

## Analysis of Energy Planning and Optimization with Microgrid System in Dawei Region

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**Abstract :** In Myanmar, there are many regions that are far away from the national grid. For these areas, isolated regional micro-grids are one of the solutions. The study area in this paper is also operating in such way. The main difficulty in such regions is the high cost of electrical energy. This paper will be approached to cost-effective or cost-optimization by energy planning with renewable energy resources and natural gas. Micro-grid will be set up for performance in the Dawei region since it is economic zone in lower Myanmar and so far from national grids. The required metrological and geographical data collections are done. Currently, the status is electric unit rate is higher than the other. For microgrid planning and optimization, Homer Pro-software is employed in this research.

**Keywords :** energy planning, renewable energy, homer pro, cost of energy

**Conference Title :** ICECET 2022 : International Conference on Energy Conversion Engineering and Technologies

**Conference Location :** Tokyo, Japan

**Conference Dates :** June 09-10, 2022