



CASE STUDY · PROJECT TENNYFOX

How SunDesh Improved Generation from an Ageing Wind Fleet by 20%

How SunDesh revived an aging wind fleet, restored generation, and delivered measurable value for an industrial client



The Challenge

Three interconnected problems threatened the viability of the wind asset:



Climate Impact

Peak wind speeds declined from 16 kmph (Jan 2017) to 10-12 kmph (Jul 2020-Jan 2021) — a 25-37% reduction over 4 years.



Equipment Deterioration

The 12+ year-old turbines suffered from poor maintenance, resulting in low machine availability and frequent breakdowns.



Grid Constraints

Transmission company curtailment limited the ability to feed generated power into the grid, further reducing effective generation.

The core questions: **What is the full potential of these WTGs? Can they be restored to optimal generation levels?**

The Solution

SunDesh implemented a four-pillar improvement program:

1

Preventive Maintenance Program

- Scheduled maintenance before wind season to maximize uptime
- Rapid breakdown resolution with 24×7 SCADA monitoring

2

Contract Renegotiation

- Reduced O&M costs by Rs. 5 lakh annually
- Improved service quality and response times
- Better alignment with performance metrics

3

Grid Availability Optimization

- Proactive engagement with transmission company
- Consultative approach to minimize curtailment during wind season
- Programmatic management of grid constraints

4

Real-Time Monitoring

- Implemented 24×7 SCADA monitoring system
- Enabled rapid issue detection and resolution
- Provided data-driven insights for continuous improvement

Additionally, SunDesh worked with the OEM to establish a WTG Performance Improvement Plan addressing long-term reliability.

The Results

Year 1 Performance:

1

WTG 1

- Generation increased from **2.61M KWh to 3.22M KWh (+23.2%)**
- Consistent month-to-month performance with fewer volatility spikes

2

WTG 2

- Generation increased from **2.53M KWh to 3.01M KWh (+18.7%)**
- Improved stability across all months

3

Combined Results

- Total additional generation: **10,78,745 KWh**
- Overall improvement: **20% year-over-year increase**
- Machine availability improved to **99% (from 98%)**
- Grid availability improved to **93% average (from 91%)**
- Consistent performance despite lower wind speeds

Business Impact



- Additional Revenue: **Rs. 36.57 lakhs** generated at tariff of Rs. 3.39/KWh
- Cost Savings: **Rs. 5 lakh annual reduction** in O&M expenses
- Total Year 1 Value: **Rs. 41.57 lakhs**