

Biomass Briquettes Production Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real biomass briquettes production line equipment.

150-300 kg/h entry output	50-70 mm launch diameter	1 feed approved recipe	5-8 entry workforce
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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

A micro/small solid-fuel line making dense non-carbonized biomass briquettes from one locally available sawdust or crop-residue recipe through sorting, shredding or hammer milling, moisture conditioning, heated screw extrusion, controlled cooling, length cutting, strength and combustion checks and protected bundling or bagging. Carbonization into charcoal is excluded from this lowest-entry route.

Why this project fits Afghanistan

- Low-density crop and wood residues are costly to transport without densification.
- A single extruder can support a workshop-scale entry.
- Non-carbonized briquettes avoid the cost and emissions of a charcoal furnace.
- Moisture, screw wear, briquette strength and buyer-stove trials control viability.

Sanaatchi delivery scope

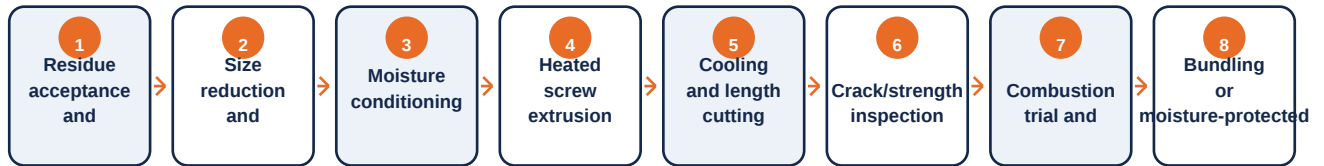
- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning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

Recommended configuration

Launch one 50-70 mm non-carbonized briquette from a naturally dry sawdust-rich feed at 150-300 kg/h. Use a magnet, small hammer mill, covered moisture-conditioning bin, one screw briquette extruder with spare screw and heating rings, cooling rack, cut-off saw, weighing and bundling. Exclude carbonization furnaces until fuel demand, smoke control, fire safety and environmental approval are proven.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Non-carbonized biomass fuel briquette	One diameter and feed recipe with moisture, density, drop strength, ash, smoke and calorific-value limits	Bakeries, boilers and institutional stoves after firing trial

Pellets, raw briquettes and charcoal briquettes have different processes. This route ends after densification and cooling. Supplier acceptance measures feed particle size/moisture, motor load, heater control, screw wear rate, continuous throughput, briquette density, cracks, drop strength, moisture uptake, ash and combustion behavior. Carbonization requires a separate sealed furnace and emissions system.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Magnet, sorting table and small hammer mill	Cleans and sizes one feed	Below 3-5 mm as required
2	Covered conditioning bin and moisture meter	Stabilizes extrusion feed	Recipe-specific moisture
3	Heated screw briquette extruder	Compresses biomass without routine binder	150-300 kg/h
4	Cooling rack and guarded cut-off saw	Sets and sizes briquettes	One diameter/length
5	Weighing and bundle/bag station	Protects saleable fuel	Buyer pack
6	Fuel test kit	Checks strength, ash and combustion	Batch release

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 biomass briquettes production line equipment.



Made-in-China supplier reference: second real machine configuration for biomass briquettes production line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- One clean sawdust-rich or tested crop-residue feed
- Water for controlled conditioning only
- Approved binder only if technically necessary and declared
- Strapping, sacks, labels and pallets

Utilities & infrastructure

- Stable three-phase electricity with verified connected load
- Guarded machinery, lockout, ventilation and fire protection
- Covered segregated raw-material and finished-goods storage
- Maintenance tools, safe lifting and critical spare parts
- Local dust extraction and spark/fire protection
- Dry covered cooling and finished-fuel area

Quality, safety and environmental controls

- Control feed identity, contamination and particle size
- Measure moisture before every run
- Record heater temperature, motor load and throughput
- Inspect cracks, diameter, length and density
- Test drop strength, fines, moisture uptake and ash
- Run combustion trial in the target stove or boiler

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

The lowest credible route uses naturally dry residue, one screw extruder and one briquette size. A dryer and charcoal-carbonization section are separate later investments.

Component	Indicative range	Notes
Sorting, milling and conditioning	US\$6k-16k	Naturally dry feed
Extruder, spare screw and cooling/cutting	US\$9k-24k	150-300 kg/h
Dust/fire controls, test kit and packing	US\$6k-15k	Workshop basis
Freight, setup and spares	US\$5k-13k	Wear-part stock
Indicative installed low-entry total	US\$26k-68k	Dryer, carbonization, building and stock 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

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