

# Design and Development of Hot Air Engine

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**Abstract:** *The demand for electrical energy has been extremely high in recent years. In today's world, more emphasis is being placed on producing electricity using clean renewable energy sources. For instance, by utilizing solar energy. This project discusses the design and development of a hot-air engine to generate electricity using solar energy. A hot air engine is designed and developed primarily on the principles of the Stirling engine. This engine will be tested with hot air as a fluid. This hot air will be forced through the cylinders. We are going to use solar energy as a heating source to heat the air. The development of such a hot air engine for domestic use is regarded as a primary design criterion. The Hot Air engine makes best of use of solar sources in an environmentally friendly way. It has no emissions and live longer as compared to Photovoltaic cells. The Stirling engine can operate at Low Temperature difference, which makes it prominent. In order to study the efficiency of a conversion from thermal energy to work. The main purpose of the Engine is to promote the use of Stirling engines in 'Green and Clean energy' applications. For future solar energy generation research Hot Air engines are of prime importance as it has high theoretical efficiencies.*

**Keywords:** Hot air engine, Power piston, heated gas, etc

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