

OVERVIEW OF CSIR'S ACTIVITIES TOWARDS SMART SUSTAINABLE ENERGY FOR RURAL COMMUNITIES

S Szewczuk

Council for Scientific and Industrial Research, Pretoria, South Africa

Abstract

CSIR has a long history in energy and energy related matters. Initially, this work was primarily focused on the industrial sector, with a specific emphasis on coal that was and still is the primary energy source in South Africa. Additionally, activities have included thermal efficiency of building design, solar water heating and the evaluation of photovoltaic installations. CSIR has developed and established electronic databases that provide information on South Africa's eco-system and that can be linked to investigations in the field of renewable energy. CSIR has increasingly focused on the area of technology for sustainable development, thereby moving away from the bias of the formal sector, towards a more balanced approach that includes all strata of South African society. CSIR as an organization has significant activities within developing communities, as well as strong links with business, the financial sector and all levels of government. As a result of the work done in technology for development an interest in renewable and alternative energy towards a low carbon economy was developed. Such work is of strategic importance to those communities that are unlikely to be connected to the electricity grid within the foreseeable future. This paper provides a review of the various tools that have been developed, projects undertaken and models developed that provides the basis for smart sustainable energy for rural communities.