

Renewable energy project: Project management, challenges and risk

Abstract

Renewable energy is one of the most popular topics in utilization of the electric energy resources. There are various types of alternative energy, which can be used as electrical energy. However, the suitability of the green energy in a certain country is depending on some criteria such as geographical location, the availability of energy and so on. In order to establish the renewable energy, a well-planned strategy and management must be acquired. The main objective of this paper is to analyse the causal relation of some important criteria of project planning and development of a wind energy project in Malaysia. By using a system dynamic approach, it is found that government policies, investment of renewable energy, energy demand, geographical location and fund management are the most important criteria that need to be considered among others. The diagram of causal relationship with reinforcing and balancing loop shows that the application of renewable energy in Malaysia is promising. In addition, the information of the criteria relationship is further investigated by using the stock flow diagram. From the diagram, the factors that affect project's expenditure could be analysed. This is very important to a developing country where more budgets can be allocated for other facilities, cultures, infrastructure, science, and technology development. By utilise the renewable energy in Malaysia, the carbon dioxide emission can be reduced and contribution to a sustainable and long term alternative energy resources country.