



Municipal Waste Sorting, RDF & Waste-to-Energy Complex

Complete Turnkey Business Proposal



Made-in-China supplier reference: real municipal waste sorting, rdf & waste-to-energy complex 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 municipal-waste complex that receives and weighs waste, separates recoverables and organics, produces controlled RDF, treats leachate and emissions, and may integrate approved waste-to-energy conversion with measured environmental performance.

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 municipal concession, waste composition/quantity audit, tariff/off-take, environmental permit, grid/heat agreement, residue route, finance, social safeguards and experienced EPC/operator support are bankable.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Recyclables, RDF and approved energy output	Waste tonnes/day, composition, RDF calorific value, recovery rate, emissions limit, power/heat output, residue and permit standard	Municipalities, utilities, cement kilns, industrial heat users, recyclers and infrastructure operators

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	Waste receiving/weighbridge and audit	Controls feed	Quantity and composition
2	Mechanical/manual sorting	Separates materials	Recovery and safety
3	Shredding/drying/RDF preparation	Creates controlled fuel	Calorific value and chlorine
4	Energy conversion/emission treatment	Produces compliant energy	Efficiency and emissions
5	Residue/leachate/laboratory management	Protects environment	Disposal and monitoring

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 municipal waste sorting, rdf & waste-to-energy complex equipment.



Made-in-China supplier reference: second real machine configuration for municipal waste sorting, rdf & waste-to-energy complex.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Municipal waste, baling/tie materials, process water, treatment chemicals, filter media, wear parts, laboratory consumables and approved residue-disposal capacity

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

- Confirm concession, audited waste stream, diversion/recycling market, RDF/energy off-take, grid, emissions permit, residue landfill and finance before EPC contracting
- Control waste acceptance, sorting recovery, RDF particle/moisture/chlorine, combustion/conversion conditions, emissions, leachate and residue handling
- Test waste composition, RDF calorific value/moisture/chlorine, recoverables, stack emissions, leachate, ash/residue and monitoring records

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

Waste-to-energy must be built only against a real municipal concession, audited waste composition, approved residue route and independently verified emissions performance.

Component	Indicative range	Notes
Receiving, sorting and RDF preparation	US\$70m-230m	Waste composition/tonnage
Energy conversion and emission controls	US\$150m-550m	Technology/permit scope
Leachate, residue, utilities and installation	US\$50m-180m	Environmental critical
Indicative strategic project total	US\$270m-960m	Concession, land and finance 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

- [municipal-solid-waste-sorting-line](#)
- [plastic-recycling-pelletizing-line](#)