Purpose Statement

The UNSW Developmental Wind Farm project aims to support UNSW's 2025 strategic goals by developing a sustainable energy solution that integrates teaching, research, and operations. The project will provide a platform for renewable energy research while reducing the university's carbon footprint.

Scope Statement

The project scope covers the full lifecycle of developing UNSW's 30MW scalable wind farm, including strategic alignment, engineering design with future expansion capacity, regulatory-compliant construction, and operational integration with research systems. Core components:

- Scalable infrastructure for 8→10 turbine units
- Remote monitoring system integrated with campus
- Full compliance with NSW planning and heritage regulations
- Maintenance systems supporting 10-year operations

Key Deliverables

1. Strategic Alignment Report (UNSW 2025 Gap Analysis)
2. Scalable Turbine Layout Blueprint (10-unit capacity)
3. NSW Planning Portal Submission Package
4. As-built Drawings with Heritage Protection Notes
5. SCADA Integration Test Certificates
6. Annual Performance Report Template
7. Blade Recycling Protocol
8. Digital Twin Model (BIM Level 3)

Constraints

- **Budget**: Fixed at AUD $48M (designated for 8 turbines)
- **Duration**: Shortest feasible timeline (commissioning ≤24 months)
- **Regulatory**: Mandatory Aboriginal heritage surveys prior to earthworks
- **Technical**: Minimum 30MW electrical system capacity for future expansion
- **Social**: Ongoing wildlife impact monitoring during operations