# Rural Area Microgrid Implementation Repository (RAMIR): A tool for Integrating Economic, Environmental, and Societal Aspects of Microgrid Systems Implementation

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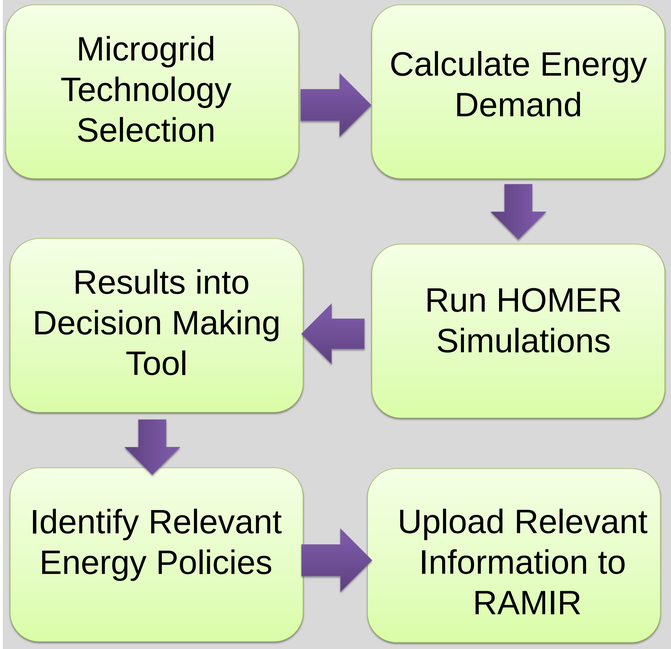
## Objective

To improve the process flow of microgrid installation and create an open source web space for those interested in the electrification of rural areas. Ideally, individuals intending to install microgrids use RAMIR as a supplemental tool for researching.

## Methods

This tool promotes knowledge sharing and increases the efficiency of efforts to research and implement microgrid systems. A representation of the over-arching flow is presented below.

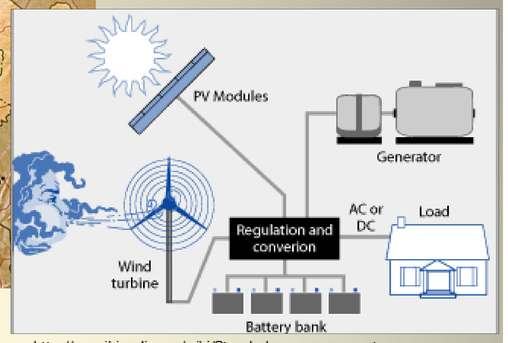



## Supplemental Testing

Additional testing is conducted through a Decision Making Tool (DMT) where extended cases from HOMER are loaded to RAMIR and simulations are utilized by other microgrid designers and implementers.

## Case Study
## Sourou, Burkina Faso


http://en.wikipedia.org/wiki/Geography_of_Burkina_Faso




http://en.wikipedia.org/wiki/Stand-alone_power_system

### HOMER Cost Summary

| | |
|---|---|
| Total net present cost | $ 39,784 |
| Levelized cost of energy | $ 1.580/kWh |
| Operating cost | $ 1,248/yr |

Additional categories of output such as the above undergoes additional optimization tests using the DMT. The second test is run to better fit the microgrid system to a particular town.

## Landscape

Burkina Faso is located within the West Africa Region. Sourou is a small town with a population of around 2,000. The technology that went into the microgrid system regarded the physical aspects of Sourou and considered only solar panels. Energy from the microgrid system is capable of powering lighting for homes, schools, and a health clinic and agricultural equipment for farming.


RAMIR: Uploaded studies are available for public viewing and use

## Results

The intention of RAMIR is to create a space where people can freely collaborate and share knowledge of microgrid projects for rural areas. Website access is to include reading through the works of others and having the ability to upload relevant content for their own projects.

## Future Work

In the near future a new capability will be added to allow RAMIR users to fill out fields to submit to the above tables. The tables will be downloaded and viewed using common spreadsheet software.

## Acknowledgements

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