Ministry of Investments,
Industry and Trade of the Republic
of Uzbekistan

Investment proposal:
Navoi Basalt Fiber & Composite Materials Project

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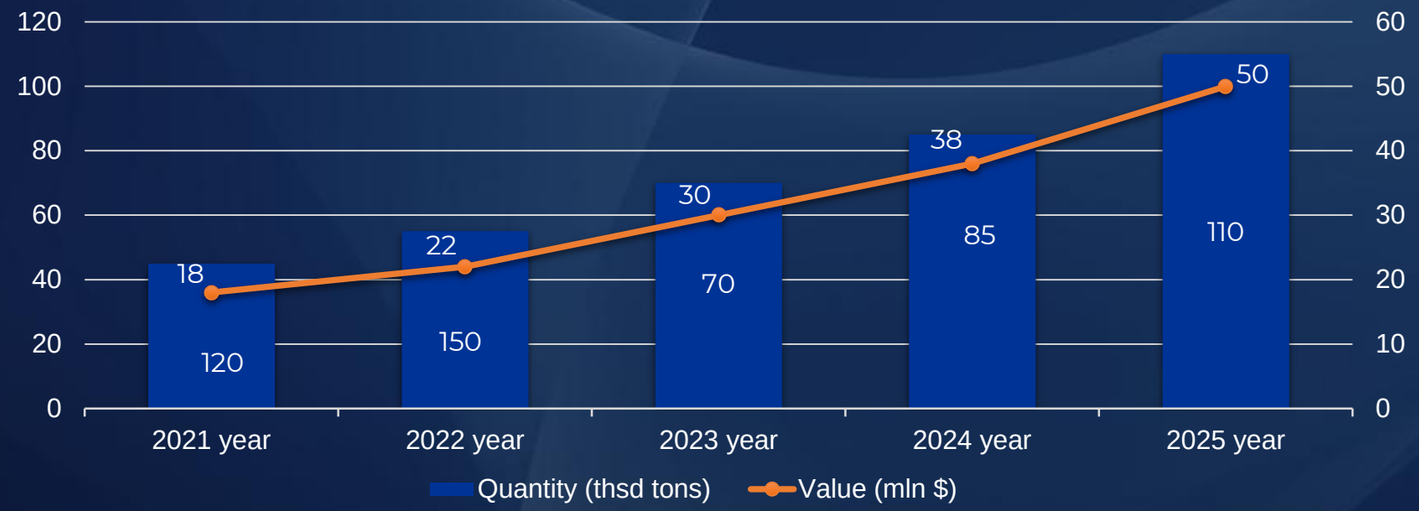
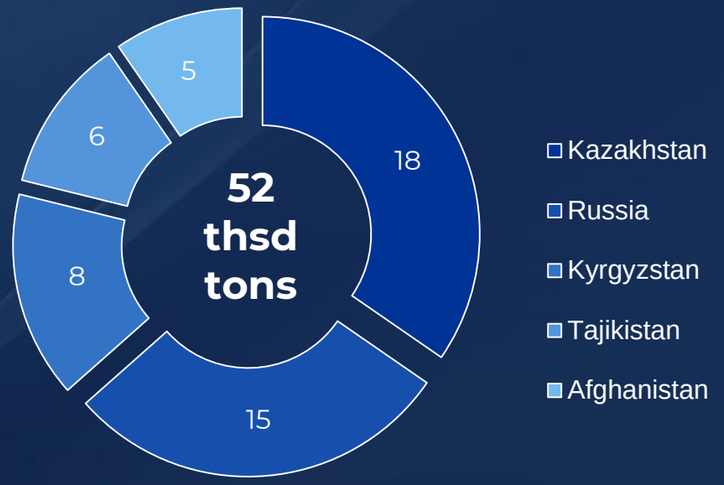
Export and import analysis

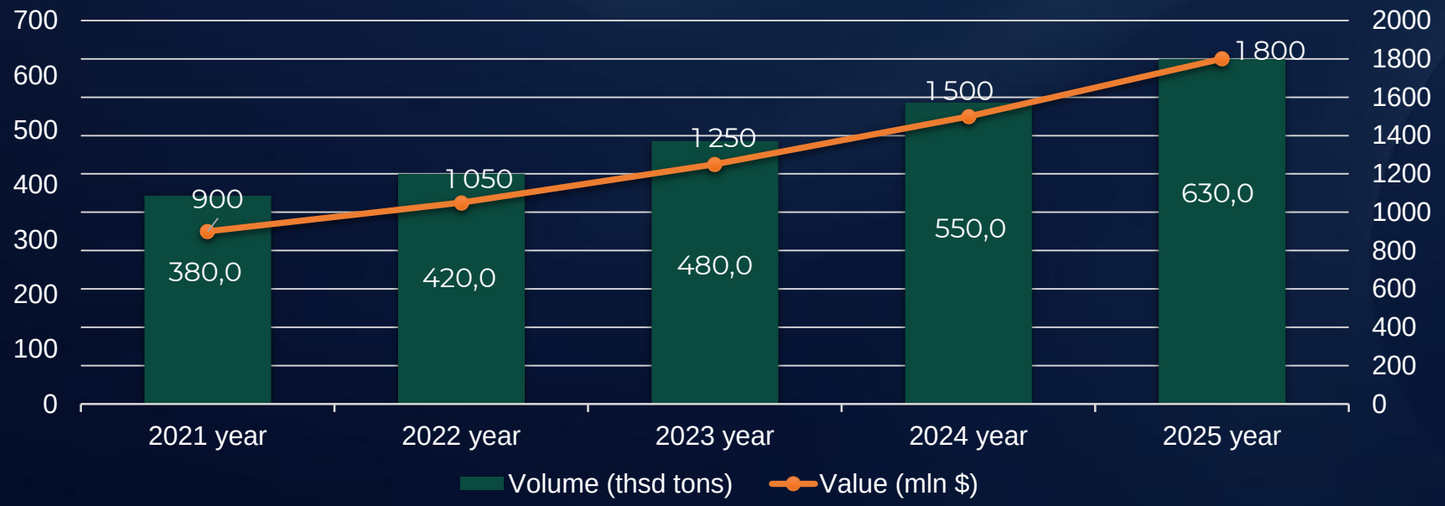
Export by Glass and basalt products



Export by countries



Import by Glass and basalt products



Imports by countries

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Basalt fiber & composite materials market analysis

Glass and basalt products production and consumption
(thousand units)

Import trends

copper product imports over the past four years. The volume increased from 420,000 tons in 2022 to 550,000 tons in 2024 and is forecast to reach ~630,000 tons in 2025.
Value Increase: Import value rose from about $1050 million in 2022 to $1800 million in 2025, reflecting higher demand and prices for refined copper products (rod/cathode).
Main suppliers: Russia is the leading supplier China (~520,000 tons), United States (~430,000 tons), Germany (~410,000 tons), Turkey (~260,000 tons) and UAE & others (~180,000 tons).

Export trends

Low-to-moderate volume: Exports of secondary copper products grew to 110 thousand tons in 2025.
Value growth: Export value increased to ~$50 million in 2025 as shipments shifted to higher-value refined copper products.
Destinations: Exports are focused on regional markets: Kazakhstan (18 thousand tons), Russiya (15), Kyrgyzstan (8), Tajikistan (6), Afghanistan (5).

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Basalt fiber & composite materials manufacturing

Economic and social impact:

Import substitution

- Replacement of imported fiberglass, carbon composites and steel reinforcement in construction.

Supply chain development:

- Basalt quarrying & crushing, additives, packaging.

- Logistics: rail/road, container flows.

- Services: furnace & spinner maintenance, lab testing, tooling.

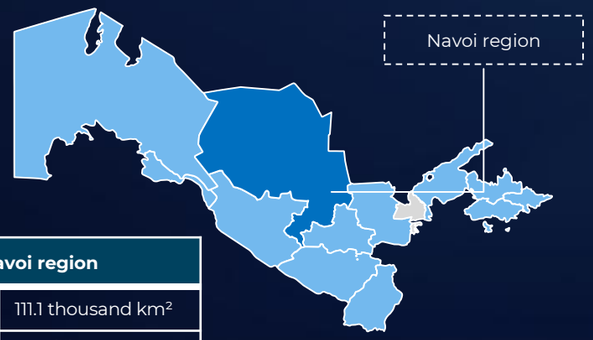
Downstream:

- Fiber roving/chopped fiber → fabrics/mesh → composite rebar & panels.

Economic indicators:

- **Funding: 90 million US dollars**
- **Area: 12 hectares**
- **Income: $ 205 million/year**
- **Return on Investment (ROI): 125 %**
- **NPV: ~ $ 90 million (5 years)**
- **IRR: ~ 32 %**

Project location



Navoi region	
Size	111.1 thousand km²
Population	1.1 million

Project description:

The project aims to establish a modern basalt fiber and composite materials plant in Navoi region.

Process: basalt rock preparation → melting (1,450–1,600°C) → fiber forming & sizing → winding/cutting → weaving/pultrusion → packaging.

Objectives: reduce import dependency, create high-value export products, and develop a local composites ecosystem.

Production indicators:
Per year 25 thsd tons:

- **Basalt fiber roving: 55%**
  13.8 thousand tons
- **Composite rebar & mesh: 45%**
  11.2 thousand tons

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Basalt fiber & composites value chain and product profitability

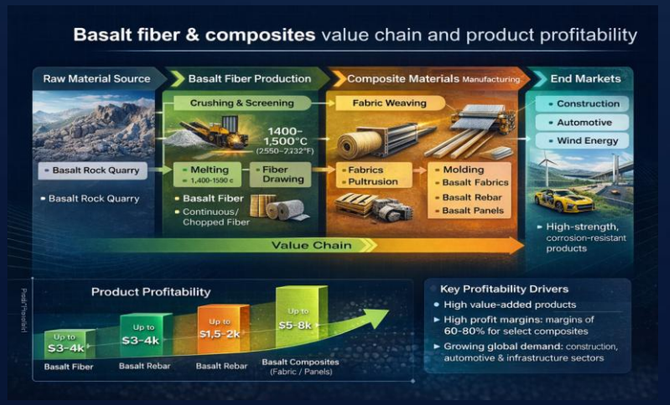
Key stages of production

Basalt fiber products – key stages

Raw material sourcing & storage
Basalt rock, additives, sizing chemicals, packaging.
Preparation & batching
Crushing, drying, dosing and continuous feed control.
Melting & homogenization
Electric/gas melting furnace (1,450–1,600°C), filtration and temperature conditioning.
Fiber forming & sizing
Nozzle drawing, applying sizing, winding to roving or chopping.
Downstream processing
Weaving/knitting, mesh production, pultrusion for composite rebar.
Utilities & EHS
Power, water cooling, air systems; emission control, dust filtration; recycling of off-spec fiber.
Production planning & QC
Lab testing (strength, diameter, sizing), traceability and inventory management.

Technology and features

	Technology	Features
1	**Multi-alloy control (6063/6061/AlSi)**	Spectral analysis
2	**Degassing (rotor) and ceramic filter**	Reduces internal defects
3	**Scrapni "charge mix" algorithm**	Sustainable chemistry
4	**Energy-efficient oven**	Heat recovery (recuperation)
5	**Ecology:**	Gas cleaning (bag filter), slag management



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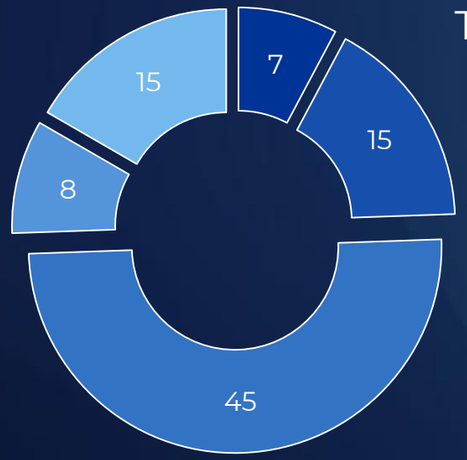
Project costs

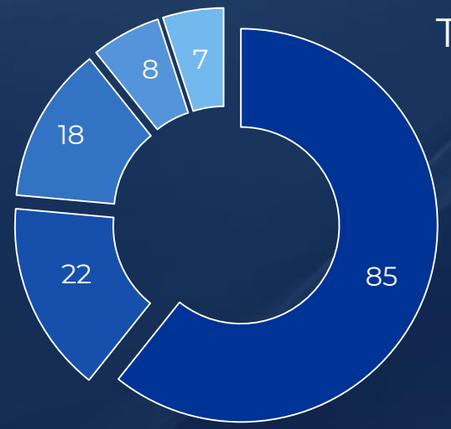
Initial investment (CAPEX) *(million dollars)*



Total CAPEX: 90 million

- Land & civil works
- Buildings & infrastructure
- Main process equipment
- Utilities & substation
- Engineering & contingency

Operating expenses (OPEX) *(million dollars)*



Total OPEX: $ 140 million

- Raw materials
- Energy & utilities
- Labor
- Maintenance
- Other

This financial review outlines the comprehensive cost structure and profitability of the basalt fiber and composite materials project. The breakdown includes initial capital investment (CAPEX) and annual operating expenses (OPEX), as well as projected revenue and profit indicators at full capacity.

Product	**Capacity**	**Quantity** (million US dollars)
Basalt fiber	13,8 thsd tons	95
Composite rebar	11,2 thsd tons	110
TOTAL	**25 thsd tons**	**205**

Annual EBITDA:
= $ 205 million - $ 140 million = $ 65 million

The project’s strong profitability is supported by efficient energy use, scalable production lines and growing demand for composites in construction and infrastructure.

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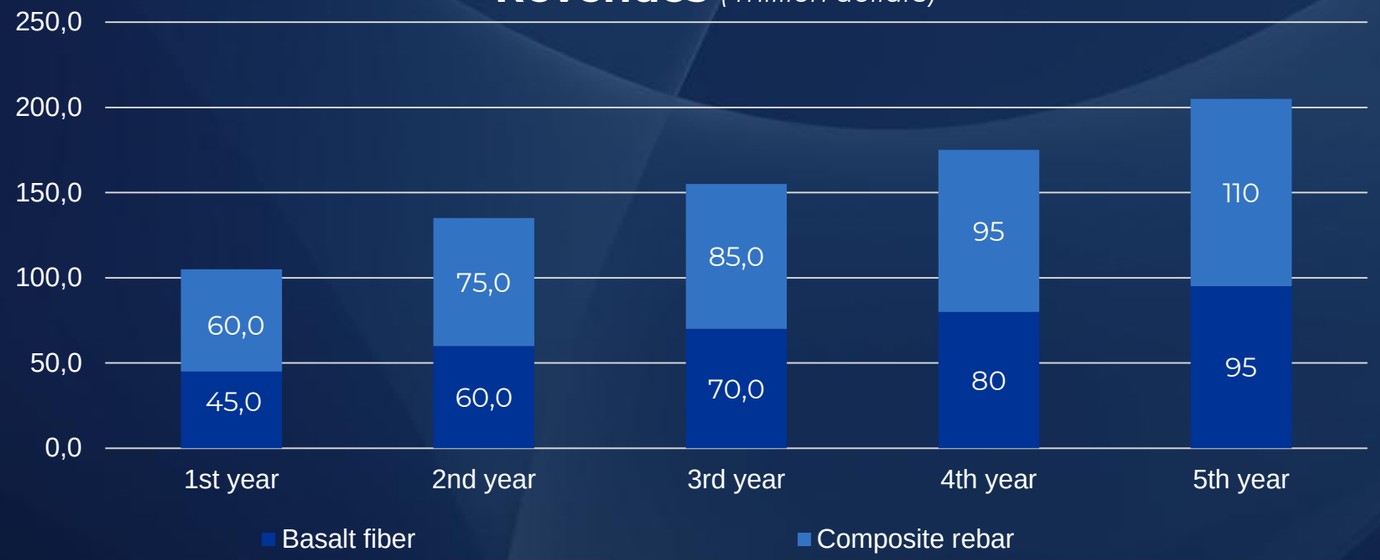
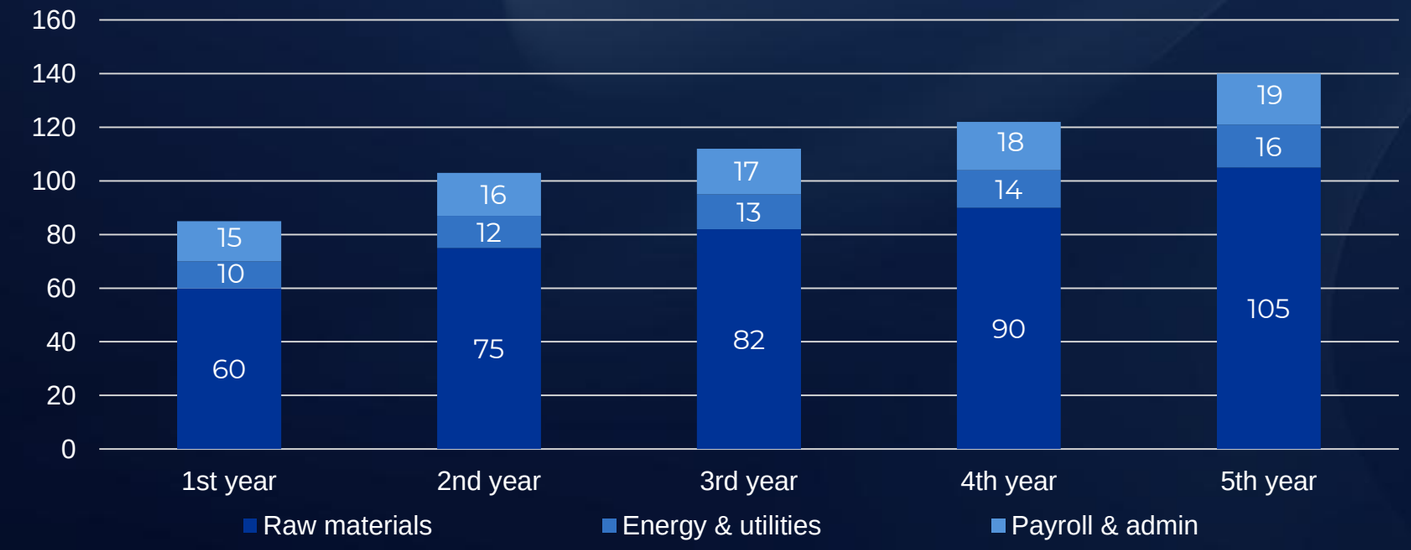
Financial indicators

(5-year forecast)

Revenues *(million dollars)*



Operating expenses *(million dollars)*



Total 5-year revenue:
$775 mln

NPV (12% discount rate):
NPV = ~$90 million

IRR (Internal Rate of Return): ≈ 32 %

Payback period (PP):
≈ 3.2 years

Profitability Index (PI):
PI = (NPV + CAPEX)/CAPEX = (90+90)/90 = 2.0

Return on Investment (ROI):
≈ 125 %