**Project Design Phase**
**Problem – Solution Fit Template**

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|---|---|
| Date | 15 February 2026 |
| Team ID | LTVIP2026TMIDS62246 |
| Project Name | Weather-Based Prediction of Wind Turbine Energy Output: A Next-Generation Approach to Renewable Energy Management |
| Maximum Marks | 2 Marks |

**Problem – Solution Fit Template: Wind Turbine Energy**

Energy companies, wind farm operators, and grid managers face significant challenges due to the unpredictable nature of wind energy production.

- **Energy Companies** struggle to forecast energy output accurately, making distribution and pricing inefficient.
- **Wind Farm Operators** cannot plan maintenance effectively, risking downtime during high wind activity.
- **Grid Operators** find it difficult to balance renewable energy with traditional sources, leading to instability in the grid.