Project Planning Phase

Project Planning Template (Product Backlog, Sprint Planning, Stories, Story points)

Date	30 Jan 2026
Team ID	LTVIP2026TMIDS88041
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

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Data Collection (Epic 1)	USN-1	As a data engineer, I can gather wind turbine datasets from open sources (Kaggle, UCI, etc.).	2	High	Team Member A
Sprint-1		USN-2	As a developer, I can load the dataset into the project environment for preprocessing.	1	High	Team Member B
Sprint-1	Data Preparation (Epic 2)	USN-3	As a data scientist, I can handle missing values to ensure clean input data.	3	High	Team Member C
Sprint-1		USN-4	As a data scientist, I can create new fields/features for better model accuracy.	3	Medium	Team Member C

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1		USN-5	As a developer, I can handle inconsistencies in data formatting.	3	Medium	Team Member B
Sprint-2	Data Visualization (Epic 3)	USN-6	As a user, I can view bar charts of wind speed vs. power output.	2	Medium	Team Member D
Sprint-2		USN-7	As a user, I can view pie charts of energy distribution.	2	Medium	Team Member D
Sprint-2		USN-8	As a user, I can view line charts showing trends in wind speed and power.	2	Medium	Team Member D
Sprint-2		USN-9	As a user, I can view correlation heatmaps to understand feature relationships.	4	High	Team Member C
Sprint-2	Dashboard (Epic 4)	USN-10	As a user, I can interact with a prediction dashboard built using Flask.	5	High	Team Member A
Sprint-2	Documentation (Epic 5)	USN-11	As a project owner, I can read a clear project story/report for portfolio use.	5	Medium	Team Member B

Project Tracker, Velocity & Burndown Chart

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	12	6 Days	01 Mar 2026	06 Mar 2026	12	06 Mar 2026

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-2	20	6 Days	08 Mar 2026	13 Mar 2026	20	13 Mar 2026
Sprint-3	20	6 Days	15 Mar 2026	20 Mar 2026	–	–
Sprint-4	20	6 Days	22 Mar 2026	27 Mar 2026	–	–

Velocity

- **Total Story Points = 12 + 20 = 32**
- **Number of Sprints = 2**
- **Velocity = 32 ÷ 2 = 16 Story Points per Sprint**

If sprint duration = 10 days, then:

- **Average Velocity (AV) per iteration unit = 16 ÷ 10 = 1.6 Story Points per Day**

Burndown Chart

A burndown chart will show:

- **X-axis → Sprint days (time).**
- **Y-axis → Remaining story points.**
- **Line slopes downward as tasks are completed, ideally reaching zero by sprint end.**