

## Hybridization of power plants for sustainable development taking thermal power generation using husk as fuel as an illustration

**Shashank Misra**  
VIT University, India

Sustainable Energy is generating energy without compromising with the need of future generation. According to the current energy demand the available conventional resource will be exhausted in a few decades. And the minatory demand is increasing by the minute. Engineers are coming up with new ways to create environment friendly ways to generate electricity. In this paper we look into a new idea of creating power more efficiently. The paper introduces hybridisation of two types of plants incorporating a renewable source, which is, Geothermal Energy, with a Thermal Power Plant to generate electricity. In this plant we use a Fluidised Bed type furnace. Traditional fuel coal is replaced with husk but not completely. Coal plays the role of an igniter in conditions when the temperature of the furnace falls due to excessive moisture in air and husk. Another modification is that the exhaust gases upon exit from the thermal plant will be directed onto Geothermal site. The main purpose is to heat up the Flue Gases to superheated level by the excessive temperature in the earth's crust. Superheated Flue gas extracted from this site will be directed onto a set of turbines to create electricity. Therefore, it utilises the already hot temperature of flue gases. This paper also introduces a new fuel Husk, which an abundant agro-waste, to reduce dependency on coal.

### Biography

Shashank Misra is currently in his final year, pursuing B.Tech in Mechanical Engineering (Specialisation in Energy Engineering) from Vellore Institute of Technology, Vellore.

[shashankmisra116@yahoo.com](mailto:shashankmisra116@yahoo.com)