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TITLE OF PROJECT**: Smart Energy Management for Construction Site Temporary Facilities.**

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ABSTRACT :

In the realm of construction introduces a transformative solution to combat energy inefficiencies in these vital on-site structures. Leveraging IoT devices and automation, energy monitoring sensors strategically placed in offices, break areas, and storage units track real-time consumption, offering invaluable insights. Automated lighting and HVAC systems, equipped with motion sensors, enhance efficiency by aligning energy usage with occupancy, minimizing waste, and reducing costs. The project's vision extends to a greener construction environment through the integration of renewable energy sources like solar panels and wind turbines. Recognizing variable energy demand, intelligent energy storage systems store excess energy during low consumption periods, ready for deployment during peaks. User empowerment is central to our approach, achieved through a user-friendly interface and a mobile app enabling construction personnel to monitor and control energy usage, fostering ownership, and enhancing working conditions and productivity. Anticipated benefits encompass substantial cost reduction, decreased environmental impact, and an overall enhancement in the sustainability of construction projects. The system's design ensures compatibility with various temporary facilities, scalability for different project sizes, and collaboration with energy experts, promising seamless integration and success in revolutionizing energy management in construction site temporary facilities.

KEYWORDS: Smart Energy Management, IoT Devices, Renewable Energy Integration, Sustainability in Construction

CATEGORY**:** Environmental Engineering.