

# **Design and Fabrication of LPG Refrigerator**

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**Abstract:** *This project presents the development of a refrigeration system that operates using Liquefied Petroleum Gas (LPG) as a heat source, instead of conventional electricity. The design is based on the absorption refrigeration cycle, which utilizes an ammonia-water solution to produce a cooling effect. By heating the solution with LPG, ammonia is separated and cycled through condensation and evaporation processes, effectively lowering the temperature within the cooling chamber.*

*This system is especially beneficial in rural and remote areas where electricity is either unavailable or unreliable. The fabricated unit is compact, cost-effective, and environmentally friendly, making it a practical solution for preserving food and medical supplies in off-grid regions. The project demonstrates that LPG-powered refrigeration can be a sustainable and accessible alternative to traditional electric refrigerators.*

**Keywords:** LPG refrigeration, absorption cooling, ammonia-water cycle, off-grid solution, sustainable technology, non-electric cooling

