

## SAFEGUARDS AND SOCIAL DIMENSIONS SUMMARY

1. The proposed loan to PT. Jawa Satu Power (the borrower) is to support the development of the Jawa 1 Liquefied Natural Gas-to-power project in Indonesia. The proposed project consists of a 1,760MW combined-cycle gas turbine (CCGT) power plant in Cilamaya Village, Karawang Regency, as well as a gas pipeline, water intake and outlet pipelines, transmission line and associated facilities. The associated facilities comprise of a floating storage regasification unit (FSRU) with nominal capacity of 82,000 metric tons moored eight kilometers offshore north of Ciasem Bay, Subang Regency.

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2. **Environmental safeguards.** The project is classified as category A for environment. A draft Environmental and Social Impact Assessment (ESIA) was disclosed on ADB's website on 23 March 2018.<sup>1</sup> ADB has worked closely with the sponsors to ensure that the project complies with both national and international standards, including ADB's Safeguard Policy Statement (SPS) requirements, prior to Board. The revised ESIA includes comprehensive baseline studies, assessments of risks and impacts, along with a detailed environmental and social management plan to manage and monitor the impacts of the project. The sponsors will recruit experienced safeguards staff to ensure effective implementation prior to project commencement.

3. The project infrastructure occupies modified agricultural land (paddy fields and fish farms) and the marine environment. The coast is a low-energy depositional environment with degraded water quality. There are no coral reefs, seagrass communities or mammals of conservation significance known in the project area. The 52-kilometer transmission line crosses paddy fields, watercourses, roads and villages.

4. The CCGT is adjacent to an existing LNG processing facility which includes a gas pipeline that runs parallel to the proposed pipelines. The onshore pipelines and new road cross a zone of Protection Forest and an Endemic Bird Area<sup>2</sup> located along the Javan coast. The area is modified with fish ponds and sparse mangroves. Due to potential impacts to mangroves and bird habitat, a precautionary approach was taken in the disclosed ESIA. On the advice of ADB, a targeted avifauna survey was conducted by an avifauna specialist engaged by the environmental consultant. Several protected and threatened bird species were found in the wider area, including the endemic Javan white-eye (*Zosterops flavus*). However, the project area of influence does not support threatened bird species or suitable habitat and does not qualify as critical habitat.

5. Construction impacts include potential degradation of terrestrial and marine habitats, sedimentation, dust, noise, traffic, erosion, solid waste generation, use of hazardous substances, and health and safety issues. There will also be potential impacts from workers on local communities. The majority of the construction works are to be undertaken in modified habitat, with the project design avoiding most impacts on natural habitat. Clearance of 0.33 hectares of mangroves due to the project is to be mitigated by protecting up to 1.65 hectares of mangroves in order to achieve no net loss in biodiversity values. Dredging volumes for the jetty and pipeline will be 45,981 m<sup>3</sup>, reduced from an original proposal of 80,000 m<sup>3</sup>, achieved through changing the jetty design and dredging disposal methodology. Modelling of sediment discharges in the marine environment has been conducted and the impact on fisherfolks and potential risks were considered as part of the ESIA. The sponsor has agreed to undertake a comprehensive fish catch survey to

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<sup>1</sup> <https://www.adb.org/projects/51112-001/main>

<sup>2</sup> <http://datazone.birdlife.org/eba/factsheet/161>

set a baseline prior to the commencement of construction. At the CCGT site there will be potential noise impacts for nearby residents during construction, particularly from piling, earthworks and transport of construction material and fill. The sponsor has agreed to implement mitigation including pre-boring of piles, use of dampers when impact piling, restricting noisy work to daytime hours and installation of a noise wall. The sponsor has developed a set of standards for workers' accommodation and will implement a code of conduct to minimise impacts to the community. Workers will be trained in health and safety matters (including the prevention of communicable diseases) and undergo annual medical check-ups.

6. During operations, the key environmental issues identified include air emissions, water discharges, solid waste, noise, hazardous substances, and health and safety issues. Baseline ambient air quality monitoring was conducted over a total period of six months (three months during the dry season and three months during the wet season) using a combination of diffusion tubes and continuous air monitoring equipment. Results found that the airshed is non-degraded for nitrogen dioxide (NO<sub>2</sub>) which is the main pollutant of concern for gas-fired power plants. Air dispersion modeling from the CCGT combined with ambient emissions confirms that predicted NO<sub>2</sub> emissions comply with local standards and international guidelines, including World Health Organisation standards.<sup>3</sup> Noise modelling has been conducted for the operation phase and found to comply with IFC guidelines, meaning that noise levels will not result in a perceptible increase of more than 3 A-weighted decibels (dBA).

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7. The power plant will utilize 5,274 metric tons of seawater per hour in a closed-loop cooling system. Wastewater discharges of up to 3,800 tons per hour will be directed to the Jawa Sea and will be treated prior to discharge to adhere to IFC and Indonesian marine water standards. Modelling confirms that after mixing, changes in temperature and salinity are within the range of natural variation at this site. Discharges from the FSRU (as an associated facility) have also been modelled, confirming that water quality returns to background levels within a few metres of the vessel. Hazard assessments have been undertaken for the power plant and associated facilities. Exclusion zones will be established for safety and security purposes and an Emergency Response Plan will be implemented.

8. Stakeholder consultation has been undertaken during the local environmental approval process and during the preparation of the ESIA. ADB safeguards staff have attended several consultation meetings and provided advice to the sponsor to facilitate effective stakeholder engagement during pre-construction, construction and operation. A community grievance redress mechanism has been developed and socialized.

9. **Social Safeguards.** The project is classified B for involuntary resettlement and C for impacts on indigenous peoples. A total of 76.3 hectares (ha) of land will be acquired by the project through voluntary negotiation (willing buyer-willing seller) for the power plant, on-shore pipeline, jetty, pumphouse, transmission line (TL) tower footings, and the substation. Negotiations involve around 132 land owners and 27 land users. In addition, around 174 ha of land under the TL will be subject to land use restriction, such as limiting trees and building height, affecting 727 land owners (724 private land owners and 3 government entities). A Resettlement Plan (RP) has been prepared to guide the conduct of voluntary negotiations and negotiated settlement in accordance with ADB

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<sup>3</sup> The maximum 1-hour NO<sub>2</sub> emissions from the plant and existing sources will be 179 micrograms per cubic meter (µg/m<sup>3</sup>), which is below the local regulatory standards (400 µg/m<sup>3</sup>) and World Health Organization Guidelines (200 µg/m<sup>3</sup>). Maximum annual NO<sub>2</sub> emissions are up to 20.5 µg/m<sup>3</sup> compared with the local standards (100 µg/m<sup>3</sup>) and World Health Organization Guidelines (40 µg/m<sup>3</sup>). The 24-hour emissions of 62.8 µg/m<sup>3</sup> is also within guidelines.

guidelines. The RP also includes a livelihood restoration program for 20 vulnerable affected land owners.

10. The TL tower footings (totaling 11.6 ha of paddy field) and the substation (8 ha of paddy field) has been acquired between 2017-2018 through negotiations with 124 land owners and 23 land users. The land owners have received at least 80% of the agreed compensation and the outstanding 20% will be paid upon formal completion of the land transfer.

11. The land for the power plant (36.7 ha) is currently a vacant and owed by *Pertagas* who will sell the land to the project. As part of its corporate social responsibility program, *Pertagas* had given a written permission for 36 people to temporarily cultivate the land. The program formally ended in November 2016. The vacant land is now used for goat grazing. The land for the onshore pipeline and access road will be partly acquired (17.3 ha) and partly leased (18 ha), affecting 12 land owners and land users. The area is being used for paddy and fishponds. Administratively, the lands belong to the Ministry of Environment and Forestry and categorized as a protected forest. However, the surrounding communities have cultivated the land for years and some of them already obtained proof of ownership. During construction, the project will rent some plots of land for temporary use and only in case the acquired land is not enough.

12. There are no recognized indigenous peoples within the vicinity of the proposed project sites in West Java. Java island dwellers are the largest ethnic group in Indonesia. Most of the land owners and people in the project area belong to the Sundanese ethnic group or a mixture of Sundanese and Javanese, while those in the Bekasi area are Sundanese and Betawi. These people do not display a collective attachment to the area. While each of the groups speak their local language, all of them communicate smoothly in Bahasa Indonesian. The people in the project area are well integrated in the mainstream economic activities. They are also well included and represented in the formal decision-making bodies and processes.

13. **Other social dimensions.** The project is categorized as having some gender elements. The project will offer opportunities for women to improve their livelihood activities and access to labor market opportunities. The project targets to (i) employ at least 240 women during construction; (ii) employ at least 15 women during operations, (iii) provide assistance to vulnerable women affected by land acquisition, if any; (iv) tap women's groups to supply local procurement requirements of the project; and (v) ensure that women participating and benefiting from training on livelihood and skills development accounted for at least 40% of total number of participants. During the construction and operations phases, about 4,800 workers and 125 staff will be employed, respectively. The borrower and its contractors will comply with ADB's Social Protection Strategy (2001) and report annually to ADB on their compliance with national labor laws and internationally recognized core labor standards.<sup>4</sup>

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<sup>4</sup> ADB. 2003. *Social Protection*. Manila (adopted in 2001).