

CSP-Africa Study

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Abstract - Eskom is South Africa's electrical utility and supplies 95% of the country's electricity requirements, which equals more than half of the electricity generated on the African continent. Eskom is also presently among the top five utilities in the world in terms of size and sales. Eskom's research and development programme is strongly driven by both the medium-term operational needs of the line groups and the longer-term strategic and environmental priorities of the Southern and South African power sector. As such it was felt that there existed a need to define Eskom's involvement in renewable energy generation and hence, the South African Bulk Renewable Energy Generation (SABRE-Gen) program was created in 1998. SABRE-Gen has as its aims the evaluation and demonstration of renewable energy generation technologies that will be viable in South and Southern Africa. One of the current projects under the SABRE-Gen program is the Concentrating Solar Power for Africa (CSP-Africa) study. The study will evaluate all the current existing CSP technologies and identify which of these will be most suitable for implementation in South Africa and the region. The project is a co-funded study between Eskom and the Global Environment Facility (GEF), with technical expertise being provided by Sunlab. The following schedule will be followed: Screening of technologies, Reference site characterisation, Development of conceptual designs, Performance evaluation, Economic/Social/Environmental evaluation, Cost/Benefit analysis, Recommendations. The study will identify the most suitable technology for application by Eskom. It will also make recommendations as to the way forward. A possible next step could be a complete feasibility study on the identified technology, followed by implementation. The CSP-Africa study will commence in October of this year. It will be the focus of this paper to present some of the results obtained by the completion of the first four tasks, listed in the above schedule.