Solar Musical Engine

Mahmoud, Fatma (School: STEM School of Alexandria)
Dapour, Khadeja (School: STEM School of Alexandria)

The alternative energy is now the world’s concern because it is green energy that never runs out. Most countries now tend to apply the alternative energy harvesting applications on a wide scale but the problem still stands " the high cost of these new technologies. we apply the solar energy in a closed system. We use a solar collector “handmade parabolic mirror using satellite" in order to power the engine that works by heating a fluid “air” inside two separated cylinders. In one side it’s heated so the particles gain kinetic energy and move from the higher potential to a lower one resulting a difference in pressure that leads to the rotational motion of a connected fly wheel. this mechanical energy is converted into electricity using a dynamo. We increase the collected heat in winter by using a magnifying lenses . Since acoustic energy is one form of mechanical energy, we can convert it into electricity, so we convert the resulted acoustic energy “byproducts” into electrical energy. The system is as follows: all sound waves that result from the moving parts in the engine are converted into electric energy using a sensitive piezo that generates electricity when there is a pressure on it.We get use of the up-down movement of the two connectors of the pistons inside the engine to force the induction phenomenon . As the connectors move with the crank’s movement, so during one cycle the piston experiences two opposite positions the difference in height between them is nearly crank’S diameter, so the change in magnetic field into the coil generates an induced current. In conclusion we used a mechanism that generates maximum output with possible low cost.

Awards Won: