm Xuân Tiến	Kinh	Kty 4	Chu Kbo	15/07/2021

No.	Households Code	Interviewee's Name	Household head's name	Ethnicity	Village	Commune	Date of Interview
130	CK07	Hoàng Thị Hải	Nguyễn Xuân Trạch	Kinh	Kty 4	Chu Kbo	15/07/2021
131	CK08	Võ Thị Tiền	Nguyễn Văn Thưởng	Kinh	Kty 4	Chu Kbo	15/07/2021
132	CK09	Nguyễn Thị Thao	Nguyễn Đức Lĩnh	Kinh	Kty 4	Chu Kbo	15/07/2021
133	CK10	Nguyễn Văn Thỏa	Nguyễn Văn Thỏa	Kinh	Kty 4	Chu Kbo	15/07/2021
134	CK11	Lê Hữu Lương	Lê Hữu Lương	Kinh	Kty 5	Chu Kbo	15/07/2021
135	CK12	Lê Hữu Thướng	Lê Hữu Thướng	Kinh	Kty 5	Chu Kbo	15/07/2021
136	CK13	Nguyễn Thị Mười	Nguyễn Hữu Yên	Kinh	Kty 5	Chu Kbo	15/07/2021
137	CK14	Nguyễn Doãn Quân	Nguyễn Doãn Tiến	Kinh	Kty 5	Chu Kbo	15/07/2021
138	CK15	Phạm Thị Lữ	Phạm Thị Lữ	Kinh	Kty 5	Chu Kbo	15/07/2021
139	CK16	Ngô Thị Oanh	Lê Bá Long	Kinh	Kty 5	Chu Kbo	15/07/2021
140	CK17	Lê Hữu Thanh	Lê Hữu Thanh	Kinh	Kty 5	Chu Kbo	15/07/2021
141	CK18	Phan Đình Tài	Phan Đình Tài	Kinh	Kty 5	Chu Kbo	15/07/2021
142	CK19	Nguyễn Văn Chung	Nguyễn Văn Chung	Kinh	Kty 5	Chu Kbo	15/07/2021
143	CK20	Lê Khắc Giới	Lê Khắc Giới	Kinh	Kty 5	Chu Kbo	15/07/2021
144	CK21	Nguyễn Thanh Tuấn	Nguyễn Thanh Tuấn	Kinh	Kty 4	Chu Kbo	15/07/2021

LIST OF FGD PARTICIPANTS

No.	Name of Participants	Village	Commune	District	Date of Interview
1. Ethnic Minority Group					
1	Y Klếch Niê	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
2	Y Tim Niê	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
3	Đặng Lý Hùng	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
4	Y Yô Adrơng	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
5	Y Prủi Niê	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
6	Y Sit Niê	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
7	Y Sải Kriêng	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
8	Phan Đình Nhơn	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
9	H Huyền Kbuôr	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
10	H Nui Niê	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
11	H Ly Ayủn	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
2. Vulnerable Group					
12	H Puh Adrơng	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
13	H Khiêr Niê	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
14	H Nga Niê	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
15	Y Thế Hmor	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
16	H Ngiêr Niê	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
17	H Lar Drơng	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
18	H Cởn Ayủn	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
19	H Brech Ayủn	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
3. Wage-based livelihood Group					
20	H Loang Niê	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
21	H Bé Niê	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
22	H Rim Niê	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
23	H Am Niê	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
24	H Thủy Niê	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
25	H Nhao Adrơng	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
26	H Ó Ayun	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
27	H Dut Niê	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
28	H Van Niê	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
29	H Chôch Mjao	Cu Hriet	Cu Pong	Krong Buk	13/07/2021
30	Y Liêm Ayun	Cu Hriet	Cu Pong	Krong Buk	13/07/2021

No.	Name of Participants	Village	Commune	District	Date of Interview
4. Women Group					
31	H Băch Niê	Ea Bro	Cu Pong	Krong Buk	13/07/2021
32	H Ring Adrơng	Ea Bro	Cu Pong	Krong Buk	13/07/2021
33	H Ngiêk Niê	Ea Bro	Cu Pong	Krong Buk	13/07/2021
34	H Ben Niê	Ea Bro	Cu Pong	Krong Buk	13/07/2021
35	H Đư Niê	Ea Bro	Cu Pong	Krong Buk	13/07/2021
36	H Danh Niê	Ea Bro	Cu Pong	Krong Buk	13/07/2021
37	H Việt Niê	Ea Bro	Cu Pong	Krong Buk	13/07/2021
38	H Yở Kđoh	Ea Bro	Cu Pong	Krong Buk	13/07/2021
39	H Đăm Êban	Ea Bro	Cu Pong	Krong Buk	13/07/2021
40	H Ly Niê	Ea Bro	Cu Pong	Krong Buk	13/07/2021
41	H Ry Niê	Ea Bro	Cu Pong	Krong Buk	13/07/2021
5. Agricultural and Forestry Group					
42	Nguyễn Thị Hệ	Ea Bro	Cu Pong	Krong Buk	13/07/2021
43	Phạm Đình Phú	Ea Bro	Cu Pong	Krong Buk	13/07/2021
44	Trương Tấn Hùng	Ea Bro	Cu Pong	Krong Buk	13/07/2021
45	H Rem Adrơng	Ea Bro	Cu Pong	Krong Buk	13/07/2021
46	Y Per Niê	Ea Bro	Cu Pong	Krong Buk	13/07/2021
47	Y Chiên Niê	Ea Bro	Cu Pong	Krong Buk	13/07/2021
48	Y Brắk Adrơng	Ea Bro	Cu Pong	Krong Buk	13/07/2021
49	Y Grắc Ayủn	Ea Bro	Cu Pong	Krong Buk	13/07/2021
50	Y Sônh Kđoh	Ea Bro	Cu Pong	Krong Buk	13/07/2021
6. Agricultural and Forestry Group					
51	Phan Thanh Giản	Ea My	Ea Sin	Krong Buk	14/07/2021
52	Hồ Viết Sinh	Ea My	Ea Sin	Krong Buk	14/07/2021
53	Trần Hoài Mong	Ea My	Ea Sin	Krong Buk	14/07/2021
54	Hồ Thị Hồng Lê	Ea My	Ea Sin	Krong Buk	14/07/2021
55	Phan Văn Diện	Ea My	Ea Sin	Krong Buk	14/07/2021
56	Nguyễn Thị Ngọc	Ea My	Ea Sin	Krong Buk	14/07/2021
7. Ethnic minority Group					
57	Y Hiếu Mlô	Kdro 1	Cu Ne	Krong Buk	14/07/2021
58	Y Nếch Niê	Kdro 1	Cu Ne	Krong Buk	14/07/2021
59	Y Mi Niê	Kdro 1	Cu Ne	Krong Buk	14/07/2021
60	H Biên Mlô	Kdro 1	Cu Ne	Krong Buk	14/07/2021
61	Y Mrơng	Kdro 1	Cu Ne	Krong Buk	14/07/2021

No.	Name of Participants	Village	Commune	District	Date of Interview
62	H Tuyết Niê	Kdro 1	Cu Ne	Krong Buk	14/07/2021
63	Y Tim Mlô	Kdro 1	Cu Ne	Krong Buk	14/07/2021
64	H Đin Niê	Kdro 1	Cu Ne	Krong Buk	14/07/2021
65	H Nga Niê	Kdro 1	Cu Ne	Krong Buk	14/07/2021
8. Wage-based livelihood Group					
66	Nguyễn Thị Xuân	Ea Kung	Cu Ne	Krong Buk	14/07/2021
67	Phạm Thị Hiền	Ea Kung	Cu Ne	Krong Buk	14/07/2021
68	Trần Thị Bình	Ea Kung	Cu Ne	Krong Buk	14/07/2021
69	Phạm Thị Hoa	Ea Kung	Cu Ne	Krong Buk	14/07/2021
70	Đào Thị Hải	Ea Kung	Cu Ne	Krong Buk	14/07/2021
71	Ngô Thị Nga	Ea Kung	Cu Ne	Krong Buk	14/07/2021
72	Trương Thị Bé	Ea Kung	Cu Ne	Krong Buk	14/07/2021
73	Phạm Thị Hoa	Ea Kung	Cu Ne	Krong Buk	14/07/2021
74	Bùi Thị Hiền	Ea Kung	Cu Ne	Krong Buk	14/07/2021
75	Hồ Thị Kế	Ea Kung	Cu Ne	Krong Buk	14/07/2021
9. Women Group					
76	H Nghoen Niê	Drah 2	Cu Ne	Krong Buk	14/07/2021
77	H Phim Niê	Drah 2	Cu Ne	Krong Buk	14/07/2021
78	H Nghên Mlô	Drah 2	Cu Ne	Krong Buk	14/07/2021
79	H Rap Niê	Drah 2	Cu Ne	Krong Buk	14/07/2021
80	H Nuynh Mlô	Drah 2	Cu Ne	Krong Buk	14/07/2021
81	Nguyễn Thị Thu Hải	Drah 2	Cu Ne	Krong Buk	14/07/2021
82	H Chiếc Niê	Drah 2	Cu Ne	Krong Buk	14/07/2021
10. Mixed-livelihood Group					
83	H Blem Mlô	Kdro 2	Cu Ne	Krong Buk	15/07/2021
84	H Nách Niê	Kdro 2	Cu Ne	Krong Buk	15/07/2021
85	H Bloan Mlô	Kdro 2	Cu Ne	Krong Buk	15/07/2021
86	H Mai Niê	Kdro 2	Cu Ne	Krong Buk	15/07/2021
87	H Dít Mlô	Kdro 2	Cu Ne	Krong Buk	15/07/2021
88	H Hi Ung Niê	Kdro 2	Cu Ne	Krong Buk	15/07/2021
89	H Nuôn	Kdro 2	Cu Ne	Krong Buk	15/07/2021
90	Y Nhô Niê	Kdro 2	Cu Ne	Krong Buk	15/07/2021
91	H Ropa Mlô	Kdro 2	Cu Ne	Krong Buk	15/07/2021
92	Y Lem Mlô	Kdro 2	Cu Ne	Krong Buk	15/07/2021
93	H Sly Mlô	Kdro 2	Cu Ne	Krong Buk	15/07/2021

No.	Name of Participants	Village	Commune	District	Date of Interview
11. Vulnerable Group					
94	H Tók Niê	Kdro 2	Cu Ne	Krong Buk	15/07/2021
95	H Niên Niê	Kdro 2	Cu Ne	Krong Buk	15/07/2021
96	Y Biêr	Kdro 2	Cu Ne	Krong Buk	15/07/2021
97	Lý Thị Thắng	Kdro 2	Cu Ne	Krong Buk	15/07/2021
98	Y Nghiêm Niê	Kdro 2	Cu Ne	Krong Buk	15/07/2021
99	Y Khiêm Niê	Kdro 2	Cu Ne	Krong Buk	15/07/2021
100	Y Nhắt Mlô	Kdro 2	Cu Ne	Krong Buk	15/07/2021
101	Tạ Thị Kim Anh	Kdro 2	Cu Ne	Krong Buk	15/07/2021
102	Y Ngọc	Kdro 2	Cu Ne	Krong Buk	15/07/2021
12. Agrivultural and Forestry Group					
103	Diu Mlo	Drah 1	Cu Ne	Krong Buk	15/07/2021
104	Y Pol Mlo	Drah 1	Cu Ne	Krong Buk	15/07/2021
105	Y Bluôn Mlo	Drah 1	Cu Ne	Krong Buk	15/07/2021
106	J Am Mlo	Drah 1	Cu Ne	Krong Buk	15/07/2021
107	Lager Niê	Drah 1	Cu Ne	Krong Buk	15/07/2021
108	Y Brai Mlo	Drah 1	Cu Ne	Krong Buk	15/07/2021
109	Y Nhe Mlo	Drah 1	Cu Ne	Krong Buk	15/07/2021
110	H Mem Niê	Drah 1	Cu Ne	Krong Buk	15/07/2021
111	H Trang Niê	Drah 1	Cu Ne	Krong Buk	15/07/2021
112	H Ré Mlo	Drah 1	Cu Ne	Krong Buk	15/07/2021
113	H Thầu Mlo	Drah 1	Cu Ne	Krong Buk	15/07/2021
114	Y Sắc Mlo	Drah 1	Cu Ne	Krong Buk	15/07/2021
115	H Mai Mlo	Drah 1	Cu Ne	Krong Buk	15/07/2021
13. Vulnerable Group					
116	Trần Thị Thanh	Kty 4	Chu Kbo	Krong Buk	15/07/2021
117	Nguyễn Thị Thanh	Kty 4	Chu Kbo	Krong Buk	15/07/2021
118	Nguyễn Thị Tâm	Kty 4	Chu Kbo	Krong Buk	15/07/2021
119	Nguyễn Văn Minh	Kty 4	Chu Kbo	Krong Buk	15/07/2021
120	Nguyễn Đức Lĩnh	Kty 4	Chu Kbo	Krong Buk	15/07/2021
121	Nguyễn Hồng Sơn	Kty 4	Chu Kbo	Krong Buk	15/07/2021
122	Nguyễn Văn Vinh	Kty 4	Chu Kbo	Krong Buk	15/07/2021
123	Phạm Văn Linh	Kty 4	Chu Kbo	Krong Buk	15/07/2021
14. Agrivultural and Forestry Group					
124	Lê Hữu Lương	Kty 5	Chu Kbo	Krong Buk	15/07/2021

No.	Name of Participants	Village	Commune	District	Date of Interview
125	Lê Hữu Thương	Kty 5	Chu Kbo	Krong Buk	15/07/2021
126	Ngô Thị Oanh	Kty 5	Chu Kbo	Krong Buk	15/07/2021
127	Nguyễn Văn Thiện	Kty 5	Chu Kbo	Krong Buk	15/07/2021
128	Nguyễn Văn Kế	Kty 5	Chu Kbo	Krong Buk	15/07/2021
129	Lê Khắc Giới	Kty 5	Chu Kbo	Krong Buk	15/07/2021
130	Nguyễn Văn Chung	Kty 5	Chu Kbo	Krong Buk	15/07/2021
131	Nguyễn Văn Tuấn	Kty 5	Chu Kbo	Krong Buk	15/07/2021
132	Phan Đình Tài	Kty 5	Chu Kbo	Krong Buk	15/07/2021
133	Trần Ngọc Chung	Kty 5	Chu Kbo	Krong Buk	15/07/2021
134	Nguyễn Thị Chỉ	Kty 5	Chu Kbo	Krong Buk	15/07/2021
135	Nguyễn Văn Thảo	Kty 5	Chu Kbo	Krong Buk	15/07/2021

LIST OF KII RESPONDENTS

No.	Full name	Village	Commune	District	Date of interview
1	Hồ Lương Thiên		Cu Pong	Krong Buk	13/07/2021
2	Trần Ngọc Hà		Cu Pong	Krong Buk	13/07/2021
3	Lê Thị Lan		Cu Pong	Krong Buk	13/07/2021
4	H Thoai Knul		Ea Sin	Krong Buk	13/07/2021
5	Trần Văn Ruân		Ea Sin	Krong Buk	13/07/2021
6	Huỳnh Tấn Thanh	Cư Hriết	Cu Pong	Krong Buk	13/07/2021
7	Y Chiên Niê	Ea Brơ	Cu Pong	Krong Buk	13/07/2021
8	Phạm Văn Phi	Ea Siếk	Ea Sin	Krong Buk	14/07/2021
9	Phan Văn Diện	Ea My	Ea Sin	Krong Buk	14/07/2021
10	Nguyễn Đạt Tình	Ea Kung	Cu Ne	Krong Buk	14/07/2021
11	Nguyễn Văn Duân	Kdro 1	Cu Ne	Krong Buk	14/07/2021
12	Y Thuyên Mlô	Drah 2	Cu Ne	Krong Buk	14/07/2021
13	Trần Đình Thọ	Ea Nguoi	Cu Ne	Krong Buk	14/07/2021
14	Y Lem Mlô	Kdro 2	Cu Ne	Krong Buk	15/07/2021
15	Nguyễn Văn Phương	Ea My	Ea Sin	Krong Buk	15/07/2021
16	Nguyễn Văn Nhu	Ea Krom	Cu Ne	Krong Buk	15/07/2021
17	Y Đoan Niê	Drah 1	Cu Ne	Krong Buk	15/07/2021
18	Nguyễn Đình Quang	Kty 4	Chu Kbo	Krong Buk	15/07/2021
19	Trần Ngọc Chung	Kty 5	Chu Kbo	Krong Buk	15/07/2021
20	Nguyễn Văn Sơn	Kmu	Cu Ne	Krong Buk	15/07/2021

LIST OF VULNERABLE HOUSEHOLDS

No.	Households Code	Household Head's Name	Village	Commune	Poor households	Near poor households	Female-headed households	Households with physically disabled people	Households with mentally disabled people	Households with people with chronic disease unable to work	Households with illiterate main labour	Households with elderly over 60 years old headed
1	CN01	Trần Minh Tứ	Kdro 1	Cu Ne								✓
2	CN04	Nguyễn Văn Anh	Kdro 1	Cu Ne				✓				
3	CN05	Hoàng Thị Quý	Kdro 1	Cu Ne			✓					
4	CN09	Nguyễn Văn Lập	Kdro 1	Cu Ne					✓			
5	CN12	Y Ke Ju Mlo	Kdro 1	Cu Ne	✓				✓	✓		
6	CN15	Y Khem Ayun	Kdro 1	Cu Ne		✓						
7	CN18	Y El Niê	Kdro 2	Cu Ne				✓				
8	CN22	Y Glen Knul	Kdro 2	Cu Ne							✓	
9	CN33	Y Sik Niê	Drah 1	Cu Ne								✓
10	CN34	Y Thoai Mlô	Drah 1	Cu Ne	✓							
11	CN38	Y Đương Mlo	Drah 1	Cu Ne				✓				
12	CN44	Y Manh Niê	Drah 2	Cu Ne	✓							
13	CN46	Y Khiêm Niê	Drah 2	Cu Ne				✓				
14	CP01	Ra Lan Peo	Ea Bro	Cu Pong				✓				
15	CP07	Y Truynh Mjao	Ea Bro	Cu Pong		✓						
16	CP08	Y Wang Niê	Ea Bro	Cu Pong		✓						
17	CP09	Y thoanh Mlo	Ea Bro	Cu Pong		✓						
18	CP14	Y Duyên Niê	Ea Bro	Cu Pong	✓			✓			✓	
19	CP17	Y Thinh	Ea Bro	Cu Pong							✓	
20	CP18	Y Nếch Adrơng	Ea Bro	Cu Pong								✓
21	CP19	Y Per Niê	Ea Bro	Cu Pong	✓							
22	CP23	Y Chôi Adrơng	Ea Bro	Cu Pong							✓	✓

No.	Households Code	Household Head's Name	Village	Commune	Poor households	Near poor households	Female-headed households	Households with physically disabled people	Households with mentally disabled people	Households with people with chronic disease unable to work	Households with illiterate main labour	Households with elderly over 60 years old headed
23	CP26	H Liap Niê	Cu Hriet	Cu Pong	✓							
24	CP27	Bùi Văn Nguyên	Cu Hriet	Cu Pong		✓						
25	CP28	Y Sio Ayun	Cu Hriet	Cu Pong							✓	✓
26	CP32	Nay Cao	Cu Hriet	Cu Pong							✓	
27	CP33	Vũ Văn Sơn	Cu Hriet	Cu Pong		✓						
28	CP38	Y Bưng Niê	Ea Bro	Cu Pong		✓						
29	CP41	Ae Sao	Cu Hriet	Cu Pong				✓				
30	CP44	Y Brốc Niê	Cu Hriet	Cu Pong				✓				
31	CP46	Nguyễn Xuân Hòa	Cu Hriet	Cu Pong				✓				
32	ES12	Lê Thị Loan	Ea My	Ea Sin			✓					
33	ES14	Hoàng Văn Bền	Ea My	Ea Sin	✓							
34	ES17	Lưu Văn Bích	Ea My	Ea Sin	✓							
35	ES22	Phạm Hồng Trung	Ea My	Ea Sin					✓			
36	ES25	Võ Hồng Đông	Ea My	Ea Sin		✓						
37	ES26	Ngô Thị Mến	Ea My	Ea Sin			✓					
38	CK01	Nguyễn Văn Vinh	Kty 4	Chu Kbo		✓		✓				
39	CK02	Nguyễn Văn Luân	Kty 4	Chu Kbo		✓						
40	CK09	Nguyễn Đức Lĩnh	Kty 4	Chu Kbo	✓					✓		
41	CK11	Lê Hữu Lương	Kty 5	Chu Kbo								✓

Photos of Household Interviews

Household interview in Cu Hriet village, Cu Pong commune, 13/07/2021

Household interview in Cu Hriet village, Cu Pong commune, 13/07/2021

Household interview in Ea My village, Ea Sin Commune, 13/07/2021

Household interview in Kdro 1 village, Cu Ne commune, 14/07/2021

Household interview in Kdro 2 village, Cu Ne commune, 15/07/2021

Household interview in Kty 5 village, Chu Kbo commune, 14/07/2021

Photos of FGDs

Wage and enterprise-based group, Cu Hriet village, Cu Pong commune, 13 July 2021

Agri-foretrsy group, Ea My village, Ea Sin commune, 14 July 2021

General group, Kdro 2 village, Cu Ne commune, 15 July 2021


Agri-forestry group, Kty 5 village, Chu Kbo commune, 15 July 2021


Women group, Ea Bro village, Cu Pong commune, 13 July 2021


Ethnic minority group, Cu Hriet village, Cu Pong commune, 13 July 2021


Ethnic minority group, Kdo 1 village, Cu Ne commune, 14 July 2021

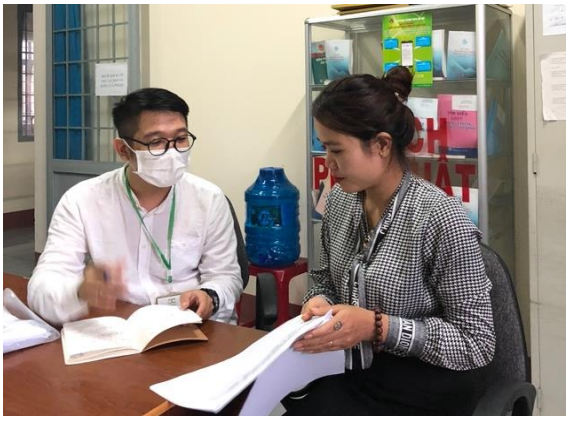
Wage and enterprise-based group, Ea Kung village, Cu Ne commune, 14 July 2021

Women group, Drah 2 village, Cu Ne commune, 14 July 2021

Agri-forestry group, Drah 1 village, Cu Ne commune, 15 July 2021

Vulnerable group, Kty 4 village, Chu Kbo commune, 15 July 2021

Photos of KIIs



KII with Chairwoman of Ea Sin commune Women's Union, 13 July 2021

KII with Chairwoman of Cu Pong commune Women's Union, 13 July 2021

KII with Chairman of Cu Pong commune Farmers' Union, 13 July 2021

KII with Ea My village security ofifcer, Ea Sin commune, 14 July 2021

KII with Drah 1 village head, Cu Ne commune, 15 July 2021

KII with Kty 4 village head, Chu Kbo commune, 15 July 2021

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