

Project Title: SOURCE EXTRACTION AND MANAGEMENT UNDER LOAD SHEDDING CONDITION

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- Objective:**
- 1) To reduce dependency on conventional energy sources and increase reliability of system.
 - 2) Optimize power source utilization.
 - 3) Priorities critical loads.
 - 4) Promote sustainability.

ethodology:

- Simulation on LabVIEW
- Study the performance of various renewable energy sources under load shedding.

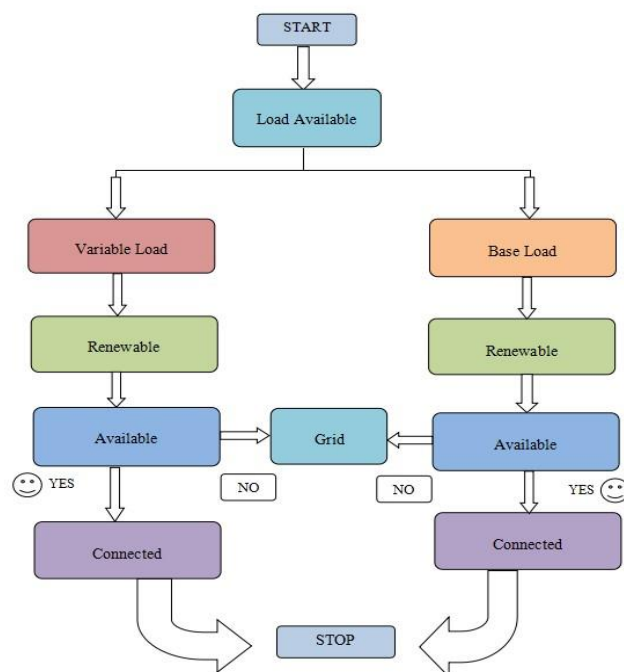


Fig. Flow Chart

Block Diagram:

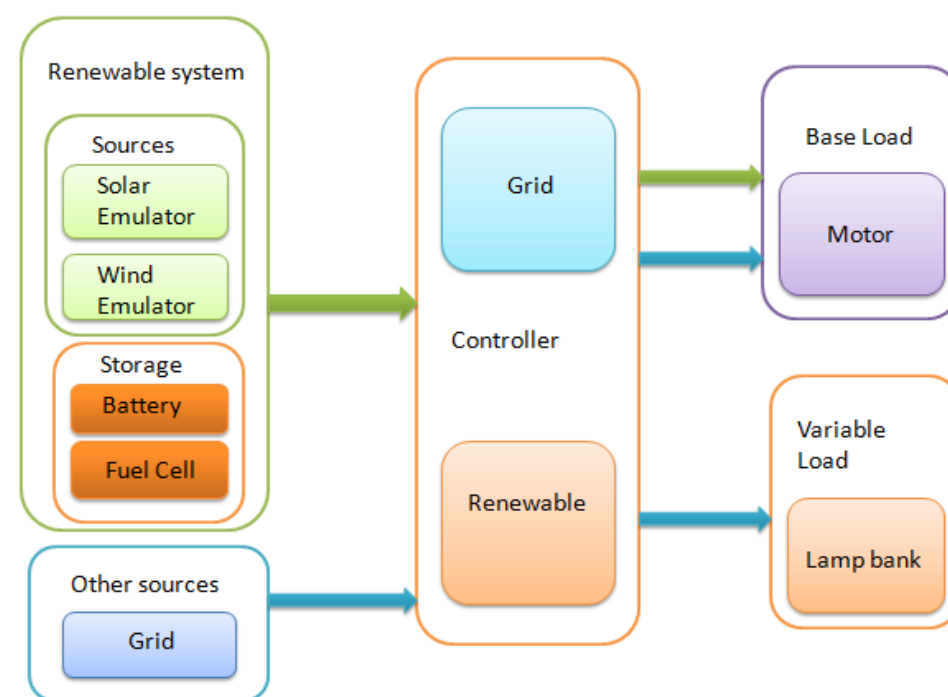


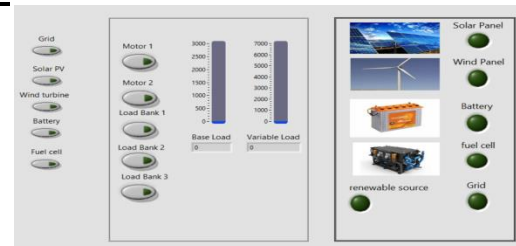
Fig. Block Diagram

Result Table:

Table. Load Shifting

Base load (KW)	Variable load (KW)	On which source load depends?
1 KW	0	Grid
2 KW	0	Grid
2 KW	2 KW	Grid + solar
2 KW	4 KW	Grid + solar + Wind+ Battery
2 KW	6 KW	Grid + solar + wind + battery+ Fuel cell

Testing: Front Panel on Lab-VIEW



Specifications / Features: Load Data:

Base Load	Variable Load
Induction Motor (1 phase, 230 v, 50Hz, 1HP, 2 nos.)	Lamp Bank (3 phase, 230v, 50Hz, 2kW,3 nos.)
Energy Sources:	
1) Grid - 2KW, 230v, 50Hz.	4) Fuel Cell - 500Watts, PEM type Fuel Cell
2) Solar Cell - 2 KW, 2 Channels.	5) Battery - 96 V, 24 Ah
3) Wind Emulator - 1kW, PMSG, 3 phase AC	

Results :



Conclusion: In this system source extraction is done during peak load period to avoid shut down of system. The approach of Hybrid Energy system can be applied to micro grid, due to this the reliability and stability of the system increases. The available renewable energy sources and loads are used in LabVIEW software to implement this system.