



Wind-Turbine Tower Fabrication Plant

Complete Turnkey Business Proposal



Made-in-China supplier reference: real wind-turbine tower fabrication plant equipment.

bankable study investment gate	confirmed feedstock supply gate	EPC scope delivery gate	quality laboratory release gate
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Prepared for investment planning in Afghanistan and regional export markets. Final specifications, pricing, civil works, and utility loads require supplier quotation and site survey.

Executive Summary

Strategic wind-tower fabrication that cuts and rolls heavy steel plate, assembles and welds conical shell sections and flanges, performs NDT, blast/paints, trial-fits, marks and dispatches certified tower segments.

Why this project fits Afghanistan

- This is a strategic plant, not a low-entry equipment package.
- Bankable feedstock, utility, permit, market, EPC and financing evidence is required before selection.
- Operate only with an independent laboratory, defined quality release and preventive-maintenance program.

Sanaatchi delivery scope

- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning
- International logistics, customs documentation, operator training, spare parts, and after-sales support

Recommended configuration

Proceed only after bankable wind projects/tower designs, plate and flange contracts, heavy lifting/transport route, welding/NDT qualification, coating standard and OEM or engineering partner approval.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Welded wind-turbine tower sections	Tower height/diameter, plate grade, flange design, weld class, coating system, NDT standard, transport constraints and documentation	Wind EPCs, utilities, renewable-energy developers and regional wind-farm projects

Final capacity, process, resource quality, utilities, permit conditions, emissions, acceptance test and commercial terms require independent engineering review before any order.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Plate cutting/bevelling	Prepares tower steel	Edge and plate grade
2	Plate rolling and shell fit-up	Forms conical sections	Roundness and geometry
3	Longitudinal/circumferential welding	Joins tower sections	Weld class and heat input
4	NDT, flange and trial assembly	Verifies structural quality	Alignment and test evidence
5	Blast/paint and transport preparation	Protects dispatched sections	Coating and route limit

Equipment models are indicative and will be matched to the selected capacity, local raw-material tests, available utilities, and preferred automation level.

Reference Equipment Gallery



Made-in-China supplier reference: real wind-turbine tower fabrication plant equipment.



Made-in-China supplier reference: second real machine configuration for wind-turbine tower fabrication plant.

Images are supplier references for configuration discussion; final equipment appearance and model may differ.

Plant, Raw Materials & Utility Requirements

Raw materials

- Certified heavy steel plate, flanges, welding consumables, blasting media, coating systems, NDT consumables, lifting fixtures, packing/protection and laboratory materials

Utilities & infrastructure

- Bankable electricity/fuel/water plans, process cooling and treatment, plant fire safety, laboratory, covered stores and qualified operation team
- Environmental permits, emissions control, waste route, maintenance workshop, critical spares and site-specific safety systems

Quality, safety and environmental controls

- Verify actual wind project/OEM designs, plate/flange supply, cranes, weld procedure qualification, NDT, coating, road/port route and off-take before contracting
- Control plate geometry, rolling, fit-up, weld parameters, distortion, flange alignment, NDT acceptance and coating thickness
- Test weld/NDT records, geometry, roundness, flange alignment, coating adhesion/thickness, marking and transport plan

A final factory layout must reserve safe forklift routes, maintenance clearances, raw-material segregation, finished-goods storage, fire protection, ventilation, and future expansion space.

Indicative Investment & Implementation Plan

LOW-ENTRY CONFIGURATION

Tower fabrication must follow actual wind-turbine geometry, welding procedure and transport constraints. It is not a generic steel workshop.

Component	Indicative range	Notes
Plate processing, rolling and welding	US\$25m-85m	Tower diameter and throughput
NDT, handling, blast/paint and trial fit	US\$20m-70m	OEM quality scope
Cranes, utilities and installation	US\$15m-55m	Heavy fabrication critical
Indicative strategic project total	US\$60m-210m	Land, finance and working capital excluded

Implementation sequence

Phase 1	2-5 weeks	Confirm product specification, representative raw material, buyer, capacity, site and utilities
Phase 2	3-7 weeks	Run supplier trials with the buyer material and freeze the balanced machine, tooling and utility scope
Phase 3	8-22 weeks	Manufacture or refurbish, inspect, document and ship the contracted equipment
Phase 4	3-12 weeks	Install, commission, train operators and pass material-specific acceptance tests

Ranges are planning targets for a low-cost entry configuration, exclude land, and remain subject to confirmed capacity, supplier quotation, freight, duties, exchange rates and site conditions.

Next Steps & Contact Information

Recommended next steps

- Confirm target products, hourly output, and packaging formats
- Test representative raw materials and document quality requirements
- Complete site survey covering electricity, water, fuel, drainage, roads, and warehouse space
- Request comparable technical and commercial quotations from shortlisted suppliers
- Finalize financing, logistics, installation, training, and spare-parts plan

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Research and image references

- steel-hot-dip-galvanising-plant
- structural-steel-section-rolling-mill