

SAFEGUARDS AND SOCIAL DIMENSIONS SUMMARY

A. Safeguards

1. The proposed Asian Development Bank (ADB) loan will finance the expansion of the existing 2.2-megawatt (MW) solar farm developed by Sun Pacific Energy Limited (SPEL), an independent power producer in Samoa. The expansion will install an additional 1.8 MW to meet the capacity requirement under the power purchase agreement of SPEL with Electric Power Corporation (EPC), the sole offtaker for the project. The total 4 MW facility will assist Samoa to reduce its dependence on fossil fuel for power generation. The existing facility began selling power to EPC in April 2015.

2. The project is classified as category B for environment. An environmental and social audit was conducted to assess the performance of the existing facility. The audit was incorporated in the initial environmental examination report prepared for the expansion of the existing solar farm to assess potential environmental and social impacts during the construction and operation phases.

3. The project is located within the boundary of Samoa Airport Authority (SAA), a government authority that operates Faleolo International Airport (FIA), on which the project is located. On the western boundary of the project site is a separate solar project owned by Samoa GreenPower. The nearest sensitive receptor is Satapuāla village, located less than one kilometer from the project site. Main West Coast Road serves as the buffer between FIA and the nearby receptors.

4. The project will include the installation of 28 rows of solar panels (totaling 6,500 solar panels) and water tanks, and the construction of an office workshop building and a brick separation wall. The anticipated construction impacts, noise elevation and dust generation, will be short-term and localized during the 6-month construction period. The construction activities will be managed in accordance with good engineering practices and SPEL's risk management plan to ensure that safety precautions are undertaken.

5. There will be minimal environmental impacts during operation. Since beginning operation, the existing solar farm has utilized water from the local community for cleaning solar panels. The environmental and social audit identified this as a potential issue, especially during the dry season. As a corrective action, SPEL will install rainwater tanks to avoid water competition. All solar panels are anti-glare to reduce impact to incoming aircraft; ADB consultation with SAA revealed that the solar panels do not cause any nuisance to pilots. All waste in Upolu is deposited at the Tafa'igata landfill on the outskirts of Apia (approximately 27 kilometers from the project site) in accordance with regulatory requirements. The wastewater generated by the solar farm will be treated via a sewage treatment plant. SPEL will prepare a decommissioning and recycling plan in consultation with the Ministry of Natural Resources and Environment's Waste Management Division for a disposal plan that encompasses (i) disposal of solar panels and components a few years before the conclusion of the power purchase agreement; and (ii) export of waste, where necessary and practical. The environmental management plan presents all potential environmental and social impacts of the project and corresponding measures to avoid, minimize, or mitigate them.

6. Samoa is among the small island countries with the highest vulnerability to sea level rise and climate change.¹ The country has an annual mean rainfall ranging from 3,000 millimeters to

¹ Intergovernmental Panel on Climate Change .2006. *Guidelines for National Greenhouse Gas Inventories*. Geneva

6,000 millimeters² depending on location, and experiences an average of one cyclone per wet season. Climate predictions indicate that maximum sea level rise by 2030 will be 15 centimeters and may reach 29 centimeters by 2050. The project is located 200 meters from the coastline, at 9 meters above sea level. The technical design considered the impact of potential flooding and cyclones on the project. The solar panels are raised to 2 meters above the mean sea level, which is the optimum design to resist wind pressure and minimize flooding exposure. The materials of the solar frames, racks, ground screws, and railing systems adopt international standards (e.g., AS/NZS 4100) to protect them from coastal exposure and corrosion. The electronic system is encased in water-resistant trays and cabinets. These may be elevated to ensure that the anticipated sea level rise of 15 to 29 centimeters within the project lifetime will not damage the system and will not hamper the operations of the solar farm.

7. The project is classified as category C both for involuntary resettlement and indigenous peoples. The project will expand the existing 2.2 MW facility with an additional 1.8 MW of capacity. The 4.6 hectares required for the project site is part of an existing lease between the landowner, SAA, and EPC for the development of solar farms. SPEL will sublease the required land from EPC. No new additional land is therefore required for the solar farm expansion. No land acquisition was required during installation of the transmission line, as the substation is adjacent to the national highway where the main grid transmission line is located. The environmental and social audit of the existing facility found no outstanding grievances or concerns related to land acquisition for FIA, which occurred in 1942. The population of Satapuala village, the nearest residential area, is 100% Samoan. Samoa's population is ethnically homogenous, and no distinct or vulnerable group of indigenous people will be adversely or beneficially impacted by the project.

8. Required public notifications and consultation with neighboring residents and villages was undertaken by SPEL before and during construction of the existing system. Recommendations from these consultations were implemented by the company. A grievance redress mechanism has been established, and complaints can be addressed to either the chief of Satapuala village or project site staff for processing by the project's site manager. No complaints had been recorded prior to due diligence for the proposed loan.

B. Social Dimensions

9. Measures to benefit women or facilitate their participation in the project are limited due to the size of the operation and the short construction time frame. The project is therefore categorized as having no gender elements. SPEL has implemented an antidiscrimination and equal employment opportunity policy. Employment has been limited to one local female, who works as translator. SPEL is exploring opportunities for women to work as gardeners and maintenance workers at the expanded site. SPEL will comply with national labor laws and, pursuant to ADB's Social Protection Strategy (2001), will take measures to comply with the internationally recognized core labor standards.³ SPEL will report compliance with social dimension policy requirements in its annual report to ADB.

² Government of Samoa, Ministry of Natural Resources and Environment, Meteorology Division. Mean rainfall maps. <http://www.samet.gov.ws/index.php/mean-rainfallmaps>.

³ ADB. 2003. *Social Protection*. Manila (adopted in 2001).