Ministry of Investment,
industry and trade
of the Republic of Uzbekistan

Investment proposal:
Copper mining and processing

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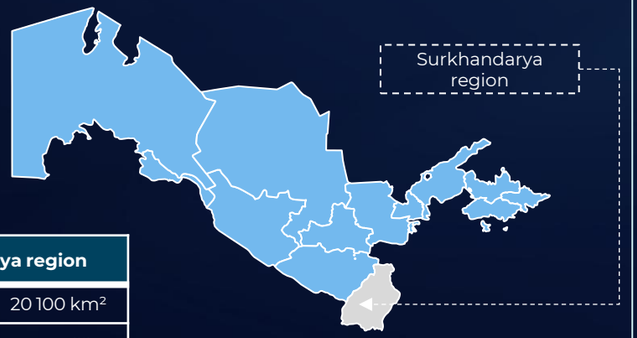
Economic impact:

- Job Creation: 1200+ new direct jobs (mining, processing, engineering, support services).
- Government Revenue: $18-25 million USD/year.
- Reduced reliance on imported copper products and generation of significant export revenue from processed copper.

Social impact:

1. Extensive training programs for skilled labor in mining and metallurgy within the Surkhandarya region.
2. Regional Development: Significant infrastructure upgrades (power, water, roads) benefiting local communities.

Location of the project



Surkhandarya region	
Size	20 100 km²
Population	3,0 million

Project description:

- **Geological exploration:** advanced survey (4,000 ha) to confirm and delineate the projected 4 million tonne resource.
- **Open-pit mine:** development of a modern mining operation at the site of the 208k tonne reserve.
- **Processing plant:** a concentrator plant to produce copper concentrate and a modern smelter/refinery to produce high-purity copper cathode and rod.
- **Logistics hub:** storage and transport facilities for raw ore, concentrate, and finished products.
- **initial focus on primary products:** copper cathode, copper rod.

Economic indicators:

Financing: 250 million USD

Area: 40 he (mining & processing complex)
4000 he (for geological survey)

Revenue: $135 million/year

ROI: 24 %

NPV: ~ $110,2 million

IRR: ~22%

Strategic Advantages:

Resource wealth:

Direct access to significant proven and potential copper resources, ensuring long-term raw material supply.

First-Mover Advantage:

Region is large-scale modern mining, offering strategic growth potential.

Growing Market Demand:

Sustained demand for copper driven by electrification, renewable energy, and infrastructure projects.

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Copper mining and processing chain

Key production stages

1. Mining & Beneficiation
- open-pit mining, crushing, and grinding.
- froth flotation to produce copper concentrate (20-30% Cu content).
- resource loss: 15-20% (as tailings).

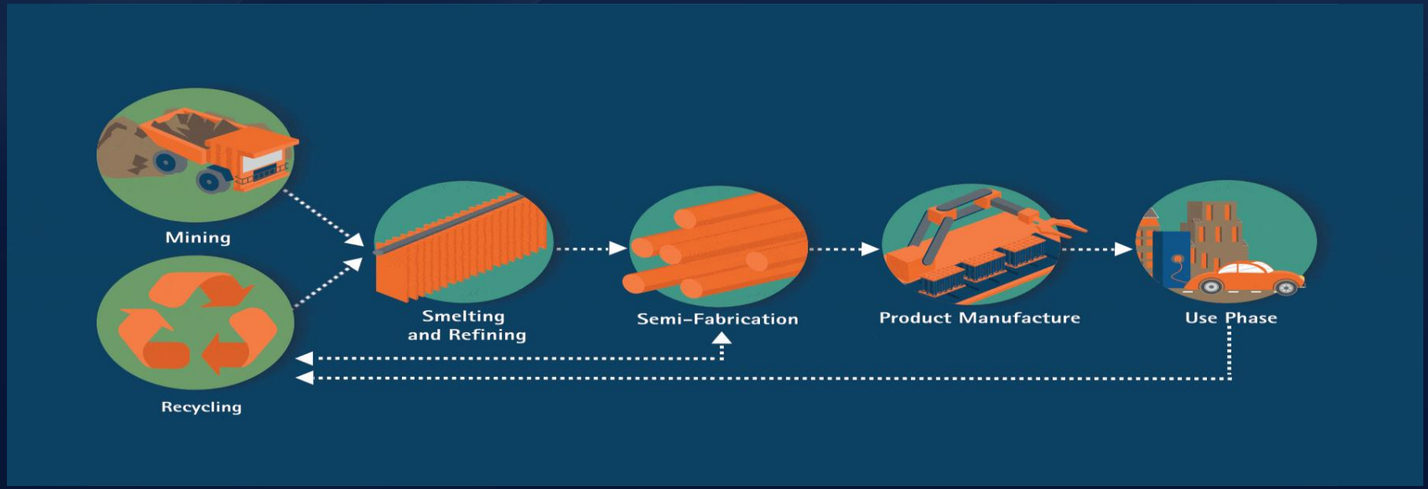
2. Smelting & Refining
- smelting concentrate to produce matte (60% Cu) and then blister copper (98-99% Cu).
- electrolytic refining to produce high-purity cathode copper (99.99% Cu).
- removal of impurities and separation of valuable by-products (e.g., gold, silver, molybdenum).

3. Casting & Forming
- melting cathodes and casting into intermediate products like wire rod, billets, or cakes.
- continuous casting and rolling for semi-finished products.

4. Finished Product Manufacturing
- drawing wire rod into various cable and wire gauges.
- manufacturing copper tubes, sheets, and alloy products (e.g., brass, bronze).
- quality control, packaging, and distribution to end markets (electrical, construction, automotive).

Product yield breakdown *(for 1 ton of copper ore at ~0.8% Cu grade)*

	Product	Share of final output	Mass yield	Market price ($ / ton)	Value added ($)
1	Copper cathode (99.99% Cu)	core product	~8 kg*	~8,500	68
2	Copper wire rod	value-added product	~7.5 kg*	~9,200	69
3	By-products (e.g., concentrate for other metals)	additional revenue	varies	varies	~12
	TOTAL				**~$149**



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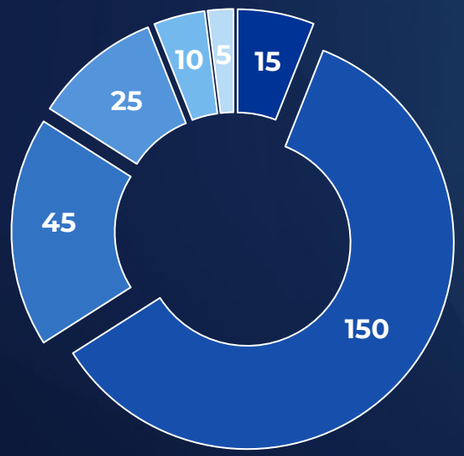
Project expenses

Initial Investment (CAPEX) *(mln dollar)*

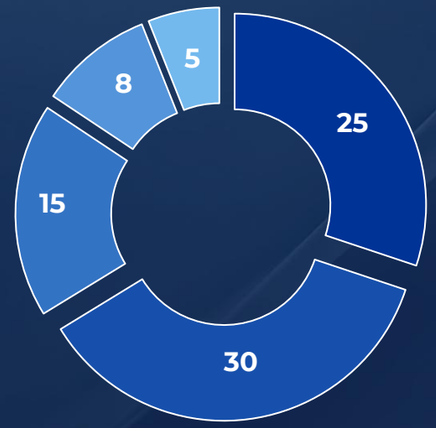
Total CAPEX: **$250 mln**



- Geological exploration & feasibility
- Equipment (mining and processing plant)
- Semi-finished product plant
- Infrastructure & construction
- Licensing & compliance
- Contingency & project management

Operating Costs (OPEX) *(mln dollar)*

Total OPEX: **$83 mln**



- Raw materials & consumables
- Energy (electricity, gas) and water
- Labor & salaries
- Maintenance & repairs
- Logistics & transportation

This financial overview outlines a comprehensive cost structure and strong profitability of the copper mining and processing project.
The breakdown includes both initial capital investment (CAPEX) and annual operating costs (OPEX), alongside projected revenue and profit estimates.

Product	**% of total**	**Amount** (million USD)
Copper cathodes (99.99% Cu)	75%	101
Copper wire rod	20%	27
By-products (e.g., precious metals)	5%	7
TOTAL		**135 000 000**

Annual EBITDA:
= $135 mln - $83 mln - $3 mln =
$49 mln

The project's strong profitability forecast is underpinned by efficient operations and high market demand, positioning it as a highly attractive investment.

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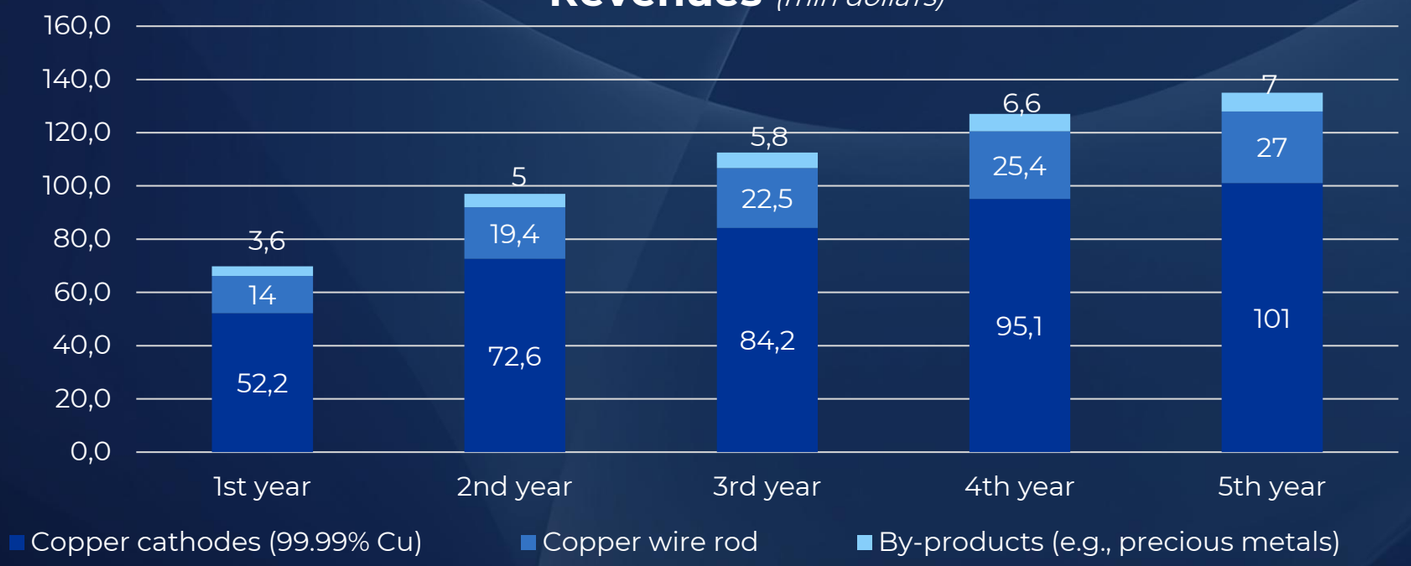
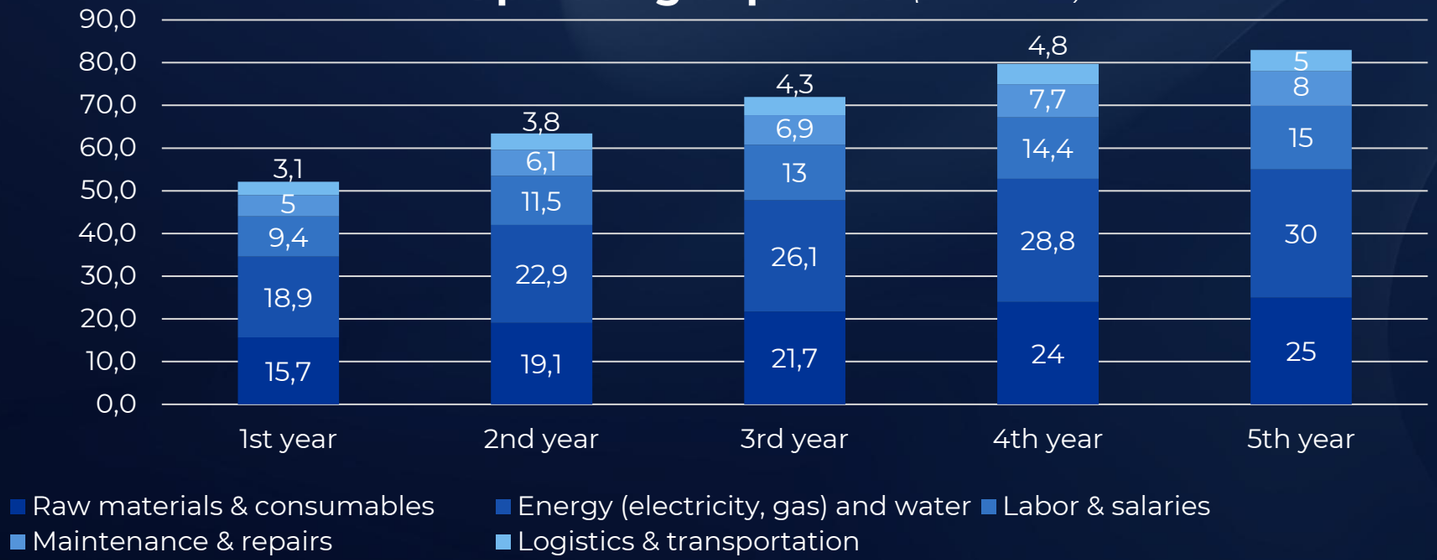
Financial indicators
(5-year projection)

Revenues *(mln dollars)*



Operating expenses *(mln dollars)*



Breakeven: Achieved in year 3,8

Total 5-year revenue:
$541M revenue in 5 year.

EBITDA growth (5 year)**:**
5% CAGR, reaching $265,4M by Year 5.

NPV (10% discount rate):
NPV= **$110,2 million** *(Highly favorable!)*

IRR (Internal rate of return): ≈ **22%**

Payback period (PP):
= **5-6 years**

Profitability index (PI):
=(NPV+CAPEX)/CAPEX=($110,2M+$250M)/250M= **1,44**