# Article information:

Journal of Energy and Power Technology | Prediction of Wind Loadings on Offshore Wind Turbines Using CFD
<https://www.lidsen.com/journals/jept/jept-05-01-008>

# Article summary:

1. This study aimed to accurately predict wind loadings on a non-rotating offshore wind turbine (OWT) using a Computational Fluid Dynamics (CFD) code.

2. The Normal Wind Profile (NWP) method was found to produce larger wind forces and moments in comparison with the uniform wind speed conditions.

3. This paper provided the preliminary steps towards investigating the structural integrity of OWTs under extreme weather conditions.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article is generally reliable and trustworthy, as it provides an accurate description of the research conducted and its results. The authors have used a CFD code to accurately predict wind loadings on a non-rotating OWT, and their results were assessed using the Richardson extrapolation method. Furthermore, they compared their predictions with estimations obtained using the simplified drag formula recommended by offshore standards, finding that their predictions were consistent within approx. 7% difference for wind forces.

However, there are some potential biases in the article that should be noted. For instance, while the authors mention that renewable energy consumption has experienced an increase rate between 2002 and 2017 due to its environmental-friendly nature against global warming, they do not provide any evidence or data to support this claim. Additionally, while they discuss how offshore wind turbines can help overcome certain concerns such as noise and land limitation associated with onshore turbines, they do not explore any counterarguments or possible risks associated with offshore turbines such as cost or environmental impacts. Finally, while they mention that FOWTs are perceived as a preferable design due to their cost-efficiency for water depth over 60 m, they do not provide any evidence or data to support this claim either.

In conclusion, while this article is generally reliable and trustworthy in terms of providing an accurate description of the research conducted and its results, there are some potential biases that should be noted such as lack of evidence for certain claims made and unexplored counterarguments or possible risks associated with offshore turbines.

# Topics for further research:

* Environmental impacts of offshore wind turbines
* Cost-efficiency of floating offshore wind turbines
* Noise and land limitation associated with onshore wind turbines
* Global renewable energy consumption rate
* Counterarguments to offshore wind turbines
* Richardson extrapolation method for wind loadings

# Report location:

<https://www.fullpicture.app/item/55a9c1e3c1c6a1a84d7e44a1390e0f06>