

## **Economic Evaluation Offshore Wind Project under Uncertainly and Risk Circumstances**

**Authors :** Sayed Amir Hamzeh Mirkheshti

**Abstract :** Offshore wind energy as a strategic renewable energy, has been growing rapidly due to availability, abundance and clean nature of it. On the other hand, budget of this project is incredibly higher in comparison with other renewable energies and it takes more duration. Accordingly, precise estimation of time and cost is needed in order to promote awareness in the developers and society and to convince them to develop this kind of energy despite its difficulties. Occurrence risks during on project would cause its duration and cost constantly changed. Therefore, to develop offshore wind power, it is critical to consider all potential risks which impacted project and to simulate their impact. Hence, knowing about these risks could be useful for the selection of most influencing strategies such as avoidance, transition, and act in order to decrease their probability and impact. This paper presents an evaluation of the feasibility of 500 MV offshore wind project in the Persian Gulf and compares its situation with uncertainty resources and risk. The purpose of this study is to evaluate time and cost of offshore wind project under risk circumstances and uncertain resources by using Monte Carlo simulation. We analyzed each risk and activity along with their distribution function and their effect on the project.

**Keywords :** wind energy project, uncertain resources, risks, Monte Carlo simulation

**Conference Title :** ICEEM 2018 : International Conference on Energy, Environment and Materials

**Conference Location :** Miami, United States

**Conference Dates :** March 12-13, 2018