

Project Title: [Electricity Generation with a Solar-Powered Vapor Cycle](#)

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This project includes the designing, constructing, and analysis of a system to generate electricity with a solar-powered vapor cycle. This project has the intentions of being a multi-year project with two stages. The first will take place over this coming year and aim to explore the viability of the design and collect necessary data. The second will start next year and focus on the optimization of this system using the data collected. This system's function is to provide some amount of constant electricity to either subsidize an already existing electrical system in a residential setting or to provide electricity to a remote location that has no previous electrical power capabilities. This system will be based on an organic Rankine cycle and will consist of heating a working fluid and causing a phase change in said fluid to then harness mechanical energy from the working fluid and convert that into electrical power. Since solar power is the main focus of this project, the entire system will need to minimize its environmental footprint.