

## SAFEGUARDS AND SOCIAL DIMENSIONS

### A. Background

1. The proposed Asian Development Bank (ADB) loan to Gulf Renewable Energy Development Company Limited (GRE), a wholly owned subsidiary of Gulf Energy Development Public Company Limited (GED), is a general corporate finance transaction that will fund a portfolio of 12 subprojects comprising 393 megawatts (MW) of solar projects and 256 MW of solar projects coupled with 396 megawatt-hours (MWh) of battery energy storage systems (BESS) capacity across Thailand as presented in Table 1.

**Table 1: List of Proposed Solar and Solar–Battery Energy Storage Subprojects**

Name of Subproject/Implementation Schedule		Location	Capacity (MW)
<b>2024</b>	01_UDT2 Saeng Thai Phalangngan	Udon Thani	58.00
	02_UDT4 Phalangngan Rungrueang	Udon Thani	54.00
	03_KCB1 Sky Power	Kanchanaburi	48.00
	04_SPB2.2 Breeze and Shine Power <sup>a</sup>	Suphanburi	75.00
	05_KCB3 Solar Development <sup>a</sup>	Kanchanaburi	60.00
<b>2025</b>	06_PCB14 Energy First <sup>a</sup>	Phetchabun	61.00
	07_BRR2 Isaan Clean Tech	Buriram	37.80
	08_UTD4 Saeng Pat Phalangngan	Uttaradit	58.71
	09_SRN5 Thai Pat Solar	Surin	51.00
	10_BRR4 Racha Solar	Buri Rum	37.80
	11_SKT10 Suriya Pat	Sukhothai	48.00
	12_PYO1 Duang Tawan Phalangngan <sup>a</sup>	Phayao	60.00

MW = megawatt.

<sup>a</sup> Solar plant with battery energy storage system.

Source: Gulf Energy Development Public Company Limited.

2. In compliance with ADB's Safeguard Policy Statement (2009) (SPS), the project is categorized B for environment, B for involuntary resettlement, and C for impacts on indigenous peoples.

3. Initial environmental examinations (IEEs) and social compliance audits (SCAs) were undertaken by GRE for the first five (5) subprojects that will be implemented in 2024 because their scheduled commercial operations date (COD) is in 2024. The projects also underwent the code of practice assessments required under Thai law. Environmental and social management and monitoring plans (ESMPs) have been prepared for these subprojects. While the SCA of the five first sites and preliminary review of the other seven suggests that there are no impacts on involuntary resettlement, the project has been categorized as B for involuntary resettlement until detailed assessment of the subsequent seven sites is undertaken. The findings of the IEE and SCA and the results of ADB's due diligence, including corrective actions required, are summarized below.

### B. Environmental and Social Assessment Findings

4. **Environment.** IEEs were carried out for the five subprojects that will start construction in 2024 to assess their environmental, health, safety and social impacts against applicable

standards and the ADB SPS. The IEEs cover project facilities such as power generation plants and associated transmission lines, impacts associated with them during construction and operations including those associated with pollution (air, noise, waste and wastewater); flooding; hazardous materials; biodiversity; occupational health and safety; public safety; traffic; historic and cultural heritage; land acquisition; labor management; and social and economic impacts. The assessment of power plant components involved baseline surveys and monitoring as well as detailed impacts valuations and informed the preparation of the ESMPs. The ESMPs in the five IEEs are in some respects high level and require further detail to be effective management plans, such as stakeholder engagement plans (SEPs); grievance redress mechanisms (GRMs); health and safety (H&S) plans, labor, and influx management; and waste management plans (WMPs). IEEs for the remaining seven projects are required prior to the relevant disbursement for such projects.

5. Transmission lines (TL) will be designed, built, and owned by Provincial Electricity Authority of Thailand (PEA). The assessment involved engagement with PEA to understand their requirements, processes and controls and monitoring measures to be implemented, as well as conducting secondary data review and field surveys. The TL are being financed by the Borrower without use of ADB proceeds and, in line with ADB SPS SR1, are classified as associated facilities.

6. Based on the initial findings of the IEEs, the residual environmental impacts resulting from project activities after the implementation of the proposed management measures are considered acceptable and meet applicable requirements.

7. *Corrective actions:* Enhance the ESMPs to include subproject specific plans such as site-based H&S procedures, SEPs, GRMs, WMPs, and labor and influx management plans.

8. **Involuntary resettlement and indigenous peoples.** In line with the requirements for existing facilities under Safeguard Requirement 4 of the ADB SPS, SCAs were undertaken for the five sites to determine (i) past or present concerns in relation to previous land acquisitions, (ii) any impacts (permanent or residual) resulting from past land acquisitions, (iii) any compliance gaps with applicable policies and reference standards, and (iv) necessary mitigation measures. Under corporate finance, the additional seven projects to be developed in the next phase will be assessed using the enhanced ESMS after project approval. All solar plant sites were acquired in early 2023 and prior to ADB's engagement. Summary of land procured for the first five sites is summarized in Table 2.

**Table 2. Summary of Land Take for 5 Sites**

Name of Project and Capacity	Location	Area purchased (hectares)	Number of Landowners	Status of Payment
1. Saeng Thai Phalangangan Solar Plant Project (UDT 2) - 58 MW	Nikhom Songkhro and Khok Sa-at Subdistrict, Thani District, Udon Thani Province	66.51	12	complete
2. Sky Power Solar Power Plant Project (KCB 1) - 48 MW	Moo 12, Sa Long Ruea Subdistrict, Huai Krachao District, Kanchanaburi Province	55.78	3	complete

3. Breeze and Shine Solar Power Plant Project (SPB22) - 75 MW	Moo. 8 (Ban Nong Hin), Nong Krathum Sub-district, Doem Bang Nang Buat District, Suphanburi Province	168.31	50	complete
4. Solar Development Solar Power Plant Project (KCB 3) -	Sa Long Ruea Subdistrict, Huai Krachao District, Kanchanaburi Province	130.16	1	complete
5. Phalangngan Rungrueang Solar Power Plant Project (UDT 4)	Na Kha Subdistrict, Mueang Udon Thani District, Udon Thani Province	65.51	33	complete

Source: Gulf Energy Development Public Company Limited.

9. Land acquisition processes for all sites were found to be in compliance with the Thai government's laws and regulations and witnessed by the Provincial Land Office. The audit indicated that landowners are satisfied with the price for sold land and assets. Land sale records are within the market price and in some cases higher than the evaluation price determined by the independent evaluation consultant engaged by GRE. It was also reported that landowners were able to accept or reject the negotiation price as evidenced by pockets of land unsold within the larger footprint. The audit found that socio-economic baseline data had been collected to assess how land purchase affected landowners and users. However, the audit also found that several owners across all sites also own or rent other agricultural land and have indicated that they are not worse off after the land sale. The audit also found evidence that some land areas were previously used informally by non-title holders for cultivation and grazing but information was anecdotal. Available information indicates that land users were allowed to harvest their crops during and after land title exchange. During ADB's due diligence it was noted that some sites still had grazing activities (new encroachers) and previous owners' agricultural fields that were pending harvest. While recent site visits by GRE confirmed that all five subproject areas had been vacated, the project needs to adopt a post-acquisition site maintenance procedure to ensure that any ongoing agricultural activities are agreed in writing and that no new activities are permitted. The audit also confirmed that there are no complaints or concerns in relation to the acquisition of land where the solar plants will be established.

10. The project as a whole was categorized as B for involuntary resettlement based on potential and currently unknown risk of involuntary displacement of informal land users on the seven remaining sites yet to be fully assessed. Under the enhanced ESMS, the Project will undertake screening and categorization of the seven sites and undertake necessary assessment and planning in line with the requirements of ADB SPS SR1-4.

11. The development of subprojects will not impact on any vulnerable indigenous peoples or ethnic minorities or on any site occupied or claimed to be owned by indigenous peoples. It was noted, however, that GED and GRE does not screen for impacts on indigenous peoples.

12. *Corrective actions:* (ii) Project will be required to adopt ADB SPS screening tools to categorize subprojects for environmental, involuntary resettlement and indigenous peoples impacts; implement corporate guidance on subproject level Site Maintenance to manage legacy cropping and vacating site, and avoidance of new encroached activities (such as grazing) which may delay mobilisation of construction.

13. **Community impacts and stakeholder engagement.** GED's ESMS requires subprojects to undertake stakeholder identification, analysis and engagement at both the project development stage and during operations. It provides a step-by-step process for carrying out stakeholder engagement, but SEPs were not developed for each site. This is also required as part of the

ESMP enhancement for each subproject. Apart from worker-related and environmental impacts, the potential influx of people into the project area may also cause social impacts such as increased competition for resources and social services, distortion in property values and changes in social dynamics. The potential for speculative investments in the area during construction can also be anticipated, with possible positive or negative outcomes. Given the relatively low number of operations employment opportunities and spin off economic effects, any excessive investment by the community or outsiders at the early stage may result in heavy economic losses.

14. *Corrective actions:* Prepare subproject-specific SEPs and Grievance Redress Mechanisms as part of the ESMP, to include (i) procedures and messages that ensure meaningful communication with stakeholders and complaints management on the project cycle, impacts and their management, and jobs; and (ii) project updates before and during construction.

### **C. Core Labor Standards in the Supply Chain**

15. **Background.** GED will directly procure the solar photovoltaic (PV) modules from Jinko Solar (Haining) Co., Ltd. for the project. ADB engaged with GED early in the procurement process for the project's solar PV modules to discuss ADB's requirements with respect to labor provisions and to ensure that these requirements are integrated in the procurement process and the company's due diligence. The borrower is required to comply with ADB's SPS (including its Prohibited Investment Activities List, Appendix 5) and ADB's Social Protection Strategy (2001). ADB conducted due diligence to assess the client's capacity to address risks to the core labor standards in the solar PV supply chain. ADB is in the process of undertaking additional measures to mitigate any risks to core labor standards in the supply chain, which, while not eliminating all risks, will help provide some practicable mitigation. The measures include (i) enhanced due diligence; (ii) representations that the borrower adheres to labor requirements consistent with the SPS (Prohibited Investment Activities List, Appendix 5) and requires the same of its suppliers; and (iii) representations and covenants by the borrower that, to its knowledge, its solar PV module supply chain adheres to these labor requirements. The project documentation will reflect the approach outlined in this paragraph through the inclusion of suitable provisions concerning the responsibilities of ADB's client.

16. **Corporate-level risk mitigation.** GED's procurement policy and procedure include provisions to ensure suppliers' compliance with national labor laws and internationally recognized core labor standards. The company has a human rights policy developed in May 2022 based on international instruments such as the United Nations Guiding Principles on Business and Human Rights, the Universal Declaration on Human Rights, and core labor standards conventions of the International Labour Organization. This underscores its commitment to upholding human rights across its businesses and operations, including engagement with suppliers. As part of the procurement process, GED issues a request for proposal incorporating a code of conduct for its suppliers and an environmental, social, and governance (ESG) self-assessment form, which potential suppliers have to complete upon bid submission. According to GED's code of conduct, suppliers must demonstrate that they have policies and procedures to ensure compliance with core labor standards, including the prohibition of forced labor and child labor, throughout their supply chain. The company screens suppliers through a know-your-customer process and conducts due diligence on the suppliers' environmental and social (E&S) performance through labor-related policy and procedure reviews and adverse media checks. This process also applies to the suppliers of the solar PV modules and the BESS. Specific to the solar PV modules, GED conducted supply chain mapping derived from the bill of materials of the selected supplier.

17. Through its dedicated procedure, GED evaluates suppliers based on price, service capacity, work experience, and ESG capabilities. GED's procurement team, headed by the senior vice president of procurement, leads the commercial evaluation, while the engineering team undertakes the technical evaluation. The company's environmental and social team—supervised by the vice president of corporate environment and H&S—looks into E&S aspects, including compliance with the prohibition of forced labor and child labor. Potential suppliers found to be noncompliant with GED's requirements on avoidance of prohibited labor are excluded during the bidding stage. As per GED's code of conduct for suppliers, which forms part of the supplier agreement, selected suppliers are required to have a GRM in place through which any adverse impacts associated with their operations, including incidence of forced labor and child labor, will be investigated by the supplier. In accordance with its whistleblowing policy, GED's internal audit department is responsible for investigating any reported violations of the code of conduct during the contract period. The supplier's contract may be revoked if proven to be non-compliant.

18. GED is committed to ensuring prohibited labor risks are avoided and mitigated in its supply chain. The company has a system to manage forced labor and child labor risks in the supply chain, although enhancements are needed, particularly in terms of actively monitoring the compliance of suppliers. Due diligence and monitoring, especially in cases of alleged forced labor and child labor incidence can also be strengthened through site visits to verify the supplier's compliance with GED's code of conduct. Presently, the company primarily relies on the supplier's self-declaration on labor compliance and on reported violations submitted through GED's whistleblowing channel.

19. **Contractual mitigants.** The risk of noncompliance with ADB's requirements in the solar PV module supply chain will be mitigated through ADB-agreed representations and covenants in the legal agreements. The borrower will represent that it has used reasonable efforts to verify that the selected supplier provides PV modules produced in accordance with the ADB's SPS prohibited investment activities list and that, following such due inquiry, to the best of its knowledge, it has no reason to believe that the selected supplier is in breach of the applicable core labor standards. In addition, ADB will require the borrower to: (i) maintain accurate records relating to the solar modules used in the subprojects, (ii) notify ADB of any claims in breach of the prohibited investment activities list, and (iii) exercise any remedies available to the borrower against any solar module supplier that violates ADB's SPS Prohibited Investment Activities List.

20. ADB reviewed the contract between GED and Jinko Solar (Haining) Company Limited and ascertained that it is consistent with ADB's requirements. As part of the supplier agreement, Jinko Solar has attested and represented that (i) it is not using products for the project that have used forced or child labor in the production or supply of such products; (ii) to the best of its knowledge, goods, products, or services to be procured and/or to be supplied by it to the project, do not involve the use of forced or child labor; (iii) it adheres to labor legislations of the employer's country and internationally recognized core labor standards and requires their subcontractors and suppliers for the project to adhere to the same; (iv) its subcontractors and suppliers have confirmed that to their knowledge the works, goods, and products for the project do not involve the use of forced or child labor; (v) it will make available documents and records reasonably required to assist the borrower or ADB or its representatives for an audit, and also ensure access to the required sites to the extent possible; (vi) it will monitor its works, goods, and services provided by it on an ongoing basis and promptly notify the borrower if any new risks, claims, or incidents are identified; and (vii) it agrees to GED's right to terminate the contract in case of breach and misrepresentation of (i)–(vi).

21. **Project-level risk mitigation.** GED confirmed that Jinko Solar (Haining) Co. Ltd. will supply the solar PV modules for all the subprojects to be financed by ADB.

22. **Jinko Solar (Haining) Company Limited.** Registered in the People’s Republic of China, Jinko Solar (Haining) is a subsidiary of Jinko Solar Company Limited (Jinko Solar), which pioneered the vertically integrated capacity from silicon processing to wafer, cell, and module production in the industry. Jinko Solar joined the United Nations Global Compact in February 2021. Its supply chain partner code of conduct, implemented by all its subsidiaries, prohibits any form of forced labor and child labor. As disclosed in its publicly available ESG report, in 2022 Jinko Solar undertook a pilot onsite audit of its polysilicon suppliers to confirm compliance with the supplier code of conduct and assess performance relating to labor, environment, H&S, fire protection system, business ethics, and management systems. Jinko Solar (Haining) provided the bill of materials (Table 3) which applies to all subprojects financed by ADB.

**Table 3: Bill of Materials of Jinko Solar (Haining) Company Limited**

Material	Supplier Name/ Component Manufacturer	Address of Manufacturing Facility
Module	Jinko Solar (Haining), Co., Ltd. Zhejiang Jinko Solar Co., Ltd.	Haining, Zhejiang Haining, Zhejiang
Cell	Jinko Solar (Haining) Co., Ltd.	Haining, Zhejiang
Wafer	Jinko Solar (Shangrao) Co., Ltd. Jinko Solar Co., Ltd. Leshan Jinko Solar Co., Ltd.	Shangrao, Jiangxi Shangrao, Jiangxi Leshan, Sichuan
Ingot	Sichuan Jinko Solar Co., Ltd.	Leshan, Sichuan
Polysilicon	Sichuan Yongxiang Polysilicon Co., Ltd. Sichuan Yongxiang New Energy Co., Ltd. Inner Mongolia Erdos Polysilicon Industry Co., Ltd. Inner Mongolia Tongwei High Purity Crystal Silicon Co., Ltd. Yunnan Tongwei High Purity Crystalline Silicon Co., Ltd. Qinghai Lihao Semiconductor Material Co., Ltd.	Leshan, Sichuan Leshan, Sichuan Erdos, Inner Mongolia Baotou, Inner Mongolia Baoshan, Yunnan Xining, Qinghai

Source: Gulf Energy Development Public Company Limited.

23. **Corrective actions:** To ensure compliance with ADB’s requirements in the solar PV supply chain, ADB will require GED to adopt the following enhancements to its existing supply chain management under the ESMS: (i) include provision of an audit of the manufacturing facility of the suppliers if new risks, including alleged case of child labor or forced labor, are identified in the supply chain during project implementation and, as needed, take appropriate steps to remedy them ; and (ii) require any new solar PV module suppliers for ADB-funded projects to submit as part of its bid proposal (a) a bill of materials up to the polysilicon level and (b) an attestation letter confirming compliance with ADB’s requirements on ensuring avoidance of prohibited labor in the supply chain.