SANAATCHI
INDUSTRIAL VISION GROUP

Oilseed Solvent Extraction and Edible-Oil Refinery

Industrial Project Development Proposal
Large & Strategic Industrial Projects

Real supplier reference image. Final brand, model and appearance depend on selected quotation.

LOWEST-ENTRY PROJECT BASIS	Develop the project in stages: first complete a bankable feedstock and market study, then evaluate mechanical pre-pressing and batch refining as an early phase; add an explosion-protected solvent-extraction section only at a commercially justified scale with an experienced EPC partner.

Project Overview, Products & Market Positioning

A strategic integrated project converting cottonseed, sunflower seed or other confirmed oilseeds into crude and refined edible oil, saleable meal and recoverable by-products. Solvent extraction is suitable only after feedstock, scale, process safety, utilities and environmental controls are proven.

Recommended Afghanistan positioning

- Use Afghan cottonseed and sunflower only after multi-year quantity, seasonality, storage and price are documented.
- Design revenue around both refined oil and protein meal; do not treat meal as waste.
- Separate a lower-risk mechanical pressing/refining phase from the solvent-extraction expansion decision.
- Require independent process-safety, environmental and fire review before financing or procurement.

Applications and primary use

- Refined sunflower, cottonseed or blended edible oil for domestic wholesale and retail markets
- Crude oil and semi-refined oil for industrial buyers where applicable
- Desolventized oilseed meal for approved animal-feed markets
- Soapstock, fatty-acid or other refinery by-products where a safe buyer and process exist

Project Configuration & Purchase Specification

Selection parameter	Required function / value	Buyer or site input
Feedstock and capacity basis	Cottonseed/sunflower or other tested oilseed; shortlist 20-50 TPD and larger cases	Confirm multi-year supply before selecting scale
Seed preparation	Receiving, cleaning, weighing, drying/conditioning, dehulling, crushing, flaking and cooking as required	Process varies by oilseed
Mechanical pre-press	Screw pressing before extraction where technically/economically justified	Confirm cake oil and moisture targets
Solvent extraction	Extractor, miscella filtration/evaporation, meal desolventizing and solvent recovery	Explosion-protected design and experienced EPC mandatory
Edible-oil refining	Degumming, neutralization or physical refining, bleaching, filtration and deodorization	Add dewaxing/winterization for sunflower oil if required
Meal handling	Cooling, grinding/sizing, testing, storage and bagging	Meet feed-safety and residual-solvent requirements
Utilities and offsites	Boiler, water treatment, cooling system, vacuum, compressed air, tank farm and electrical distribution	Supplier battery limits must be explicit
Safety and environmental systems	Hazardous-area electricals, gas detection, fire protection, vapor recovery and wastewater/odor controls	Independent review before construction
Filling and warehouse	Bulk or retail filling, coding, finished-oil storage and meal warehouse	Select after confirmed route to market

Buyer checklist and quotation requirements

- Commission a bankable study of annual oilseed supply by crop, district, season, moisture, oil content and competing uses.
- Confirm target oil standard, packaging mix, meal specification, offtake contracts and realistic operating days.
- Compare pre-press plus solvent extraction with full mechanical pressing using mass-balance and delivered-energy costs.
- Confirm steam, electricity, process water, cooling water, wastewater treatment, nitrogen and fuel requirements.
- Complete HAZOP, hazardous-area classification, fire-water, gas detection, solvent recovery and emergency-response design.
- Verify permits, food-safety approval, environmental impact, worker exposure limits and solvent-storage requirements.
- Request EPC battery limits, performance guarantees, product yields, utility guarantees, commissioning and operator training.
- Model working capital for seasonal seed purchase, oil storage, packaging and meal inventory separately from CAPEX.

Final technical parameters, included accessories and acceptance criteria must be confirmed in the supplier quotation, test report and purchase contract. Do not purchase from photographs alone.

Indicative Project Investment & Implementation Plan

AFGHANISTAN LOW-ENTRY PROJECT

Economical Chinese machinery, local civil works and labor, phased automation, minimum launch stock and land excluded. Add capacity only after demand is proven.

Project component	Indicative planning range	Lowest-entry method
Feasibility, laboratory trials and basic engineering	US$25k-100k	Required before EPC procurement
Seed preparation, pre-press and extraction process plant	US$350k-1.5m	Early 20-50 TPD screening range; supplier battery limits vary
Edible-oil refinery and product storage	US$180k-800k	Batch or continuous scope by capacity and oil standard
Utilities, safety, environmental and offsites	US$180k-900k	Do not omit explosion protection, boiler/cooling and treatment systems
Civil works, installation, commissioning and contingency	US$180k-900k	Local civil work can reduce cost; specialist erection remains essential
Indicative integrated project basis	US$0.9m-4.2m	Land and seasonal feedstock working capital excluded

Project implementation sequence

Phase 1	Feedstock, oil/meal market and site pre-feasibility (2-4 months)
Phase 2	Laboratory trials, process route selection and bankable feasibility (3-6 months)
Phase 3	EPC tender, permitting, financing and contract negotiation (4-8 months)
Phase 4	Detailed engineering, civil works and equipment manufacture (8-14 months)
Phase 5	Installation, safety validation, commissioning and performance testing (3-5 months)

These are non-binding low-entry project targets. Final cost depends on confirmed capacity, machinery scope, civil works, utilities, freight, customs, exchange rate and site conditions.

Sanaatchi Support & Contact

- Project definition, capacity confirmation and supplier comparison
- Machinery scope, local works and utility coordination
- Factory tests, shipping, installation and commissioning planning
- Operator training, critical spares and launch-material coordination
- Phased expansion after market demand is proven

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Supplier image references

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- https://www.alibaba.com/supplier/solvent-extraction-plant.html
- https://www.undp.org/afghanistan/publications/private-sector-mapping-afghanistan