Early Warning System

ADB-49067-001

Southern Thailand Waste-to-Energy Project

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Quick Facts

Countries	Thailand
Specific Location	Ku Sub-district, Chana District, Songkhla Province
Financial Institutions	Asian Development Bank (ADB)
Status	Approved
Bank Risk Rating	B
Voting Date	2017-10-20
Borrower	Chana Green Company Ltd
Sectors	Energy
Potential Rights Impacts	Healthy Environment, Labor & Livelihood, Right to Health
Investment Type(s)	Loan
Investment Amount (USD)	$ 33.60 million

Project Description

The Chana Green Company Limited plan to develop a biomass power plant using wooden waste from agriculture activities such as rubber wood, acacia wood. The plant will be 25 MW located in 161.49 rai. The Electricity Generating Authority of Thailand (EGAT) approved the company for a project of power purchase from a small plant under the government's Alternative Energy Development Plan. The electricity from the project will supply to the grid of EGAT in non-firm contract basis.

Early Warning System Project Analysis

According to Asian Development Bank documents, the project is classified as category B for the environment and category C for involuntary resettlement and indigenous peoples. This means that “the proposed project’s potential adverse environmental impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An initial environmental examination (IEE), including an EMP, is required”, and “the proposed project has no involuntary resettlement impacts.”

Based on Asian Development Bank documents, “since the project is Category B for environment, Safeguard Requirements 1: Environmental and eleven policy principles have been triggered.” World Bank Group’s Environmental, Health and Safety guidelines are also applicable. The Environmental Impact Assessment (EIA) therefore outlines different key environmental and social indicators.

- **Air Quality**. According to the EIA, the construction phase and operation phase could potentially lift dust into the air from transporting and processing materials. Therefore, the project includes mitigation measures which, according to the report, will keep air quality within national and international standards.
- **Noise Level**. Noise measurements at Moo 6 Baantung, 600m away from noise sources, predicted that interfering noise from construction could exceed acceptable levels. However, Chanupatham School is located 318m away from the noise source. The report states that the water reservoir will serve as a noise buffer for students, and that the project will include other mitigation measures.
- **Water Resources**. The EIA determined that water consumption for the power plant will require building a freshwater reservoir, so that the community, agricultural activities and ecosystem around Nathawee Canal will not be significantly impacted. The reservoir would extract water from Nathawee Canal and collect rainwater during the rainy season, with a capacity to keep the power plant functioning for 4 continuous months during the dry season. The report finds that installing a freshwater reservoir with water irrigation “will cause acceptable impact to water consumption”. The power plant will produce wastewater as a byproduct of its operation. The EIA says that wastewater will be released to the Nathawee Canal unless it does not follow waste water quality standard according to the Royal Irrigation Department (73/2554). During the dry season, waste water will be stored in a holding pond until there is enough freshwater in the Nathawee Canal to dilute the wastewater to acceptable standards. The report finds that there will be low impact to aquatic biological resources or agricultural activities from wastewater that is acceptable by law. If the wastewater is too contaminated, “the project will ask for wastewater treatment from authorized organizations”.
- **Flooding risks**. The EIA finds that there is a high flooding frequency in the project area (4-7 times in 10 years), so a runoff dyke and water reservoir are necessary to prevent flooding of the area. The EIA states “the communities will not be affected to flood problems more than before.”
- **Ash disposal**. Ashes from burning firewood will be stored in a landfill, as well as tested and distributed to ash users such as farmers, according to the ash quality by law.
- **Socio-economic impact**. The report states that, because the power plant will raise income in the area, a negative impact will be “about a relocation of occupational system from agricultural sector to industrial sector of adolescents” for “maintaining a better living quality”. The report claims that lack of confidence in the project by the local communities is related to a low educational background, “local peoples are not interested in socio-economic news or academic report”. Therefore, the project includes establishing communication channels with community leaders.
- **Occupational health and safety management**. The EIA considers that there is potential for staff health issues, and monitoring health impacts in a 5km radius is required.

People Affected By This Project

Based on the Asian Development Bank’s project documents, this project poses potential risks to the following human rights:

- The Right to a Healthy Environment

Potential harmful impacts identified in bank documents include: air pollution during construction and from stack emissions during operation and water resource pollution due to wastewater, ash or chemical discharge.

- Right to Water

Potential harm to access to water due to the extraction of freshwater resources from Nathawee Canal and the discharge of wastewater.

- Right to Health

Potential health issues stemming from air pollution, water pollution or unsafe working conditions.

- Right to Livelihood

Potential to damage agricultural activities from environmental impact of power plant.

- Right to Education

Potential of harming students´ leaning ability due to air and noise pollution, particularly students in Chanupatham School, 136m away from the power plant.

Investment Description

- Asian Development Bank (ADB)

Private Actors Description

Chana Green Company, Ltd, is a subsidiary of Gulf Energy Development. Owner of the project, the company will operate the power plant and sell the energy to the Electricity Generating Authority of Thailand (EGAT).

STECON (Sino-Thai Engineering and Construction Public Company Ltd) has been selected by Green Chana as the EPC (Engineering, Procurement and Construction) contractor.

Pöyry is a global engineering services provider, and has been selected by STECON as the company who will engineering services for the project.

Consultants of Technology Company Limited have been hired to conduct the Environmental Impact Assessment. Sylvan Agriculture Limited conducted the Annual Environmental and Social Monitoring Report for Chana Green.

Private Actor 1	Private Actor 1 Role	Private Actor 1 Sector	Relation	Private Actor 2	Private Actor 2 Role	Private Actor 2 Sector
-	-	-	-	Bangkok Bank	Investor	-
-	-	-	-	Chana Green Company Ltd	Client	-
-	-	-	-	Consultants of Technology Company Limited	Contractor	-
-	-	-	-	Electricity Generating Authority of Thailand (EGAT)	Buyer	-
-	-	-	-	Gulf Energy Development (GED)	Parent Company	-
-	-	-	-	Pöyry Energy	Contractor	-
-	-	-	-	Sino-Thai Engineering and Construction Public Company Ltd (STECON)	Contractor	-
-	-	-	-	Sylvan Agriculture Limited	Contractor	-

Contact Information

Responsible ADB Department Private Sector Operations Department
Responsible ADB Division Infrastructure Finance Division 2
Responsible ADB Officer Gulshan, Karan Raj (formerly Lockhart, Robert S.)
Project contact details not provided at the time of disclosure.

ACCOUNTABILITY MECHANISM OF ADB

The Accountability Mechanism is an independent complaint mechanism and fact-finding body for people who believe they are likely to be, or have been, adversely affected by an Asian Development Bank-financed project. If you submit a complaint to the Accountability Mechanism, they may investigate to assess whether the Asian Development Bank is following its own policies and procedures for preventing harm to people or the environment. You can learn more about the Accountability Mechanism and how to file a complaint at: http://www.adb.org/site/accountability-mechanism/main

Bank Documents

- ADB, Gulf Chana Green Achieve Financial Close for Biomass Power Project in Southern Thailand
- Environmental and Social Monitoring Report (January-June 2018) [Original Source]
- Initial Environmental Examination Report (Final) 1/5 [Original Source]
- Initial Environmental Examination Report (Final) 2/5 [Original Source]
- Initial Environmental Examination Report (Final) 3/5 [Original Source]
- Initial Environmental Examination Report (Final) 4/5 [Original Source]
- Initial Environmental Examination Report (Final) 5/5 [Original Source]
- Initial Poverty and Social Analysis [Original Source]
- Report and Recommendation of the President [Original Source]

Corporate Documents

- Environmental Impact Assessment and Monitoring Report (Thai Version)

Campaign Documents

- Project Corporate Mapping (ENG)
- Project Corporate Mapping (TH)

Media

- ADB chips in for biomass project
- News from Khaosod (in Thai)
- Why does community oppose the biomass powerplant in Chana? (in Thai)