

CALIFORNIA STATE SCIENCE FAIR 2016 PROJECT SUMMARY

Name(s)	Project Number
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Project Title	
Waste Heat Recovery	
Objectives/Goals Abstract	
The objective of this study is to find a way to capture heat energy produced fr	on electrical appliances and
recycle it into usable electrical energy.	\bigcirc
40 watts light bulb electrical wires 40mm x 40 mm thermoelectric cooler Th	Soundule, 40mm x 40 mm
heat sink, and a digital multimeter. I constructed the apparatus and used it to c	lect and convert thermal
energy into electrical energy. The experiment was conjugted with the TEC pl	aced at three different
distances from the heat source (light bulb) and 10 trials were done at each dist used to measure the amperage and voltage that were produced by the wasterne	ance. The multimeter was
Results	at recovery apparatus.
After placing the TEC at three different distances from the light bulb in an atte	empt to recycle the heat
energy, I found that placing the TEC at 0cm away from the beat source produce When the TEC was 4cm away from the light hulb, only 0,000 ways were pro-	ced the greatest result.
produced when the TEC was placed 2cm away from the light bulk and 0.0054	watts at the distance of
0cm. This indicates that it is possible to recycle heat energy into a usable elec	etrical energy.
Conclusions/Discussion	recycle heat operay and
convert it into electrical energy that can be used for other parposes. This mea	ns that any equipment that is
capable of producing heat can serve as a potential source of energy through th	is particular method of
waste heat recovery.	
Summary Statement	
I devised and constructed a system to recycle heat energy and converted it to electrical energy.	
Help Received	
I designed and constructed the apparatus, and performed the experiment by m	yself.