



## Project description

Many process and mineral industries are keen to incorporate renewable energy into their activities. These industries require both heat and power and firm supply (24/7). Current renewable technologies are intermittent and some can only produce electric power. Integrating heat and power helps in reducing the cost of energy and in increasing the feasibility of utilizing renewable energy in these industries. The concept of hybridising concentrated solar thermal energy with combustion is one way that was proven to be effective in proving the process as well as power. This project is concerned of the development of the patented Hybrid Solar Receiver Combustor, HSRC, technology for a variety of applications. In particular it looks at issues of scaling the existing system to the megawatt scale to assist in the commercialisation of this technology.

## Primary aim

Develop scaling roles for the HSRC to work on the three modes of solar only, combustion only and mixed mode (solar and combustion).  
Assessing the challenges and development needs required to utilize different heat transfer fluids in the HSRC.  
Develop computational models to help in improving prediction capabilities and compliment experimental work.



*A solar field showing heliostats and a central tower*

## Student attributes

- Interest and enthusiasm for technology development in the energy area;
- Interest and proven record in the general area of thermo-fluids including: energy, heat transfer, combustion, fluid mechanics.

## For further enquiries

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