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Charging Station for E-Vehicle using Renewable Source

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Abstract: Globally, there is a growing demand for electric vehicles, but the electricity used to power them is primarily generated from conventional sources, which results in a significant consumption of fossil fuels. This has led to numerous issues, including heightened levels of pollution and global warming, as well as economic problems due to the cost of fossil fuels. To address these concerns, this paper proposes the promotion of renewable energy sources specifically solar-based charging systems for electric bicycles. Electric bicycles, which can be powered through pedalling and electricity, are more cost-effective than other types of electric vehicles, making them a more accessible option for consumers. The paper outlines the development of a solar-based charging station for electric bicycles, incorporating a solar-based controller. The proposed system aims to reduce electricity costs, charging time, and CO2 emissions, while also contributing to the creation of a more sustainable and eco-friendly transportation system.

Keywords: Solar PV Module, PWM Charge Controller, Battery, E-Bicycle

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