Fresh fish handling is one important part of the fishing industries. The use of environmentally friendly refrigerants on board fishing vessels to be one important topic because the global warming issue is lively discussion. GT variations on fishing boats bring upon an issue that is, whether by variation of GT fishing vessels which affect the analysis of the different technical and economical analysis. Technichan analysis carried out by calculating the ratio of the compressor power requirement, the resulting coefficient of performance (COP) and consumption of hydrocarbon refrigerant compared with Freon refrigerant when the GT fishing boats variations differently. The results obtained in technical analysis is the compressor power requirement on the use of hydrocarbon refrigerant more efficient 54% compared with the Freon refrigerant, for the coefficient of performance hydrocarbon refrigerant 54% higher than the Freon refrigerant, and for refrigerant consumption refrigerant hydrocarbon is more efficient 35% compared with Freon refrigerant. From technical analysis then obtained economical analysis of hydrocarbon refrigerant charge more efficient needs 34% than Freon refrigerant. For analysis cost of electricity obtained from the required compressor power multiplied by the price of electricity per KWh, then get that hydrocarbon refrigerant more efficient 54% compared with the refrigerant Freon. The results of this study is replacing Freon refrigerant as cooled refrigerant at fishing vessel cargo hold with hydrocarbon refrigerants is turned profit in all aspects, both from the technical aspects and economical aspects.

**Keywords:** Fishing Vessel, Hydrocarbon, compressor power, GT Variation