

**WS102:**

***Installation of 30 kW Solar Powered Pumping System in Egyptian Desert of Alamin***

By

*Ahmed Hegazi*

**Abstract:**

Desert development is the key countering urban crowding in a country like Egypt. Although the Nile Valley accounts for just four percent of Egypt's surface area, with expected population to be doubled by 2050. Western desert in Egypt is a part of the great Sahara with a very hard climate to start a agricultural community for its arid conditions. In Egyptian desert of Alamin (N30° 17'21.9" E 028 40'4") 300 km from Cairo. A pump of 82m<sup>3</sup>/h peak were installed. The area of 7'000 Feddan (Fed=4200m<sup>2</sup>); was reclaimed and prepared to cultivate Jojoba plants. This major project is a pioneer one for the producing is a shrub native to the Sonoran and Mojave deserts of Arizona, California, and Mexico. It is the sole species of the family Simmondsiaceae, placed in the order Caryophyllales. Jojoba is grown for the liquid wax (commonly called jojoba oil) in its seeds. This oil is rare in that it is an extremely long (C36\*C46) straight-chain wax ester and not a triglyceride. Jojoba oil is easily refined to be odorless, colorless and oxidatively stable, and is often used in cosmetics as a moisturizer and as a carrier oil for specialty fragrances. The systems were designed and assembled by Egyptian specialists and supervised by good reputed research centers and professors. System with 30 kW submersible pump has a motor 30-60 Hz, 3 Phases, 380 V, the inverter has a very good control unit and protection circuits. Nokrashy (2006) declared that Egypt should target a RE-share of 30% in year 2020 as it has now already 16% (including hydro energy from the dams on the Nile, Mueller et al., (1998) started a small scale farm (two hectare) irrigated with solar powered irrigation system using photovoltaic generator. The Future shows a great need to maintain the same topic except the generator should be a small scale CSP general.