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ANALYSIS OF EXPECTATION OF IMPLANTATION OF PHOTOVOLTAIC PROTOTYPE IN A SMALL PORTE FISHING VESSEL AS COMPLEMENTARY ENERGY RESOURCES

L.C. Fonseca¹; J.C. Reis-Silva²; J.F.P. Leal³

¹Graduate Production Engineering, State University of Pará, Castanhal, PA, Brasil.

²Graduate Program in Electrical Engineering, Federal University of Pará, Belém, PA, Brasil.

³Department of Natural Sciences, State University of Pará, Castanhal, PA, Brasil.

E-mail: leonardocorreafonseca@gmail.com; jfpleal@uepa.br.

ABSTRACT: Technological advancement and global population growth have encouraged society to explore more and more new energy matrices that guarantee sustainability, income generation and quality of life, as well as interesting entrepreneurial possibilities with the implementation of prototypes of electric power generating systems in fishing vessels. Thus, the objective of the work is to analyze the technical feasibility of the implementation and energy demand of diesel-solar electric power generation system in small fishing vessels, considering its best cost / benefit. In this sense, on-site visits were made to the vessel chosen to dimension its energy demand and to propose a suitable photovoltaic prototype, based on comparative analyzes of the electric current sensing of the low-power photovoltaic prototype solar module installed in the XX campus of the University of the state of Pará. Data collection of electric current, voltage and power properties followed the method proposed in the Manual of Engineering for Photovoltaic Systems of the Solar Energy Working Group of the Reference Center for Solar and Wind Energy Sérgio de Salvo Brito, both for the energetic dimensioning of the fishing vessel and for the low-power photovoltaic system. These data were organized into tables and graphs, and analyzed statistically. Its results projected: the energy analysis of the vessel over 12 months, with autonomy for 1.5 days; economic analysis, with estimated annual savings of 889.28 liters of diesel oil, from the price of marine oil to R\$ 4.00, resulting in R\$ 3,557.12 of fossil fuel not discarded in the Amazonian rivers; and, finally, environmental analysis, saved 2.42 tons per year of carbon dioxide. Therefore, the work proved to be potentially beneficial in reducing emissions of polluting gases, but its financial return to the vessel owner would be in the long term.

REFERENCES

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