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Benefits of Hybrid Mix in Renewable Energy and Integration with E-Efficient Compositions

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Abstract : Increased energy demands around the world have led to the raise in power production which has resulted with more greenhouse gas emissions through fossil sources. These fossil sources and emissions cause deterioration in echo-system. Therefore, renewable energy sources come to the scene as echo-friendly and clean energy sourcing, whereas the electrical devices and energy needs decrease in the timeline. Each of these renewable energy sources contribute to the reduction of greenhouse gases and mitigate environmental deterioration. However, there are also some general and source-specific challenges, which influence the choice of the investors. The most prominent general challenge that effects end-users' comfort and reliability is usually determined as the intermittence which derives from the diversions of source conditions, due to nature dynamics and uncontrolled periodic changes. Research and development professionals strive to mitigate intermittence challenge through material improvement for each renewable source whereas hybrid source mix stand as a solution. This solution prevails well, when single renewable technologies are upgraded further. On the other hand, integration of energy efficient devices and systems, raise the affirmative effect of such solution in means of less energy requirement in sustainability composition or scenario. This paper provides a glimpse on the advantages of composing renewable source mix versus single usage, with contribution of sampled e-efficient systems and devices. Accordingly it demonstrates the extended benefits, through planning and predictive estimation stages of Ahmadi Town Projects in Kuwait.

Keywords : e-efficient systems, hybrid source, intermittence challenge, renewable energy
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