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**Electricity generating device from waste heat of gas stoves and chul has using
thermoelectric effect (THERMEN)**

Problem Statement

It is observed that most of the kitchens in India, be it rural or urban regions, uses gas/fuel/firewood stove as a primary equipment for cooking and heating. But the percentage of heat energy actually used for heating is very less, and a large part of it escapes into kitchen atmosphere, which is a big loss of energy. Also, many rural areas lack electricity supply, and experience large cut-offs. They have no source to charge their phones and devices and also experience problem at night time for lighting. stats: 1) About 40% of the total heat energy is wasted while combustion, i.e. for every 3 gas cylinders over 1 cylinder is wasted for nothing. 2) About 70% of the total population uses gas/firewood stoves and thus a large part of the energy is wasted.

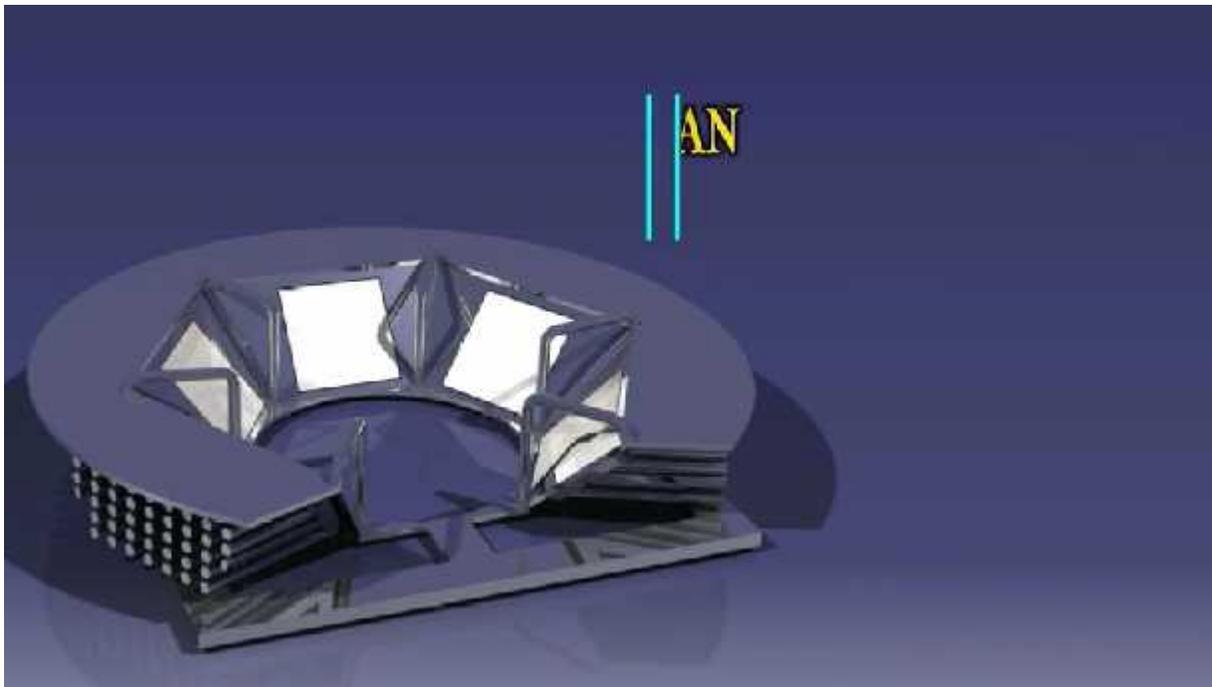
Solution

We have found a technique to harness energy which is getting wasted in various heating processes. Our device "Therman", can actually trap heat emitted while combustion and can produce some additional usable energy in the form of electricity. 'Therman' works on the principle of Thermoelectric effect or also called the seebeck effect. This device can be installed on any standard available stoves and chulahas. Thus everyone can use it to produce their own electricity. Our device can prove to be very useful in the off-grid rural and remote areas, where electricity is limited or unavailable. 'Therman' uses thermoelectric modules (TEG) to absorb waste heat from the source, and converts it directly into electricity. This electricity is then stored and a regulated output is obtained for various uses like : 1. Charging mobiles and gadgets. 2. Lighting purposes. 3. Driving compatible kitchen chimneys. 4. Sound systems. 5. Camping and disaster situations.

Main Objectives:



Thermen device prepared in Catia software



Outcome: Whole assembly of our project on working condition



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