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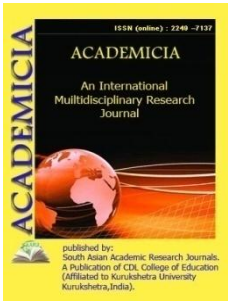

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A BRIEF STUDY ON SMART GRID

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ABSTRACT

With the many manifestations of climate change and the ever-increasing need for energy, energy sustainability and environmental preservation have become global issues. Electricity consumption increases as cities and countries become more technologically sophisticated, reaching levels that may be unmanageable if left unchecked. The Smart Grid is a solution to the transition to more environmentally friendly technologies like distributed generation and microgrids. It is critical that the general public be aware of the issue, as well as prospective researchers and policymakers. This article provides an overview of the Smart Grid, including its basic characteristics, functions, and features. It explains the fundamentals of Smart Grid technology and how they connect to other technologies, as well as research efforts, difficulties, and concerns. It shows how these technologies created the current electrical grid and how it has continued to develop and enhance its role in better matching energy demand and supply. Smart Grid deployment and practices are also revealed in different places. Smart Grid efforts in different countries are aided by concrete energy legislation. Surprisingly, Smart Grid practices in various areas don't seem to suggest rivalry, but rather a cross-regional community with comparable goals and lessons to learn.

KEYWORDS: *Communication, Control, Network, Security, Smart Grid.*

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