

## **ABSTRACT**

The object of this research is an energy and power supply company named PT. Medco Energi. In this company, data center plays a role to help the business in the daily operations. With the rapid increase in the capacity and size of data center, there is a continuous increase in the demand for energy consumption, and also a lot of dangerous contaminants are threatening the environment. To overcome this problem, this research focuses on analyzing the current condition of data center and designing an improvement for the data center in PT. Medco Energi in terms of environmental design so that the design of the data center meets the criteria for environmental consideration in accordance with existing international standards and increase the value of the company. The standard that is used in this research is Telecommunications Industry Association (TIA) responded with the TIA-942. This research used PPDIIO life-cycle as the methodology to prepare, plan and design the recommendation for environmental design of data center. The result of this research is a recommendation for improvement to PT. Medco Energi to help reducing energy costs and build an environmentally friendly data center design by implementing the parameters of environmental design in TIA-942 and achieving tier IV.

**Keywords:** Data Center, TIA-942, Environmental Design, PPDIIO Lifecycle