

Brief Project Report  
on  
Environment & Social Disclosure

for

100 MW Solar Power Project by  
Gaya Solar (Bihar) Pvt. Ltd.

&

150 MW Solar Power Project by  
Adani Green Energy One Limited

**adani**  
Renewables

At Khirsara village, Anjar Taluka, District Kutch  
Gujarat

December 2020

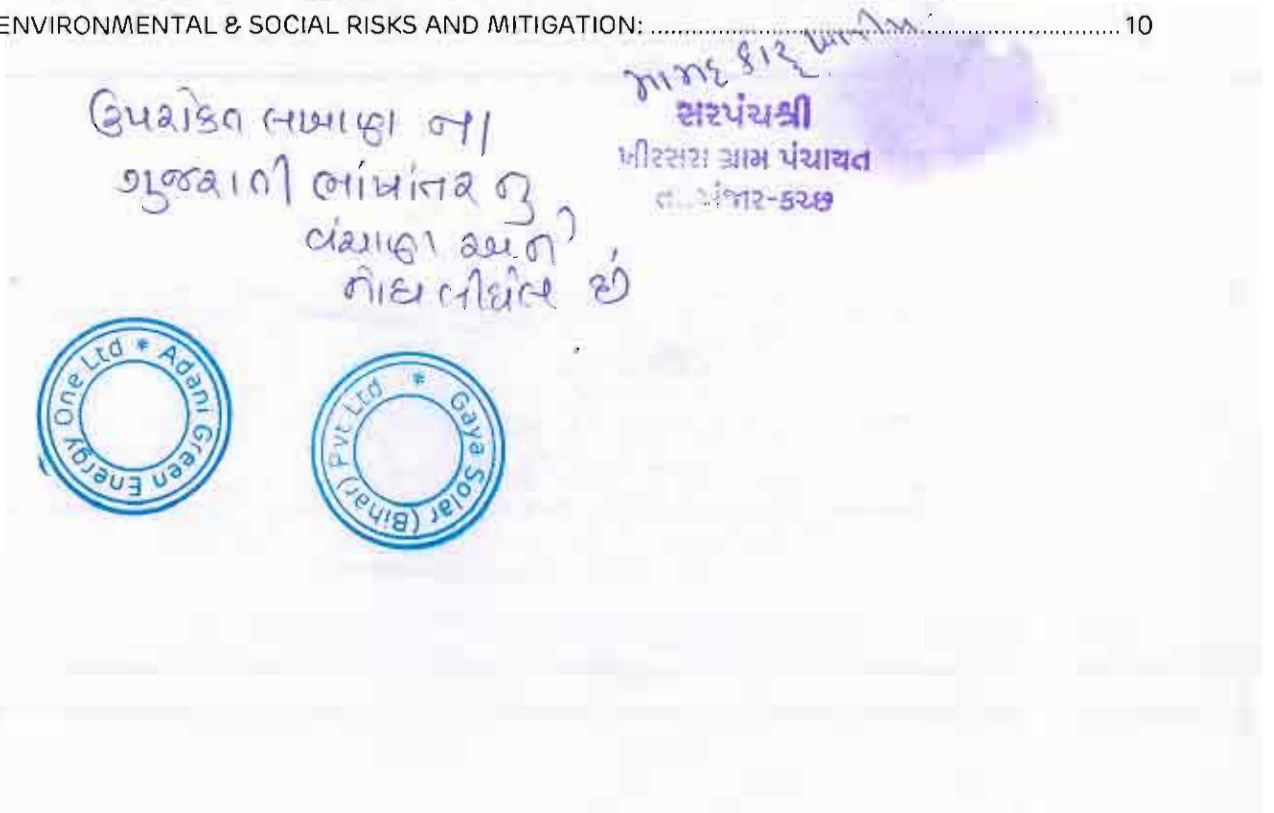


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સરપંચશ્રી  
ખીરસરા ગ્રામ પંચાયત  
તા. અંજાર-૬૨૭

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## **1.0 INTRODUCTION**

Adani Green Energy Limited (AGEL) through its SPV companies is setting up 250 MW Solar Plant in Kachchh, Gujarat. The project is implemented at two adjoining sites namely 100MW under Gaya Solar (Bihar) Private Limited (GSBPL) & 150MW under Adani Green Energy One Limited (AGEOL). AGEL has financed these projects from HDFC Bank Ltd. along with a Consortium of IIFCL (UK), and Tata Cleantech Capital Limited. AGEOL and GSBPL have been allocated 150 MW and 100 MW project respectively on 25 years PPA basis to be developed under Build-Own-Operate mode. The Power Purchase Agreement (PPA) has been executed with Gujarat Urja Vikas Nigam Limited (GUVNL).

## **2.0 PROJECT LOCATION:**

Project site is located on 925 acres of private unirrigated agricultural land in Village Khirasara, Taluka Anjar, Dist. Kutch, Gujarat. Land is procured on the basis of 'willing buyer-willing seller', with average compensation much higher than the Government norms as well as higher than prevailing market rates. No issues relating to Indigenous People and Cultural Heritage associated with the land. Further, all existing roads, pathways which are being used by local communities shall be maintained as it is or sufficient approach will be made available for commute to local people in the vicinity of the project area. Based on the above land procurement philosophy and the support received from the local community, project company has completed sale deed execution and received possession of more the 900 Acres of land upon which the solar project is being developed. Project Company is grateful to the local community that there is no resettlement and rehabilitation requirement / involve or involuntary resettlement issues.

## **3.0 EVACUATION AND TRANSMISSION LINES:**

The generated power from these projects is being evacuated to 400 KV Varsana Substation of Gujarat Energy Transmission Corporation Limited (GETCO) through a transmission line of GETCO. Total transmission line length is approx. 17.5 Km and 61 towers to be installed along the total span. Height of towers is 44 m and width of the corridor is 23 m on either side of the tower. The span between two towers varies from

## 250 MW GUNVL Solar Projects, Khirsara, District Kutch, Gujarat

tower to tower, with minimum span of 80 m to maximum span of 380 m. The average span between the towers is 285 m.

The transmission line is constructed in accordance to the guidelines and supervision of GETCO. Post completion of the line, all the transmission assets including the Evacuation bay will be operated and maintained by **GETCO** and subsequently will remain in ownership of GETCO. O&M activities, once the Transmission Line is operational will be done by GETCO. All supervision activities including ROW requirements has been managed by GETCO and had been paid in accordance to the guidelines and applicable Discoms / Government regulations.

### 4.0 PROJECT SUMMARY:

SR NO	PARTICULAR	DESCRIPTION
1	Location	Village: Khirasara, Taluka: Anjar, Dist.: Kutch, Gujarat
2	Latitude & Longitudes	23.37°N and 70.09°E
3	Site Terrain Condition	Flat, approx 11 m above Mean Sea Level
4	Nearest Railway Station	Bhuj Railway Station (Approx. 55km from Site)
5	Nearest Airport	Bhuj Airport (Approx. 55km from Project Site)
6	Project Land	100MW, M/s Gaya Solar (Bihar) Private Limited is approx. 395 acre. 150MW, M/s Adani Green Energy One Limited is approx. 530 acre.
7	Power Evacuation Point	Generated power from the plant will be evacuated through 400/220kV GETCO's Varsana S/S, Tappar, Taluka-Anjar (kutch). GSS is located at distance of around 18 km from site.
8	Seismic Zone	Seismic Zone – V
9	Scheduled Completion date of the Project	Construction Phase: August 2019 to February 2021 Project completion: March 31, 2021 Project Life Span: 25 Years

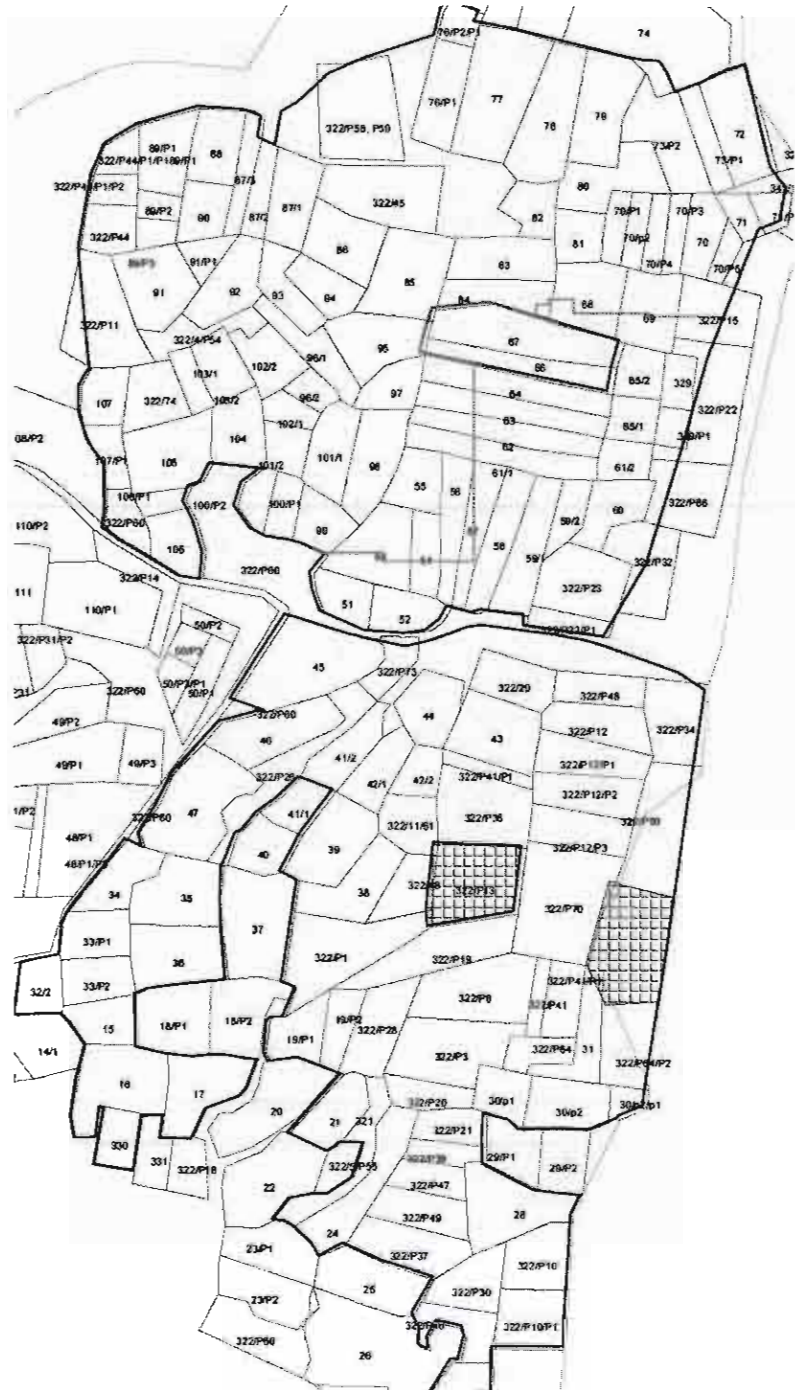
5.0 PROJECT MAP (IDENTIFIED AND TENTATIVE):



(Note: Land area identified, above map does not represent actual project boundary)



6.0 PROJECT MAP WITH KHASARA MAP (IDENTIFIED PROJECT BOUNDARY):



(Note: Land area Identified, above map does not represent Actual Project boundary & Khasara nos.)

250 MW GUNVL Solar Projects, Khirsara, District Kutch, Gujarat



Project Location w.r.t. Eco-sensitive Area

250 MW GUNVL Solar Projects, Khirsara, District Kutch, Gujarat



Project Location w.r.t. Eco-sensitive Area



## 7.0 ENVIRONMENT SOCIAL IMPACT ASSESEMENT AND STAKEHOLDERS CONSULTATION

AGEL believes that an open and responsive dialogue with stakeholders and building of strong and constructive relationships are essential to successful project development and subsequent operations. We identify relevant stakeholders, communities and consult with them on regular intervals. AGEL has appointed M/s TUV-SUD to undertake Environmental & Social Impact Assessment Study. The site study was conducted in the month of February and March-2020. The objective of the ESIA study was to:

- I. Assess the Social and Environmental Impacts of the project;
- II. Prepare mitigation measures and environmental and social management plan (ESMP) for each site; and
- III. Develop an Environment & Social Management System (ESMS) commensurate to the need of the project.

The proposed project is located on unirrigated agricultural land. The land use of the project area will not be altered to a large extent as the land has **not been used for any cash crop cultivation**. Major part of the project land area is single cropping while other is fallow Land. Further, there will not be any scope discharge of chemicals / effluents during operation phase which could have led to contamination of groundwater resources. Therefore, no significant impact on land use is envisaged. The project area does not coincide with any significant sensitive receptors like Wild Life Sanctuaries, Biosphere Reserves, and National Parks etc. with known major migratory routes, nesting ground and habitats. Further, no known major avian migratory flyway coincides with the study area. Once the construction phase is completed, there will be negligible movement of vehicles. Once the plant get fully operational, there will be no generation of noise pollution and air pollution. However, any such issue arising due to the project shall be properly mitigated in discussion with the local community.

## 8.0 EMPLOYMENT, SKILL DEVELOPMENT, LOCAL PROCUREMENT AND CSR BENEFITS

AGEL has developed a CSR Policy in 2016 which is applicable for the project also. The CSR Policy has been framed to contribute towards improving the quality of life of our neighborhood communities and society at large following a participatory development-oriented approach. AGEL is committed to ensuring social wellbeing of the society and communities through its Corporate Social Responsibility (CSR) initiatives.

AGEL has engaged local villagers as workmen in the project construction activities. Some of the employment opportunities can be long term and extended for the operation phase of the project as well. AGEL will simultaneously take up CSR activities in the project area through livelihood improvement schemes and training programs that will improve the skills of the local population and increase their employability or make them self-employed. This employment will result in increase in the local wage rates for non-agricultural workmen. The solar project will also improve the availability of electricity in the region giving rise to the multiple opportunities for households, development of Self Help Group (SHG) and small scale industries and other means of indirect employment.

## 9.0 ENVIRONMENTAL & SOCIAL RISKS AND MITIGATION:

**Key environmental & social risks and mitigants associated with these projects are listed below:**

### ➤ Environmental Risk and Mitigation:

- Environmental and Social Management System (ESMS) developed by AGEL will be implemented throughout the life cycle of the project. The ESMS is applicable to all activities and services of AGEL. ESMS covers all the phases of the project's life cycle. As a consequence of ESMS, AGEL is committed to abide by the national laws, Government regulations and Adani Group's Vision.
- Project land is devoid of any natural forest or ecology of specific concern. Hence, no significant impact on ecological balance of the area is envisaged. Although main plant site is in proximity from the Kutch Desert WLS (and its ESZ) and Banni grassland, the distinctive difference in land cover from these ecologically sensitive areas indicates the project land does not support any ecological habitat of conservation significance that are prevalent in these areas.
- The project area has few natural canals and check dam on Tappar Reservoir where rain water runs off. During the construction of the site the site will at times consist of loose and/or un-compacted soil, and removed or destroyed vegetative cover. During this phase temporary drainage system will have to be

installed. This will consist of landforms, both trenches, and deep pits to collect and dissipate water.

- As per the primary survey there are no endangered / endemic residential birds nearby the project site. Alignment of the transmission line required for the project has ensured avoidance of crossing across the Tappar Reservoir falling in between the main plant site and the Grid substation, and known to support water birds in winter season. Further, bird deflectors are proposed during the O&M phase. These Bird deflectors will be installed on the transmission lines along the Tappar Dam area once the construction activities get completed.
- Tappar Reservoir is a major water reservoir located at 12 km from South-east boundary of the main plant site, and there is good ground water availability in Khirasara and surrounding villages. Water for construction was arranged through authorized tanker water suppliers and will continue to be arranged for operation & maintenance phase too. Optimal utilization of water ensured throughout the construction phase. For module washing purpose, Tractor-mounted cleaning system is considered and will be implemented during the O&M phase. In this system, a mix of compressed air and water is used to clean the modules. Water consumption is envisaged to reduce by 50%.
- Prior to execution, the Project land area was unirrigated agricultural land. The land use of the project area was not used for any cash crop cultivation. Major part of the project land area was single cropped while other was fallow & barren Land.
- Rainwater Harvesting has been envisaged during O&M phase, which will be implemented post feasibility study of Rain water harvesting potential in the project area.
- The project will not use or not involved any hazardous chemicals. Limited amount of hazardous substances will be required such as diesel in Diesel Generators (DG sets), transformer oil etc. AGEL will engage authorized/experienced contractor for handling Used Oil and ensure proper handling and storage procedures are followed to minimize any contamination due to accidental spills of such substances.

### ➤ **Community Health and Safety**

- Community health and safety considerations shall be addressed through a process of environmental and social risks. Transport and traffic management plan as a part of ESMP was implemented during construction phase of the project. The project did not and will not use existing village road and a separate approach road for transportation of equipment and machinery was constructed.
- Project Company have taken necessary measures for General Safety of the people both within and outside the project. Project Company have installed lightning arrestors at regular locations throughout the project area to ensure safety of the plant and persons due to lightning strikes. Further, entire plant area will be located within a proper fencing with access to and from the plant via security gates only. There will not be access to the community to any area within the project area except through security gates. Even within the plant, key electrical installations line Transformer stations, Switchyard and Breaker room are covered with proper fencing / wall which will be kept locked. These installations can only be accessed by authorized personnel with necessary permissions by the Site Head. Necessary fire safety equipment is installed at strategic locations of the plant as per the Guidelines applicable for power projects. Transmission Lines tower will have anti-climbing devices to prevent climbing on transmission towers. The ground clearance of the transmission line conductor and design of the tower is strictly in compliance to the Government guidelines. Besides warning signs displayed at all key installation of the project as well as Transmission Line. All people working in the plant will be given safety training and briefing on the plant's safety norms. Such training will happen periodically for all workers and persons entering the project area.
- For the works associated with risks to workers and the public, AGEL shall build internal capacity to monitor engineering and fire safety including periodic monitoring and internal audits. AGEL will maintain adequate number of fire extinguishers to cater to any emergency.
- Workmen (700 to 1000 Nos) engaged during the construction phase and a few (20 to 22 nos. which includes Security, Grass Cutting manpower, Module Cleaning, Operation & Maintenance, EHS Personnel, Plant Head and others) in the operation will be provided with wages and other facilities in accordance with state as well as local labour laws and acts. AGEL will follow policies

developed by both the Central and State Govt to ensure health, safety and welfare of the workers.

- To reduce the risk of COVID-19 spread at site, proactive measures were and will continue to be taken and company guidelines shall be strictly adhered upon. This guideline shall be applicable for all personnel entering plant premises. Teams should be organized to the minimal reasonable working level. Contractor workers who must be at the site should maintain strict spacing and do not eat/drink coffee, etc. in the collective areas. Ideally isolate locations are strictly enforced so as to avoid cross contamination. Daily Tool Box Meeting shall contain the awareness about COVID 19 and preventive measures to prevent spread. (Keeping 1 m distance and not more 4 persons).
  - List of Hospitals/Clinics who are authorized to carry the treatment of COVID-19 patient displayed at various places for the information and records of the same to be maintained. The directives of State government related to COVID-19 shall be complied with.
  - Till date no Grievances have been registered on Standardized Grievance Risk Register which is part of Grievance Redressal Mechanism (SOP 5.0) under Environment & Social Management System implemented by AGEL.
- **Grievance Redressal:**
- Staff from the grievance cell charged with collection of grievances (e.g., grievance officer at the project office location, community liaison, or field staff authorized to take grievances) writes down complaints at group or individual meetings, during field visits, or at designated locations. These grievances are to include:
    - Complaints received through parties such as project affected families, community persons, contractors, contract workers, etc.;
    - Complaints received by project staff directly involved in handling grievances;
    - Complaints received through staff or employees that have direct contact with communities (if authorized);
    - Contact details of Grievance Cell at site: Sh Prahlad Patil, Site Head, Email: [Prahlad.Patil@adani.com](mailto:Prahlad.Patil@adani.com)
    - In case AGEL is unable to timely address grievances, stakeholders can also access AGEL's financier TCCL - [sems\\_tccl@tatacapital.com](mailto:sems_tccl@tatacapital.com) as part of AIB Project-affected People's Mechanism

**250 MW GUNVL Solar Projects, Khirsara, District Kutch, Gujarat**



Project Area Topography FY 2018 (December 2018)

250 MW GUNVL Solar Projects, Khirsara, District Kutch, Gujarat



Project Area Topography FY 2019 (Latest as on Google Earth)



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Gaya Solar Bihar Private Limited / Adani Green Energy One Limited

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