



Sawdust & Crop-Residue Fuel Briquettes Production Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real sawdust & crop-residue fuel briquettes production line equipment.

300-500 kg/h screened entry output	3-5 mm typical press feed size	8-12% target feed moisture	7-12 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 biomass-fuel line densifying clean sawdust and qualified crop residues into non-carbonized fuel briquettes through feedstock segregation, metal and stone removal, coarse size reduction, screening, moisture measurement, hot-air drying where required, fine milling, buffer storage, controlled feeding, high-pressure screw or piston briquetting, cooling, cutting, inspection, bagging and dry storage. Charcoal carbonization is a different process and is excluded.

Why this project fits Afghanistan

- Sawmill dust, pruning residues and cotton or cereal stalks can displace loose fuel when collection and ash quality are controlled.
- Densification reduces storage volume and produces a repeatable boiler or stove fuel.
- One validated blend protects the press and avoids unstable ash, slagging and customer heat output.
- A compact line can start below large pellet-plant investment while preserving local labor and residue value.

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

Start with one tested sawdust/cotton-stalk blend and one local boiler, bakery or household-fuel buyer. Screen a 300-500 kg/h line with magnetic and stone removal, hammer mill for below 3-5 mm feed, moisture meter, compact hot-air dryer sized to actual evaporation duty, buffer hopper, one supported screw or piston press, cooling rack/conveyor, length cutter and bag scale. Contract 8-12% press-feed moisture and do not include a carbonization furnace unless charcoal is a separately permitted product.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Non-carbonized biomass fuel briquette	One diameter/shape, moisture, density, durability, ash, calorific value and buyer combustion trial	Boilers, bakeries and compatible household or institutional stoves
Crop-residue blend briquette	Separate recipe with ash-fusion, slagging and emissions approval	Named industrial heat user after trial

This proposal does not claim charcoal. Each residue must be tested for moisture, ash, silica, chlorine, contamination, bulk density and calorific value. Supplier acceptance uses the contracted Afghan blend and records dry-mass throughput, electricity, dryer fuel, press temperature/pressure, die or screw wear, briquette density, fines, drop durability, moisture, ash and a buyer combustion trial.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Receiving hopper, magnet and stone trap	Protects downstream machines	Residue-specific separation
2	Chipper/hammer mill and screen	Reduces feed to stable press size	Below about 3-5 mm
3	Moisture meter and hot-air dryer	Controls press-feed moisture	8-12% target
4	Blend bin and metered feeder	Maintains one approved recipe	Bridging prevention
5	Screw or piston briquette press	Densifies biomass without routine binder	300-500 kg/h basis
6	Cooling conveyor/racks and cutter	Stabilizes hot product and controls length	Fire-safe discharge
7	Bag scale and fuel laboratory	Packs and releases briquettes	Moisture, density, ash, durability

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 sawdust & crop-residue fuel briquettes production line equipment.



Made-in-China supplier reference: second real machine configuration for sawdust & crop-residue fuel briquettes production line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Clean sawdust and only tested cotton stalk, cereal straw, pruning or husk fractions
- Dry starter fuel for the hot-air generator where needed
- Bags, labels, pallets and dry-store protection
- Press screws/dies, bearings, screens and critical dryer spares

Utilities & infrastructure

- Three-phase power with motor-starting and overload protection
- Controlled hot-air heat source with spark arresting and exhaust stack
- Covered dry raw-material and finished-fuel stores
- Dust collection, bonding/grounding and fire detection/extinguishing
- Safe separation of hot product, dryer and bagging areas

Quality, safety and environmental controls

- Approve every residue source and blend recipe
- Reject stones, metal, treated wood, plastics and wet/mouldy feed
- Control particle-size distribution and press-feed moisture
- Record dry throughput, energy, pressure/temperature and wear
- Test dimensions, density, fines, drop durability, moisture, ash and heat value
- Complete buyer stove/boiler combustion, ash and slagging trial

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 absolute lowest entry uses guaranteed dry, clean, pre-milled sawdust and omits the dryer and primary crusher. The resilient complete entry includes drying and safety controls. Carbonization, building, raw-material collection vehicles and working stock are excluded.

Component	Indicative range	Notes
Cleaning, milling, screening and conveying	US\$7k-18k	One residue blend
Compact dryer and hot-air system	US\$8k-22k	Actual evaporation duty
One press, cooling, cutter and bag scale	US\$9k-24k	300-500 kg/h basis
Dust/fire control, freight, installation and spares	US\$6k-17k	Local workshop
Indicative installed low-entry total	US\$30k-81k	Can be US\$22k-49k if dry milled feed is guaranteed; building/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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