

**Ideation Phase**  
**Define the Problem Statements**

|               |  |
|---------------|--|
| Date          | 8 February 2026  |
| Team ID       | LTVIP2026TMIDS89922                                    |
| Project Name  | Weather-Based Prediction of Wind Turbine Energy Output |
| Maximum Marks | 2 Marks  |

**Customer Problem Statement:**

| Problem Statement (PS) | I am (Customer)           | I'm trying to                             | But   | Because   | Which makes me feel                             |
|------------------------|---------------------------|---|---|---|---|
| PS-1                   | An energy company manager | forecast energy output from wind turbines | current predictions are inaccurate and reactive | wind energy depends on highly variable weather conditions | uncertain about energy distribution and pricing |
| PS-2                   | A wind farm operator      | plan maintenance schedules efficiently    | I cannot predict low-output periods accurately  | turbine downtime impacts overall energy production        | stressed about operational efficiency           |

**Explanation:**

By framing the “customer” as the energy company or operator, this project provides a practical solution: predicting wind turbine output to optimize operations, minimize downtime, and improve grid integration.