

**Farwa Fahmy**  
**The Future of Wind Energy- Enhancing the Airflow of Wind Turbines- CYSF Logbook-**  
**2025-2026**

**- Saturday, January 31, 2026**

- Topic title was decided, creative approaches were considered for the innovative aspect of the project.

**- Saturday, February 7, 2026**

- Ethics Due Care Form 2A was approved.

**- Sunday, February 8, 2026- Wednesday March 4, 2026**

- The following were completed in this time period:

- 1.) The creation of the windmill model on TinkerCad.
- 2.) Background research and material efficiency regarding the modern windmill and the major crisis posed upon the modern design and location of windmills.
- 3.) Step-by-step method analysis
- 4.) Concluding factors (primarily environmental)
- 5.) List of citations
- 6.) Possible modifications to the windmill created at the beginning
- 7.) Acknowledgements
- 9.) Declarations

\*Additional modifications will be made prior to the CYSF event in April and will be recorded in the logbook.

$$P = \frac{1}{2} (\rho \times A \times v^3)$$

Guiding formula used in deriving the possible amendments to the windmill.



Reference model for modification of the windmill (blade size, shape, and possible changes in materials).

As a result, final modifications to the blade size and shape were made.