

عنوان مقاله:

Evaluation of Gulf of Oman for Design and Installation of Offshore Floating Wind Turbine

محل انتشار:

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خلاصه مقاله:

Pollution of fossil fuels burning as well as the environmental limitations, motivate scientists to access new sources of energy which are clean and sustainable. Governments are spending time and cost to find wind farms in their territory. Herein, onshore wind farms have been in center of attention for many years. However, offshore wind farms are new fields of power generation. Offshore floating wind turbine is a young branch of study which has many positive points to be thought about. Vast and broad seas of Iran have this potential to be surveyed for design and installation of offshore wind turbines. In this paper, 11 years data of 250 points in gulf of Oman (from Strait of Hormuz to Indian Ocean) are acquired from ECMWF, then these data are processed and maximum wind velocities as well as depth which maximum velocities occurred in, are determined. Afterwards, these velocities are comprised with rated velocities of manufactured turbines of a company and an approximation of wind turbine power generation in all of the points is achieved. Finally, according to the expenses of floating turbine design, fabrication and installation and depth effect on costs, besides the generated electricity costs, a judgment will be done to find the best points for installation of offshore floating wind turbine.

کلمات کلیدی:

Offshore floating wind turbine, Gulf of Oman, ECMWF

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