

## INFORMATION SUMMARY FOR THE PUBLIC

Host Country:	Ghana
Project Name:	Amandi Energy Limited
Project Description:	<p>Development, construction, and operation of an approximately 200 MW Combined Cycle Gas Turbine (“CCGT”) power plant in Aboadze, Ghana. Amandi will sell electricity to the Electricity Company of Ghana (“ECG”) as the sole off-taker pursuant to 25 year USD denominated Power Purchase Agreement (“PPA”) signed in 2013 (the “Project”).</p> <p>Due to rapid Gross Domestic Product (“GDP”) growth and increasing urbanization and electrification rates, Ghana has suffered an acute power supply deficit since 2012. As a result, blackouts are common and Ghana has instituted load shedding when needed.<sup>1</sup> The International Finance Corporation estimates that Ghana loses 5% of GDP annually as a result of lost economic output due to insufficient power supply.</p> <p>Ghana’s power deficit is approximately 500MW. The Project directly addresses this development need by providing up to 200 MW of base load power that will result in a 7% increase in electricity supply. The Project’s tariff of 13.8 cents is lower cost than other current and future independent power producers and emergency power projects.</p>
Total Project Costs:	Up to \$542 million
Name of Insured Lenders:	Rand Merchant Bank and Nedbank
Name of Insured Equity Investor:	A. Energy Development Limited (Mauritius)
Name of the Primary Insurers:	ACE American Insurance Company (Ace American) and Talbot Syndicate 1183 (Talbot), both U.S. private market insurance companies.
Investment Amount and Type:	(i.) Equity investments totaling approximately \$129 million made by Endeavor Energy, Aldwych Aboadze Energy (comprising Pan African Infrastructure Development Fund 2, ARM-Harith Infrastructure Fund and Aldwych International), and the Amandi Group (the “Equity Investors”). The Equity Investors will invest through A. Energy Development Limited (Mauritius).

<sup>1</sup> The deliberate shutdown of electric power in a part or parts of a power distribution system, generally to prevent failure of the entire system when the demand strains the capacity of the system.

	(ii.) Loans, including principal, a fuel letter of credit (“Fuel Letter of Credit”), and insurance premiums of approximately \$130 million in the aggregate plus interest, made by commercial lenders, Rand Merchant Bank (“RMB”) and Nedbank (“Nedbank” and together with RMB, the “Private Commercial Lenders”).
Proposed OPIC Reinsurance Amount:	An aggregate of up to \$210 million comprised of: (i) up to \$30 million maximum aggregate compensation of reinsurance to Talbot for the equity investments of the Equity Investors and (ii) up to \$180 million of maximum aggregate compensation of reinsurance to Ace American for the loans provided by the Private Commercial Lenders. For the loans, the maximum aggregate compensation is set at an amount that will cover, principal and interest due to the Private Commercial Lenders.
Proposed Insurance Coverages:	Equity: Nonpayment of an Arbitral Award (Expropriation)  Lenders: Nonpayment of an Arbitral Award, including Denial of Justice (Expropriation), Traditional Expropriation, Inconvertibility and Political Violence (including Forced Abandonment)
<b>Policy Review</b>	
U.S. Economic Impact:	The Project is not expected to have a negative impact on the U.S. economy, as it involves the generation of electricity that will be sold to the national grid in Ghana. U.S. procurement associated with this Project is expected to have a positive impact on U.S. employment. The Project is expected to have a negative five-year U.S. balance of payments impact.
Developmental Effects:	This Project is expected to have a highly developmental impact on Ghana through the construction and operation of a combined cycle gas turbine power plant that will supply electricity to the country’s national grid. Ghana suffers from an unreliable and inefficient supply of electric power, which has resulted in an average of 8.4 electrical outages per month, lasting an average of 7.8 hours. As noted above, the International Finance Corporation estimates that Ghana loses 5% of GDP annually as a result of lost economic output due to insufficient power supply. The Project aligns with the Government of Ghana’s objective to improve the power sector through private investment, and plays a critical role in the U.S. Government’s Power Africa initiative. The gas turbine technology that will be utilized by the plant will be an enhancement over the previous version, resulting in improvements to plant efficiency and output. The Project will also create several local jobs.
Environment:	<b>Screening:</b> This Project has been reviewed against OPIC’s categorical prohibitions and determined to be categorically eligible. The Project has been screened as Category A because its greenhouse gas emissions exceed 100,000 tons of CO <sub>2eq</sub> per year.

**Applicable Standards:** OPIC's environmental and social due diligence indicates that the Project will have impacts that must be managed in a manner consistent with the following International Finance Corporation's (IFC) 2012 Performance Standards:  
PS1: Assessment and Management of Environmental and Social Risks and Impact  
PS2: Labor and Working Conditions.  
PS3: Resource Efficiency and Pollution Prevention  
PS4: Community Health, Safety and Security  
PS5: Land Acquisition and Involuntary Resettlement  
PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources  
PS8: Cultural Heritage

The Project has no known impacts on Indigenous Peoples. Therefore, P.S. 7 is not triggered at this time.

Consistent with the requirements of PS 3 (Resource Efficiency and Pollution Prevention) the Project is required to meet applicable provisions of the IFC General Environmental Health and Safety (EHS) Guidelines (April 30, 2007) and the IFC EHS Guidelines for Thermal Power Plants (December 19, 2008), Environmental, Health, and Safety Guidelines for Construction Materials Extraction (April 30, 2007), and to use best efforts to meet the EHS guidelines for Electric Power Transmission and Distribution (April 30, 2007).

**Environmental and Social Risks and Mitigation:** The major environmental and social issues associated with the Project are related to air quality, noise, biological or ecological issues associated with disturbance to the site, in particular mangroves that will be removed as part of construction, water supply or water discharge, the need for appropriate occupational health and safety measures to assure worker safety during construction and operation of the Project, and potential cumulative impacts due to the possible development of multiple power generation facilities in close proximity to the site.

The plant will initially run on Light Crude Oil (LCO), but also has the capability to run on diesel fuel and natural gas. Diesel fuel will only be used during startup and as backup in the unlikely circumstance that LCO is unavailable. Natural gas will become the primary fuel for the facility once available; however, the timing of natural gas availability is uncertain. As a result, impacts from the facility have all been evaluated using LCO, the worst case scenario. The LCO will be delivered by tankers to a Single Point Mooring (SPM) buoy and then transported to the site via pipeline to the existing VRA site. From the VRA site to the Amandi site the Project will construct a new 1 km pipeline.

The burning of LCO will result in emissions of NO<sub>x</sub>, SO<sub>2</sub> and Particulate Matter. NO<sub>x</sub> emissions will be controlled via a water injection system and the fuel used will have sulfur and ash contents low enough to meet IFC guideline limits for these pollutants. Ambient air quality modeling does not indicate any exceedance of Ghanaian standards. Nonetheless, baseline air quality data was not extensive and it is unclear if the existing plants adjacent to the site were operational during the sampling period. The facility will have continuous emissions monitoring to assure stack emissions meet IFC requirements for this type of plant and OPIC will require continued ambient air quality monitoring and mitigation if necessary to assure impacts are as predicted. CO<sub>2eq</sub> emissions for the plant are estimated at 1.44 million tons.

Noise modeling was conducted to determine baseline noise levels and predicted noise once the power plant is operational. Noise levels are predicted to be within IFC requirements, with the exception of one receptor. Mitigation will be required for that receptor and noise monitoring will be required during operations to verify noise emissions meet IFC standards.

The site is bordered on the west by the Anankwari River. The river supports a mangrove forest of which approximately one hectare will be disturbed during construction. The Project will mitigate this impact by the planting of an additional 3.8 hectares of mangroves. OPIC will require a biodiversity management plan to assure the mitigation is effective. There is no other vegetation of ecological significance on the remainder of the site. The Anankwari River was also identified in the Environmental and Social Impact Assessment as sacred and locals have indicated the need for rituals prior to construction. OPIC will require consideration of these cultural sensitivities in the Stakeholder Engagement Plan.

The plant will have a dry cooling system in place to minimize water requirements. Water will be needed for NO<sub>x</sub> control and plant operations and will be withdrawn from the ocean via a buried pipeline which will extend about 1.2 km offshore. Wastewater will also be discharged into the ocean via a treated effluent discharge pipeline which will run alongside the intake pipeline and extend about 600 meters offshore. OPIC will require monitoring of effluent discharge to assure it meets IFC requirements. The Project will require transport of fill and materials by truck to the site. A portion of the road goes through a densely populated area with both residences and businesses located close to the road. OPIC will require a transportation safety plan to assure consideration of these issues.

	<p>Cumulative Impacts for this project are an issue. The Project site is adjacent to three existing power plants owned and operated by the Volta River Authority (VRA), the government-owned energy supplier. VRA has plans for a fourth plant near the Project site. Additionally, three other independent power companies have plans to construct generation plants on sites adjacent to the Amandi facility. While the likelihood of all these projects going forward is uncertain at this time, total power produced in the area could be as much as 2,700 MW. The construction and operation of a significant number of large generating facilities in a concentrated area may have cumulative impacts on traffic, impact air quality and noise, and result in other environmental and social impacts to the residents in the nearby town of Aboadze. OPIC will require that the developer use best efforts to coordinate with other developers in the area to minimize cumulative impacts and to coordinate monitoring of air quality and noise. Additionally, interaction with the local communities should be coordinated as well as any corporate social responsibility programs.</p> <p>In addition to the mitigation described above, the Project will be required to provide OPIC with annual reports summarizing the Project’s Environmental and Social Performance and demonstrating compliance with the IFC Performance Standards and industry specific guidelines. The Project will also be required to conduct an independent third party audit to show compliance with environmental and social covenants and to develop an Occupational Health and Safety Plan and Emergency Response Plan for both the construction and operational phases of the Project.</p> <p><b>OPIC Site Visit:</b> OPIC staff undertook an environmental and social due diligence site visit from March 24 through 27, 2015. Meetings were held with the Ghana Environmental Protection Agency (EPA), The Ghana Energy Commission, the Shama District Assembly, Chief and Elders of Aboadze, community representatives from Kwaku Anlo and Nyametease villages, and a local education NGO.</p> <p><b>Community Consultations:</b> Public consultation meetings have been ongoing for a number of years and are documented in the Project’s Stakeholder Engagement Plan.</p>
Workers Rights:	<p>OPIC’s statutorily required standard worker rights language will be supplemented with provisions concerning the rights of association, organization and collective bargaining, minimum age for employment, hours of work, the timely payment of wages and hazardous work situations. Standard and supplemental contract language will be applied to all workers of the Project. The Project will be required to operate in a manner consistent with the International Finance Corporation’s Performance Standard 2 on Labor and Working Conditions.</p>

	<p>The Project has developed an Environmental and Social Management Plan (ESMP) in accordance with the IFC Performance Standards, OPIC's Environmental and Social Policy Statement and the local Ghanaian Labor Code. OPIC will further require a Labor Management Plan that includes the implementation and adoption of Human Resource Policies, including a non-discrimination and equal opportunity employment policy, a formal project-level grievance mechanism, which will be made available to all workers, and a Security Management Plan that will incorporate the Voluntary Principles on Human Rights and Security. Amandi will require each contractor to develop a Contractor Environment and Social Management Plan (CESMP) which includes a labor management plan and corresponding monitoring procedures.</p>
Human Rights:	<p>OPIC issued a Human Rights clearance for this Project on September 23, 2016.</p>