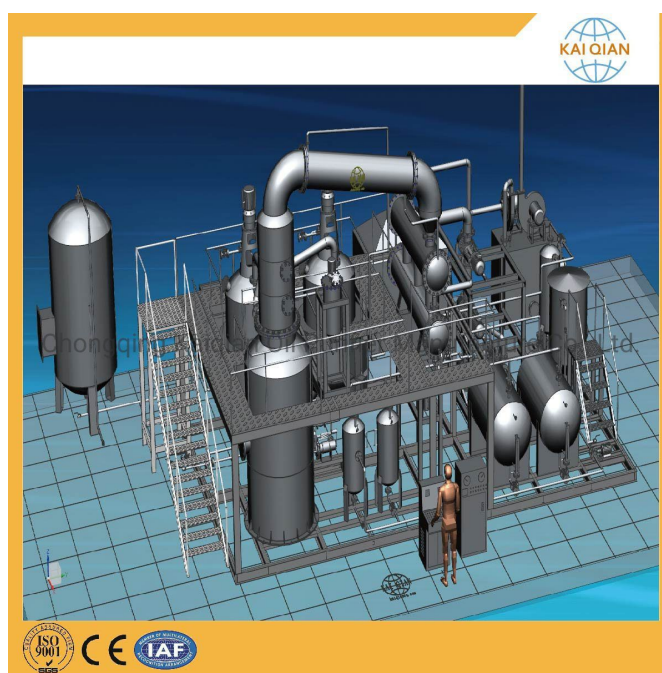


Used Engine-Oil Re-refining Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real used engine-oil re-refining line equipment.

5-10 t/day screening basis	segregated lube oil accepted feed	high vacuum core separation	18-30 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 licensed small/medium hazardous-waste re-refining plant converting source-segregated used lubricating oil into tested base-oil fractions through manifest receipt, quarantine sampling, settling and coarse filtration, dehydration and light-end removal, high-vacuum thin-film or molecular distillation, fraction condensation, residue removal, optional polishing, base-oil laboratory release, closed storage and controlled loading. Simple filtration does not restore spent engine oil and is not presented as re-refining.

Why this project fits Afghanistan

- Used lubricating oil is locally generated and often mishandled.
- Proper re-refining can recover base-oil fractions while controlling hazardous residues.
- A licensed collection system supports traceability and stable feed quality.
- Vacuum integrity, emissions, residue disposal and laboratory release make this an industrial-not workshop-project.

Sanaatchi delivery scope

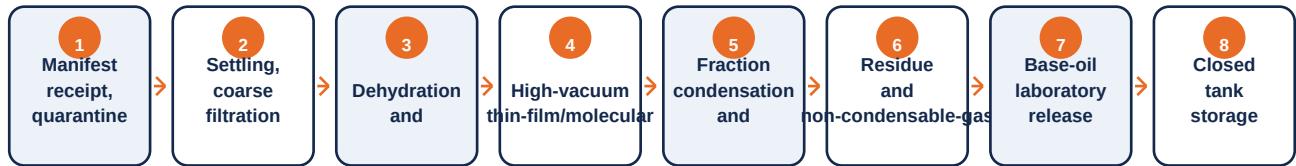
- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning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

Recommended configuration

Proceed only after hazardous-waste and air-emission permits, feedstock collection contracts, residue disposal route and a bankable laboratory trial. The smallest responsible basis is roughly 5-10 t/day with closed pretreatment, high-vacuum distillation, condensers, non-condensable-gas treatment, residue handling, firefighting, wastewater control and a full lubricant/base-oil laboratory. Do not bottle the output as engine oil without separate blending and performance approval.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Re-refined base-oil fraction	Boiling/viscosity cut, viscosity index, flash/pour point, water, sulfur, metals, acidity, colour and carbon residue	Licensed lubricant blenders after formula and performance qualification

Used oil may contain fuel, coolant, metals, chlorinated solvents, PCBs or unknown waste; every load requires acceptance limits. Supplier claims of simple filtering or “85% base oil” are not sufficient. Performance acceptance uses a defined feed campaign and documented mass balance, energy, vacuum, emissions, wastewater, residue, recovery and full base-oil analysis.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Manifest receiving and quarantine tanks	Segregates and samples hazardous feed	No mixed unknown waste
2	Settling, filters and dehydration skid	Removes solids, water and light ends	Closed system
3	High-vacuum distillation train	Separates recoverable base-oil cuts	5-10 t/day
4	Condensers, vacuum and gas treatment	Recovers fractions and controls vapors	Emission guarantee
5	Residue, wastewater and fire systems	Manages hazardous outputs safely	Licensed disposal
6	Base-oil laboratory and storage	Releases and protects product cuts	Traceable tanks

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 used engine-oil re-refining line equipment.



Made-in-China supplier reference: second real machine configuration for used engine-oil re-refining line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Source-segregated used lubricating oil under manifest
- Filter media and approved polishing media if validated
- Sampling containers and hazardous-waste labels
- Closed product and residue tanks

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
- Hazardous-waste, air and wastewater permits
- Explosion-rated electricals, nitrogen where required and foam firefighting
- Licensed residue disposal and continuous vapor/LEL monitoring

Quality, safety and environmental controls

- Analyze every feed load for water, fuel, glycol, metals and halogens
- Track full mass balance and reject sources
- Log vacuum, temperature, residence and fraction cuts
- Monitor emissions, wastewater and residue quantities
- Test viscosity, VI, flash/pour, water, sulfur, metals and acidity
- Release only as base-oil feedstock with traceable tank certificate

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

There is no safe workshop shortcut. The lowest responsible project is a permitted 5-10 t/day closed re-refining plant; simple filters are suitable only for narrowly defined in-service oil conditioning, not spent engine-oil regeneration.

Component	Indicative range	Notes
Receiving, pretreatment and dehydration	US\$180k-420k	5-10 t/day
Vacuum distillation, condensers and gas treatment	US\$600k-1.5m	Core re-refining
Residue/water systems, laboratory and storage	US\$280k-720k	Licensed controls
Freight, civil works, utilities and commissioning	US\$320k-800k	Feed campaign required
Indicative project-screening total	US\$1.38m-3.44m	Land, permits 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

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