

Strategies and Difficulties to Integrate Renewable Energy into Recreational Open Spaces

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Abstract : Recreational spaces designed or build for refreshment of the users through natural riches and/or activities. Those places contribute to the quality of city life by providing relaxation point for citizens and maintaining the environmental equilibrium. The elements which constitute the recreational areas also promote long-term environmental and social sustainability of cities. Preservation and creation of the recreation open spaces are important for water and air quality, natural habitat and also social communication. On this point, it is also a good area for promoting the renewable energy sources through comprehension of the sustainable development which is possible only with using nature and technic together. Energy production is mainly technical issue, and architectural design of these elements to the site always ignores or avoid. The main problems for integration of renewable energy sources are the system suitability, security, durability, and resiliency. In this paper, one of the city recreational open spaces in Konya, Turkey was evaluated for integration of possible renewable energy sources. It shows that the solar energy potential is high and PV integration is the best option. On the other hand wind, energy power and area is not suitable for wind turbine, so wind belts were decided to integrate on the design. According to recreational activities, the chosen elements was designed for site application, and their performance was calculated. According to possible installation on the furniture, there is 50 MWh/a electricity production capacity.

Keywords : energy, integrated design, recreational space, renewables

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