1. Design and Development of a Low Cost Tailored Standalone Hybrid Power System At Sayedna-Al-Khedr and Sayedna-Moussa Villages; PI Dr Tarek Hatem; funded by Misr ElKheir, fund 500,000 EGP. (Completed)
This project aims to fulfill the basic life necessities for two of the most underprivileged rural villages in Egypt. Based on interviews with the residents of the villages, absence of electricity has appeared to be the central problem that originates other basic problems such as absence of healthcare, water supply, education, etc. The project aims to create a cost-effective standalone hybrid power system to supply electricity to the critical buildings of the villages relying on renewable energy resources rather than the costly connection to the national grid.

2. STDF Project ID: 10663 Project Type: National Challenges Program Chemical and physical vapor deposition: Thin Film Deposition for Selective Solar Absorbers; PI Dr Mostafa Shazly and Prof Dr Iman El-Mahallawi; funded by STDF.
The proposed research aims to develop and fabricate a prototype for a selective coating absorber suitable for high temperature solar collectors. High-temperature cermets and multiple layers of cermets have a high probability of meeting these goals. By using metals and dielectrics that are stable at higher temperatures (e.g., W, Au, Pd, Pt, ZrO2, MgO, MnO, SnOx:F, AlN, AlON, CeO2, or TiO2) (Kennedy C. , 2002) and incorporating multiple AR coatings and multiple cermets coatings along with the appropriate texturing, materials could be improved or developed closer to the requirements for parabolic troughs (Kennedy C. , 2002).
The research approach is to suggest the most suitable parameters for coating using PVD method as reactive magnetron sputtering. At the end of the proposed project, the ability to manufacture an affordable and high efficiency solar absorber will be achieved leading to a reduced cost solar system. Similarly, the manufacturing parameters will be selected based on available resources.

3. Project No. 25646, "Fabricating and testing of thermoelectric Si nanowires", Funded by Science & Technology Development Fund.
In this project conductive polymers and composites of carbon nanotubes (CNTs) or silicon nanowires will be fabricated to thermoelectric devices that can be employed in different applications, such as engines, to recover part of the energy lost in these applications. Various methods proposed to introduce silicon nanowires or carbon nanotubes into the polymeric matrix will be investigated and the most feasible will be adopted in the present work".

4. GREEN ENERGY Company, performance testing for three different panels from their company, a technical report was done after performing the required tests.