

**INFORMATION SUMMARY FOR THE PUBLIC  
REDSTONE CSP**

Host Country(ies):	South Africa
Name of Borrower(s):	ACWA Power SolarReserve Redstone Solar Thermal Plant Power Plant Proprietary Limited, South Africa
Project Description:	Development, construction and operation of a 100 MW concentrating solar power plant located in Northern Cape, South Africa.
Proposed OPIC Loan:	Up to \$250 million, plus an additional up to \$150 million for local currency appreciation cover totaling \$400 million.
Total Project Costs:	Approximately \$856,900,000.
U.S. Sponsor:	SolarReserve, Inc.
Foreign Sponsor:	International Company for Water and Power Projects, Inc. Saudi Arabia
<b>Policy Review</b>	
U.S. Economic Impact:	This Project involves the construction of a 100 MW concentrating solar power plant in South Africa, with all new energy capacity sold to the national utility company. 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 will have a positive development impact on the host country through the construction of a concentrating solar power generation plant. The Project comes in response to a South African government initiative to increase the supply of renewable energy through private investment, and plays a critical role in the U.S. Government's Power Africa initiative. According to USAID, the supply of electricity has struggled to keep up with growing demand of 7.5 percent per year. This Project will utilize advanced solar power generation technology, with the highest energy storage capacity of up to 12 hours. The Project is expected to create up to 1,400 new construction jobs, as well as dozens of permanent jobs in South Africa, where the current unemployment rate is 24 percent.
Environment:	<b>SCREENING:</b> The Project has been reviewed against OPIC's categorical prohibitions and determined to be categorically eligible. The Project is screened as Category B because its impacts are site specific and readily mitigated. The primary environmental and social issues associated with the Project include potential impacts to surface water resources; the necessity to implement occupational health and safety procedures, including provision of worker accommodation up to

international standard or equivalent, to protect workers during construction; need for proper hazardous and solid waste management and hazardous materials management; potential disturbance of sensitive ecological species through habitat alteration; collision impacts to avifauna; and potential impacts on nearby communities and cultural sites identified in the area.

**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 Performance Standards:

PS1: Assessment and Management of Environmental and Social Risks and Impacts;  
PS2: Labor and Working Conditions;  
PS3: Resource Efficiency and Pollution Prevention;  
PS4: Community Health, Safety and Security;  
PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources; and  
PS8: Cultural Heritage.

The Project site is uninhabited and a lease is being negotiated with an individual owner on a willing seller basis; therefore PS5 is not triggered for this Project. Based on available information, there are no communities in the area immediately surrounding the Project which would be considered indigenous under PS 7 (Indigenous Peoples); therefore PS 7 is also not triggered at this time.

Consistent with the requirements of PS 3 (Pollution Prevention and Abatement) the Project will be required to meet applicable provisions of the 2007 IFC General Environmental Health and Safety Guidelines and the 2007 IFC Environmental, Health and Safety Guidelines for Transmission and Distribution Lines. Because the Project will use natural gas and diesel during the 50-70 days required for plant start-up, the 2008 IFC Environmental, Health and Safety Guidelines for Thermal Power Plants also apply.

**Environmental and Social Risks:** The Project site is located in the Kalahari Mountain Bushveld savannah biome and is dominated by shrubs and grasslands of limited ecological sensitivity. The site is disturbed, was used previously for farming and now primarily for grazing. There are clumps of wild olive trees, which are locally protected, and which will be removed during construction. New olive trees will be planted as

a visual screen along the road to mitigate for removal of the trees and visual impacts.

A Social and Environmental Impact Assessment (SEIA) was prepared for the Project and a draft social and environmental management plan also has been developed. Environmental, social, health and safety policies have not yet been finalized, but will be required as part of the Environmental and Social Management System which will be developed for the Project. The Project will use dry cooling condensers which will minimize water requirements. The Project will be zero discharge, which will necessitate the installation of on-site evaporation ponds. The ponds will be fenced and secured to prevent animal intrusion. Air quality impacts are expected to be minimal as the plant will use fossil fuels only during startup. Greenhouse gas emissions are anticipated to be less than 5,000 tons/year. It is estimated that the Project will avoid approximately 487,200 tons of CO<sub>2eq</sub> per year.

The Project is likely to result in some bird mortalities from collisions with the central receiver tower and transmission lines and potentially through burning at focal or standby points. However, the Project is not located within a migratory bird route nor in or near an Important Bird Area. Therefore it is anticipated that avian impacts will not be significant.

The Project may result in some displacement of small land animals. The region in general is characterized by untransformed and large expanses of relatively pristine woodland and grassland habitat types. According to the SEIA, loss of an area as large as the project site will affect a number of species migrating between these pristine habitats. While larger animals are able to avoid unsuitable habitat, smaller animals might not be able to cross or avoid the Project site.

Cultural heritage sites including archaeological sites and cemeteries were identified in the area while conducting the SEIA. The Project intends to avoid disturbing these areas; however if impacts cannot be avoided, the Project will follow strict protocols as mandated by South African law to move or recover cultural heritage.

The Project will impact the visual landscape of the area, mostly due to the installation of the 200 m central receiving tower. The heliostat field will be visible from some locations, but the topography of the site will provide some screening.

	<p><b>Risk Mitigation:</b> OPIC will require that the Project develop an Environmental and Social Management System, a site specific Occupational Health and Safety Plan, a Labor Accommodation Plan, Stakeholder Engagement Plan, Biodiversity Management Plan and Security Management Plan. Additionally, the Project will be required to install mitigation which may include anti-perching spikes on the CSP tower and associated structures, bird perches on transmission line monopole structures and bird flight deflectors, to minimize impacts to birds. Bird and bat species will be monitored as one of the requirements of the Biodiversity Management Plan. Installation of secure fencing or other barrier will also be required around the evaporation ponds, sewage treatment plant, waste areas and construction worker accommodation sites to prevent the movement of nocturnal burrowing species into these areas where they may be injured.</p> <p><b>OPIC Site Visit:</b> OPIC staff undertook an environmental and social due diligence site visit on July 9, 2014.</p>
Worker 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; to fully align its worker contracts and human resource policies, as well as those of its EPC contractor and subcontractors, with the requirements of the Performance Standards; to develop a grievance mechanism accessible to all workers of the Project, including contractors and subcontractors; and to develop an internal labor monitoring and compliance system for contractor and subcontractor oversight.</p> <p>At peak construction, the Project expects to employ an estimated 1,400 workers, with 600-700 employed in unskilled positions and with the remaining employees working in professional or technical positions. The majority of the unskilled labor will be sourced from surrounding villages and the vast majority of all Project labor will be sourced from within South Africa.</p>
Human Rights:	OPIC issued a human rights clearance on August 11, 2015.