



Zero Electricity Heater

The goal of this ongoing project is to develop a device capable of creating heat through nothing but friction. It is inspired by the excessive amounts of people worldwide who lack stable access to electricity, but can be of aid to anyone from campers to college students.



The concept of this project is for a manual mechanism - completed by the user - to spin one of two cylinders against the other so that the friction between the cylinders produces heat. It is very similar to rowing machines or bikes, where a user causes a circular object to rotate.

Furthermore, it may be beneficial to add a layer of abrasive material (such as Scotch-Brit) to maximize the production of heat. When designing the initial prototype, I used a ridge system to leave open space below and to the sides of the inner cylinder, so that additional conductive material could be inserted.

The mechanism will comprise of a lever on the handle of the device that - when pushed - will cause the inner cylinder to spin.

Here's the digital prototype of the device.



And here's the 3D-printed version.

