

## Project Planning Phase

### Project Planning Template (Product Backlog, Sprint Planning, Stories, Story Points)

Date	13 February 2026
Team ID	LTVIP2026TMIDS83348
Project Name	Weather Based Prediction Of Wind Turbine Energy Output - A Next Generation Approach To Renewable Energy Management
Maximum Marks	5 Marks

### Product Backlog, Sprint Schedule, and Estimation

Sprint	Functional Requirement (Epic)	User Story No.	User Story / Task	Story Points	Priority	Team Members
<b>Sprint-1</b>	Data Collection & EDA	USN-1	As a data analyst, I can import and inspect historical weather and turbine datasets to understand structure and data quality.	2	High	Data Team
<b>Sprint-1</b>	Data Preprocessing	USN-2	As a developer, I can clean data, handle missing values, and scale weather features for modeling.	3	High	ML Team
<b>Sprint-1</b>	Visualization	USN-3	As a user, I can view wind energy trends and weather correlation charts.	2	Medium	Frontend
<b>Sprint-2</b>	Modeling	USN-4	As a user, I can receive wind turbine energy output	5	High	ML Team

			predictions using a trained ML model.			
<b>Sprint-2</b>	Model Evaluation	USN-5	As a reviewer, I can view model performance metrics (MAE, RMSE, R <sup>2</sup> ).	3	High	ML Team
<b>Sprint-3</b>	Flask App Development	USN-6	As a user, I can submit weather inputs via web UI and receive predicted energy output.	4	High	Backend
<b>Sprint-3</b>	Model Serving	USN-7	As a developer, I can load saved model and preprocessing artifacts for real-time inference.	2	High	Backend
<b>Sprint-4</b>	UX Enhancement	USN-8	As a user, I see clear energy prediction results with helpful charts and comparisons.	2	Medium	Frontend
<b>Sprint-4</b>	Deployment Preparation	USN-9	As an operator, I can deploy the application locally and prepare it for cloud deployment.	2	Low	DevOps

#### Project Tracker, Velocity & Burndown Chart

Sprint	Total Story	Duration	Sprint Start Date	Sprint End Date	Story Points	Sprint Release

	<b>Points</b>			<b>(Planned)</b>	<b>Completed</b>	<b>Date (Actual)</b>
<b>Sprint-1</b>	7	7 Days	15 Feb 2026	21 Feb 2026	7	21 Feb 2026
<b>Sprint-2</b>	8	7 Days	22 Feb 2026	28 Feb 2026	8	28 Feb 2026
<b>Sprint-3</b>	6	7 Days	01 Mar 2026	07 Mar 2026	6	07 Mar 2026
<b>Sprint-4</b>	4	5 Days	08 Mar 2026	12 Mar 2026	4	12 Mar 2026

### Velocity

If sprint duration is 7 days and the team completes approximately **7–8 story points per sprint**, the average velocity  $\approx 1.0\text{--}1.2 \text{ story points per day}$ . This helps forecast delivery timelines for future enhancements such as real-time weather API integration and cloud deployment.

### Burndown Chart (Description)

A burndown chart tracks remaining story points versus time across each sprint. It helps visualize progress, identify scope creep, and ensure timely delivery. Burndown charts can be generated from the tracker data using project management tools.

### References

Atlassian Agile Project Management – Sprints, Epics, Story Points, Estimation Techniques, and Burndown Charts documentation.