



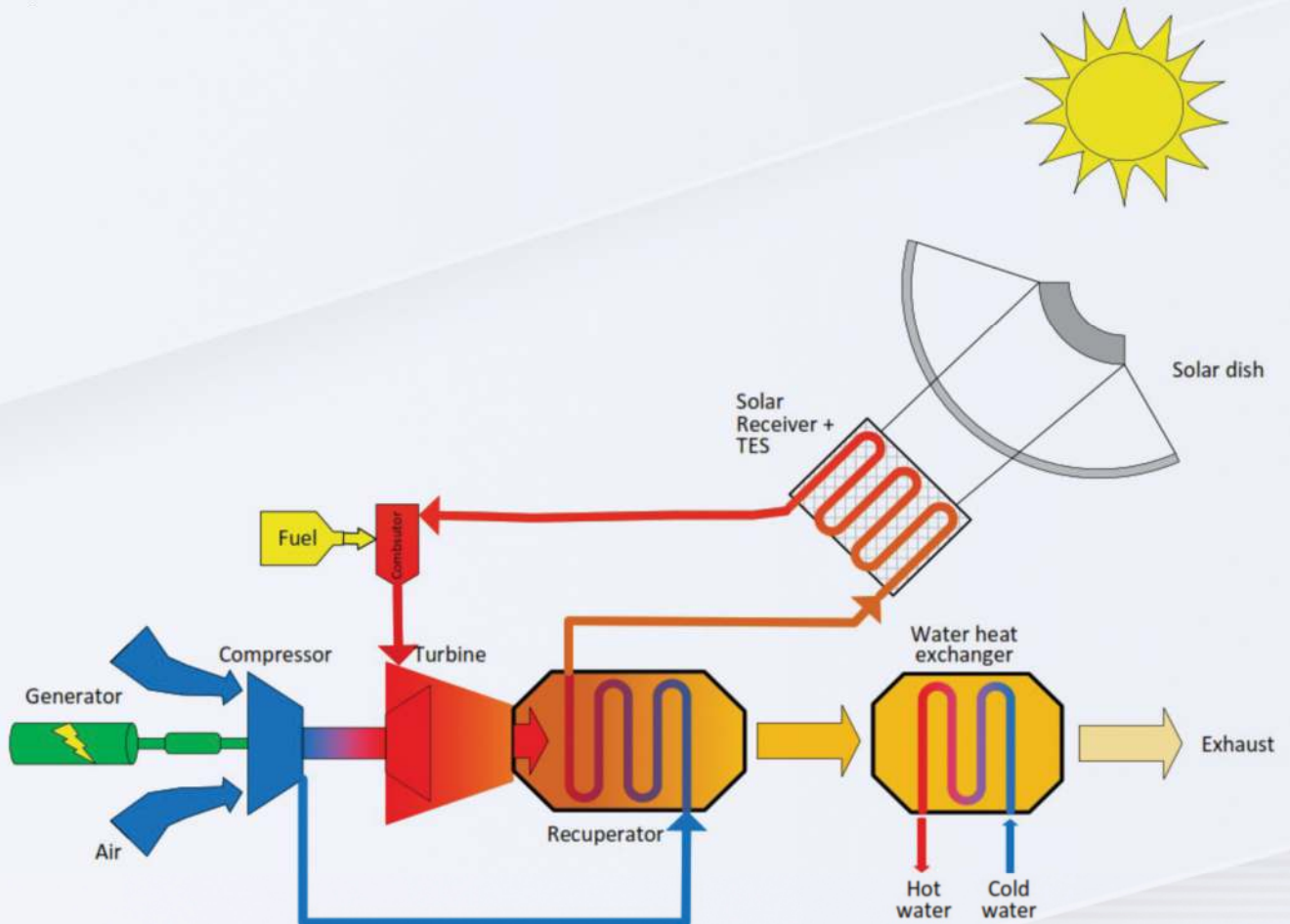
Modernizing Energy Sector



Solar Turbo CHP

Application of Solar Turbo-CHP (ST-CHP):

ST-CHP is a unique proposition that addresses the energy trilemma in South Africa by providing low cost distributed power generation, better control over security of supply and reducing emissions, whilst making power available in remote locations. It is a micro combined heat and power system generating 3.44 kW of power and delivering 25 kW of heat simultaneously. This system is capable of capturing and utilising renewable solar heat to reduce CO₂ emissions, dependency on fossil fuels and operation cost, whilst benefiting from a multi-fuel combustion chamber (LNG, LPG, Diesel, Biogas) to cover overnight operation and the renewable intermittency and shortfalls, as well as making it adaptable in various locations.



Features:

- Multi-fuel
- High availability
- Hybrid renewable
- Off-grid operation
- Low operating cost
- 24 hours operation
- Improve energy accessibility
- Reduce CO₂ emission by 30%

● Technical Specifications

| | | |
|-------------------|--|---------|
| Heat output | 25 – 35 | kW |
| Electrical output | 3 – 5 | kW |
| Total efficiency | 90 | % |
| Gas connection | 20 (1/2) | mm (In) |
| Water connection | 25 (3/4) | mm (In) |
| Grid connection | 230 / 50 | VAC, Hz |
| Ignition system | Full sequence automatic spark ignition | |

The aim of the project is to integrate Samad Power's Micro Gas Turbine technology with solar parabolic dish and Receiver with Multiple facets (developed by the University of Pretoria) using an innovative evacuated membrane approach. A unique design for integrated thermal energy storage (TES) has been completed by the University of Birmingham in collaboration with the University of Pretoria. This will be equipped with a multi-fuel combustor developed by Cranfield University to increase market adoptability and eliminate the need for backup generators.



Cranfield University



University Of Birmingham



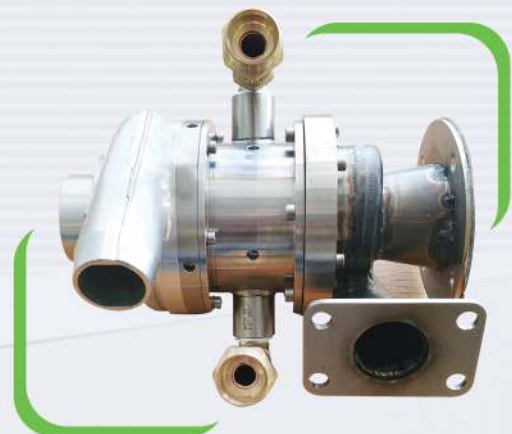
Samad Power LTD



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LEMS Energy Management





SOLAR TURBO CHP

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