# Project Design Phase-I
# Proposed Solution Template

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| Date | 22 September 2022 |
| Team ID | PNT2022TMID15599 |
| Project Name | Predicting the energy output of wind turbine based on weather condition. |
| Maximum Marks | 2 Marks |

**Proposed Solution Template:**

| S.No. | Parameter | Description |
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| 1. | Problem Statement (Problem to be solved) | Our aim is to map weather data to energy production. The model prediction is then showcased on user interface to predict the energy output of wind turbine. |
| 2. | Idea / Solution description | Our approach was to use a time series forecasting model that would generate point forecast of wind generation for the upcoming three days, for a wind turbine. |
| 3. | Novelty / Uniqueness | It will be working on bad weather condition. Precise information on timing Flectuation in weather conditions |
| 4. | Social Impact / Customer Satisfaction | Wind energy jobs in rural communities in manufacturing, transportation and project construction. |
| 5. | Business Model (Revenue Model) | • Identifying most significant features for wind power prediction.<br>• Continuous learning and model improvement by hybrid ensemble with data and function perturbation.<br>• Predicting best time for wind farm energy utilization. |

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| | | • Integrating weather conditions for predicting various time periods like per day, per week, per month, and annual reports for wind energy generation.<br>• Graphical representations and reports to support various business decisions on improving wind energy generation.<br>• Balancing production and utilization of the wind energy |
| 6. | Scalability of the Solution | • To identify more environment parameters for testing their impact on wind energy generation.<br>• To avail on-demand supply of wind energy.<br>• To predict customer usage pattern and try to map with the wind energy generation for better business production. |