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Migrating from traditional grid to smart grid in smart cities promoted in developing country

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ABSTRACT

Smart Grid is a term that encompasses the economic benefits of an intelligent and advanced power grid to reach changing responsibilities related directly to sustainability and energy efficiency. Considering the shortfall of alternative fuels in developed regions, the new smart grids, in order to have access to their environmental hazard, show that the average non-renewable and renewable energy sources can be integrated to reduce environmental disasters to improve production costs significantly. In order to provide reliable, secured, and cost-effective power grid functions, infrastructures can quickly and effectively co-ordinate power-sharing between several renewable energy sources freely accessible and economically demand costs. This article reviews the conceptual model, goals, architecture, potential benefits, and power grid issues with a complete and accurate understanding of the different defenders and people involved in the worldwide region scenario. The article examined energy and transmission issues, including smart grids and grid barriers, comprehensively.

Introduction

A Smart City is a city atmosphere that uses many IoT sensors to collect data and then utilizes insights gained to manage the assets, services, and resources effectively. It includes information about people, equipment, buildings, and assets that are processed and examined for monitoring and management of transportation systems, Electric power stations, utilities, water distribution networks, waste management, criminal activity detection [6], information systems, school education, library system, healthcare, and other community-based services.

The smart city plan combines Information and Communication Technology (ICT) and different real objects connected to the IoT network to attach the city and service with citizens [32]. The smart city's technological features help the city officials touch with the city's infrastructure and the municipality and watch its daily activities. ICT is used to improve the feature, performance, and urban service interactivity, reduce cost and resource use, and enhance public-government contact [20]. Smart city applications for urban flows are created and enable real-time response. Therefore, a smart city is better prepared to face the challenges than a simple "transactional" interaction with citizens [3]. However, the term itself remains ambiguous and open to numerous interpretations [15–17].

In many countries, society is migrating towards modern technology, resulting in electricity generation's need to avoid environmental risks like security, health care, business, marketing, etc. [21,25]. This makes researchers to move towards advanced technologies for developing countries to avoid risk assessments while increasing power consumption in day-to-day activities

Through the advancement and the use of emerging technologies in the nearby area, especially innovations which create smart performance,

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