

(54) Title of the invention : HOME POWER GENERATION USING COMBINATION OF SOLAR PANEL AND WIND MILL

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(57) Abstract :  
ABSTRACT Home power generation using combination of solar panel and wind mill This paper aims to explore the potential benefits of the combination of photovoltaic (PV) panels and wind turbines for home power generation. Specifically, the costs of installing such a system are considered, with a focus on the possible economic benefits for residential customers. Additionally, a review of recent research is conducted to identify the key efficiency, capacity, and reliability issues related to PV/wind systems. The main findings from this research show that with the right combination of PV/wind, a household could save an average of 43% off their electricity bill. The cost of such a system appears to be roughly on par with traditional rooftop solar, but solar/wind systems are likely to perform better in areas with high electricity rates. Furthermore, solar/wind installations can become more cost-effective where summer peak loads are high and utilities offer time-of-use tariffs. Lastly, the combination of PV and wind provides a higher level reliability and capacity than traditional rooftop solar. Despite the numerous benefits, PV/wind systems are subject to a number of challenges, notably related to cost, maintenance, and local weather/conditions. This paper highlights these challenges, but ultimately finds that for the right circumstances, a PV/wind installation can offer significant economic and environmental benefits for residential customers.

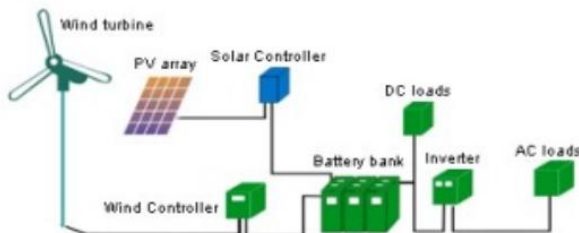


Fig.1: Proposed innovation model

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