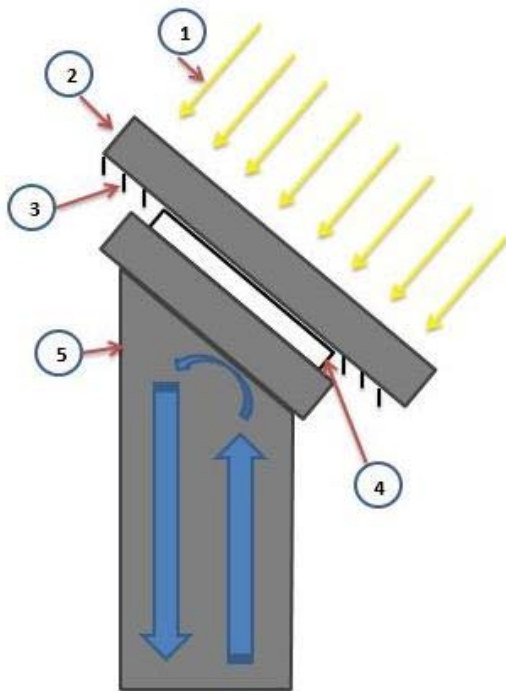


Design of a Solar Thermoelectric Generator

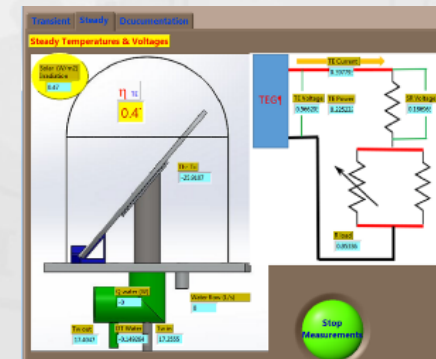
- ✓ Generate electricity from renewable sources, solar and river's water
- ✓ Designing for maximum absorption of solar energy
- ✓ Minimize the energy losses



1. **Solar Radiation:** measured in real time
2. **Solar Collector (SC):** copper plate with ellipse shape
3. **Thermal Insulation:** materials at the back of SC: fiber glass & aluminum foil to minimize convection and radiation losses, respectively
4. **Thermoelectric Module:** TG12-4, Marlow Inc™. TEG output is connected to potentiometer to maximize the generated power
5. **Cooling System:** composed by an aluminum plate and a chiller to achieve a temperature around 20°C



Copper plate without solar absorber



LabView code to measure in real time

Feasibility of new energy source