

# **Abstract**

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## **Optimization of Hybrid Renewable Energy Systems (HRES) Using PSO for Cost Reduction**

This paper presents a method for the optimization of the power generated from a Hybrid Renewable Energy Systems (HRES) in order to achieve the load of typical house as example of load demand. Particle Swarm Optimization Technique (PSO) is used as optimization searching algorithm due to its advantages over the other techniques for reducing the Levelized Cost of Energy (LCE) with an acceptable range of the production taking in consideration the losses between production and demand sides the problem is defined and objective function is introduced taking in consideration fitness values sensitivity in particle swarm process. The algorithm structure was built using MATLAB software.