## **ABSTRACT:**

Tracking of solar collectors is an effective way to maximize energy collection. For parabolic trough concentrator, especially in the Mediterranean regions, many tracking modes are feasible. In this paper we investigate the effect of tracking mode and collector orientation on the performance of a parabolic trough solar concentrator. In order to do so, we have selected three countries that appear particularly interesting from this perspective: Algeria, Egypt, and Spain. The reason for this choice is that these countries are already pursuing proactive policies in renewable energies. In this study, a number of conclusions are deduced from these analyses and special attention is paid to the question of which is the best tracking mode for parabolic trough solar collector in the Mediterranean