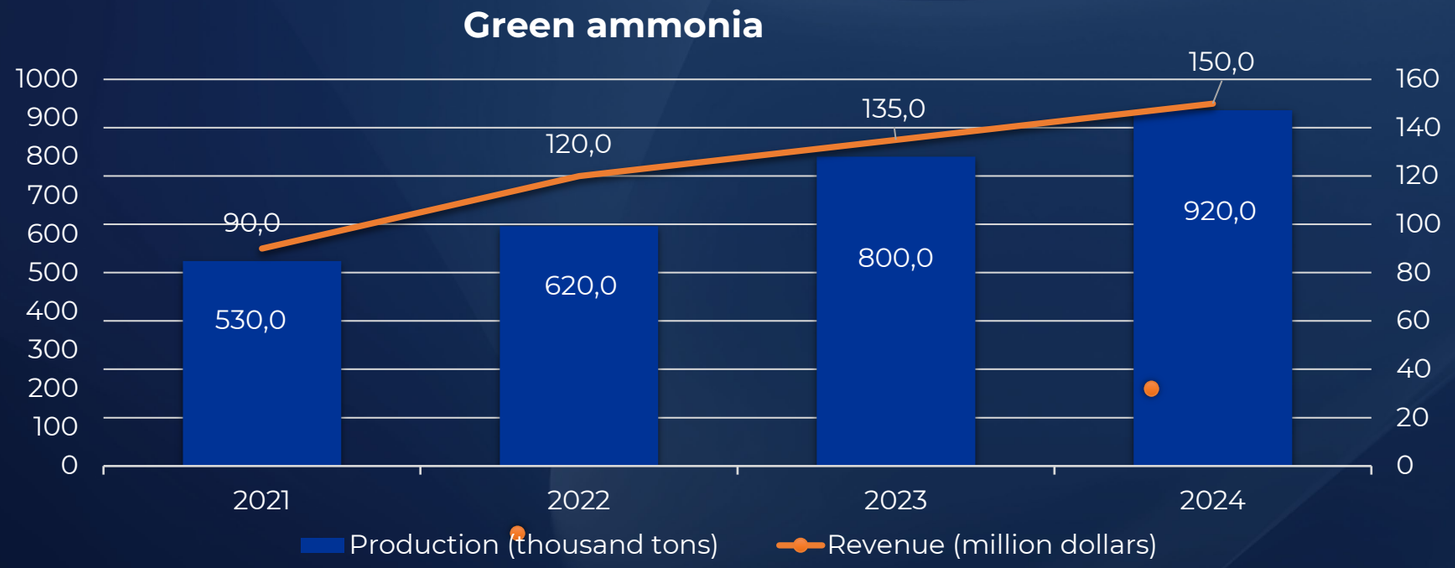
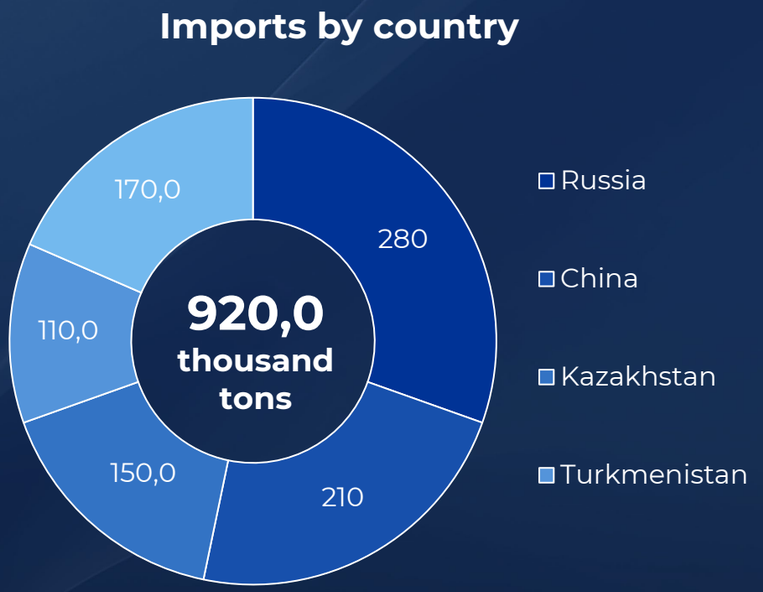
Uzbekistan Investments,
Industry and Trade

Investment proposal:
Green ammonia and low- carbon fertilizers complex

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

Green ammonia to Uzbekistan Import Dynamics (2021-2024)





"Uzbekistan's chemical industry is growing at a rate of more than 20% per year. As of 2022, the country covers 70% of its annual green ammonia needs (about 29,800 tons) through imports. The lack of local production and high logistics costs (15-20% of the cost of production) make the project to build a green ammonia plant in Navoi **a high-profit (High ROI)** and **market-guaranteed** business."

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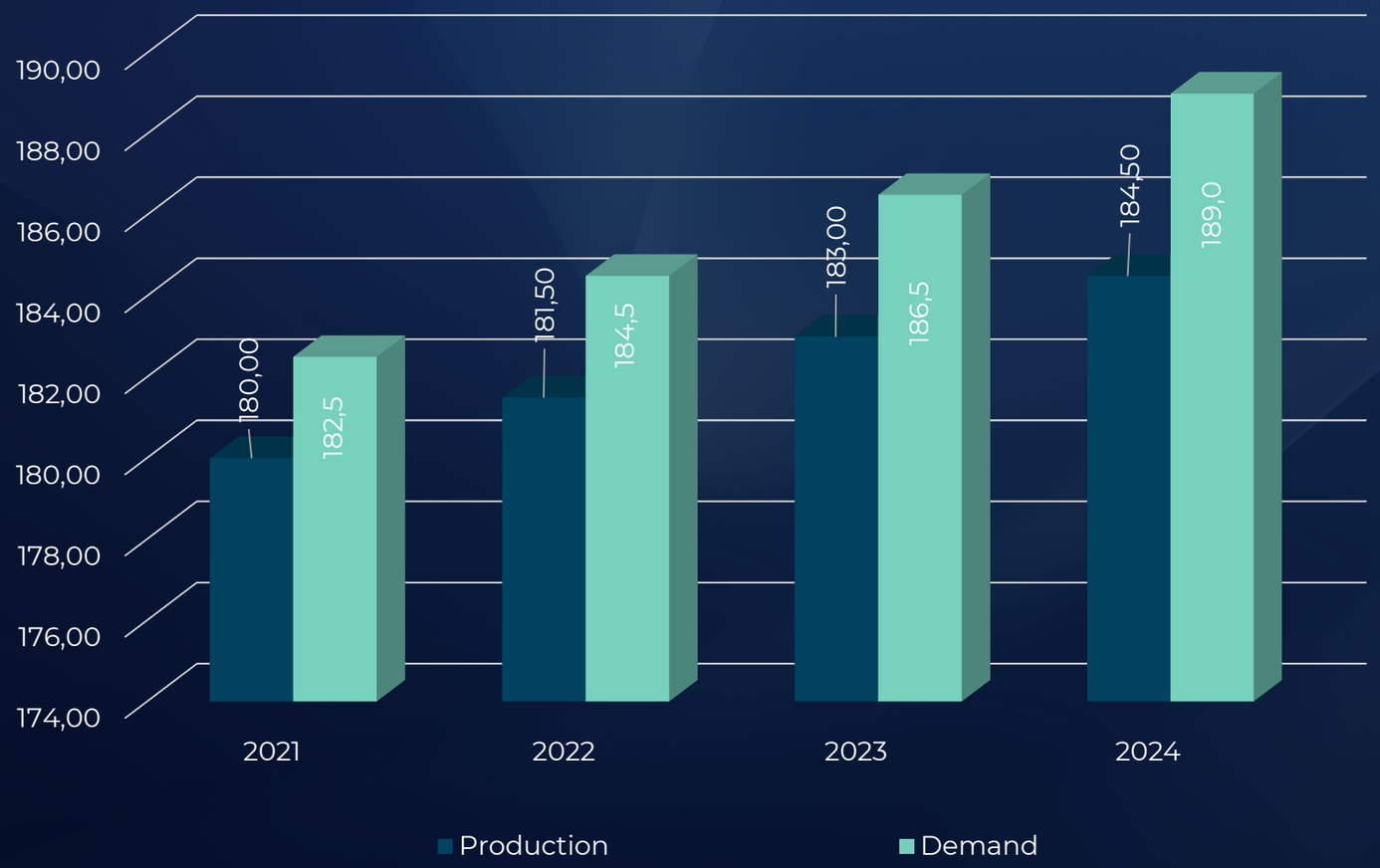
Green ammonia and low-carbon fertilizers market analysis

Production and consumption of green ammonia and low-carbon fertilizers

(thousand units)



Import trends

Uzbekistan's chemical industry is growing at a rate of more than 20% per year. As of 2022, the country covers 70% of its annual green ammonia needs (about 29,800 tons) through imports . The lack of local production and high logistics costs (15-20% of the cost of production) make the project to build a green ammonia plant in Navoi a high-profit (High ROI) and guaranteed market business
Internal village farm for nitrogenous to fertilizers demand stable and seasonal in the peaks to import rely on increases .
“Green” (low-carbon) products according to export markets forming : carbon trace low NH_3 / urea premium at the price for sale.
Again recovering based on energy (PPA/RES) electrolysis Produce H_2 through release opportunity — energy independence and CO_2 footprint reduces.
Logistics in terms of Central Asia to the markets proximity export for convenient.
ESG/“green” finance" instruments (preferred (loan , grant , guarantee) attraction to do probability high.

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Green ammonia and low- carbon fertilizers production

Economic and social impact:

“The project is are recovering electricity energy based on water electrolysis through green hydrogen (H_2) production exhaust, air separation in the block to obtain nitrogen (N_2) and Haber–Bosch synthesis through green ammonia (NH_3) production to release intended is a complex. In the complex, NH_3 one part internal to the market, one part for export is redirected, the rest part and low-carbon nitrogenous Fertilizers (granulated urea/UAN/NPK mixtures) release on the lines again is being worked on. In the project energy efficiency, safety (HAZOP), SCADA/EMS digital management, product quality laboratory and carbon trace report (MRV) integration "will be done."

Project description:

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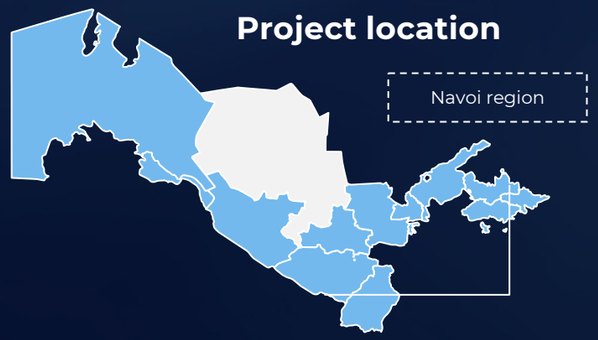
Economic indicators:

- **Funding:** 100 million US dollars
- **Area:** 20 hectares
- **Income** : $ 44,0 million/year
- **Return on Investment (ROI):** 16.20 %
- **NPV** : ~ $ 88.0 million (5 years)
- **IRR:** ~ 34 %

Production indicators:

- **Green ammonia and low-carbon fertilizers :** 50 000 ton

Project location



Navoi region	
Size	11 111 km²
Population	1.1 million

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Recycling chain and product profitability

Main production stages

1. Repeat recovering electricity energy attraction to do (PPA/RES) and energy management
2. Water preparation (demineralization) and electrolysis for feedwater
3. Water electrolysis → **H_2** working to extract, to dry and squeeze
4. Air separation (ASU) → **N_2** working release
5. News – Bosch synthesis → **NH_3** working release and refrigerated storage
6. Downstream: urea /UAN/NPK production production, packaging, warehouse and logistics

Technology and features

	Technology	Features
1	A common route in industry: production from urea; reaction equation above.	
2	Integration: Returning NH3/CO2 streams from the green ammonia process to the urea/ammonia chain has a positive impact on the economy.	

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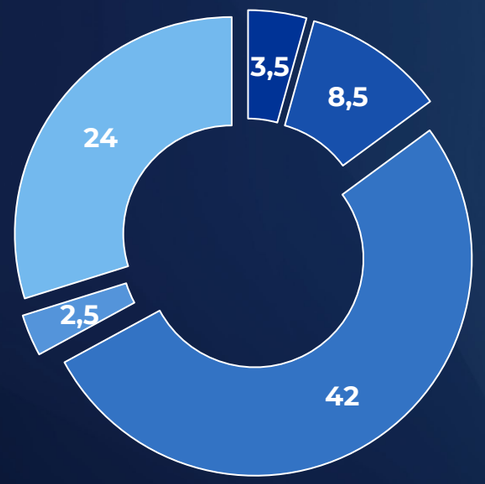
Project costs

Initial investment (CAPEX) *(million dollars)*

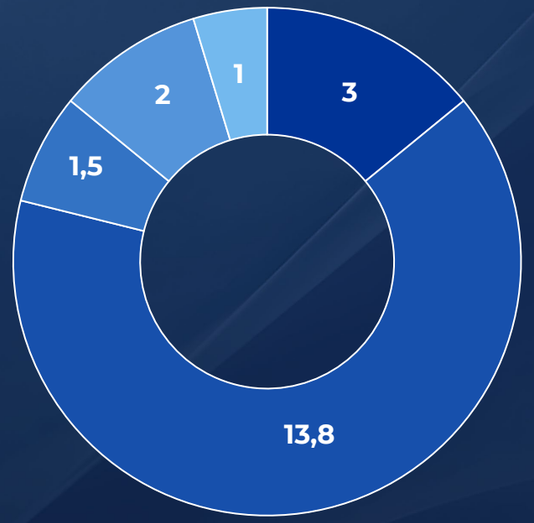
Total capital expenditure: $ 80 **million**



- Land/leveling/infrastructure
- Buildings and structures
- Main technological equipment
- Laboratory + testing equipment
- Energy (boiler, compressor, transformer, water) and others

Operating expenses (OPEX) *(million dollars)*

Total OPEX **: $ 21,3 million**



- Raw materials
- Energy
- Labor
- Repair/service
- Other

This financial review was proposed by Green ammonia and low- carbon The fertilizer production project outlines a comprehensive cost structure and high profitability . The breakdown includes initial capital expenditure (CAPEX) and annual operating expenses (OPEX), as well as projected revenue and profit projections.

Product	Capacity	Quantity (million US dollars)
Green ammonia and low- carbon fertilizers	50 thousand ton	100 .0
TOTAL		100 .0

Annual EBITDA:
= $ 44.0 million - $ 21,3 million = 22.7 million

The project's high profitability forecast is supported by efficient operations and high market demand, making it a very attractive investment.

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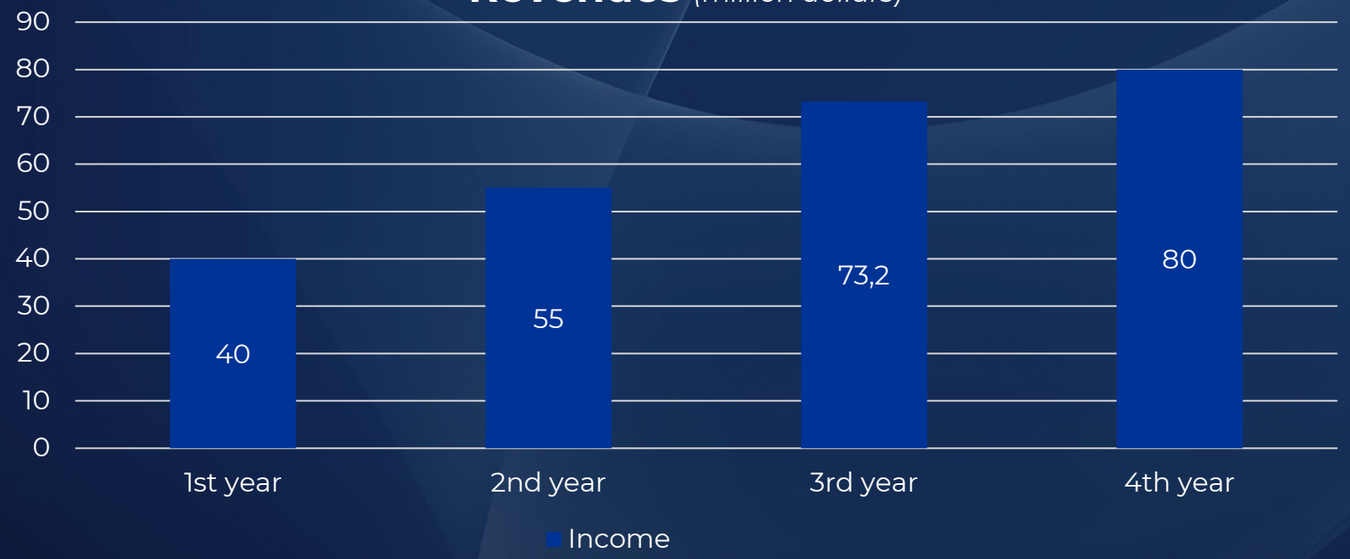
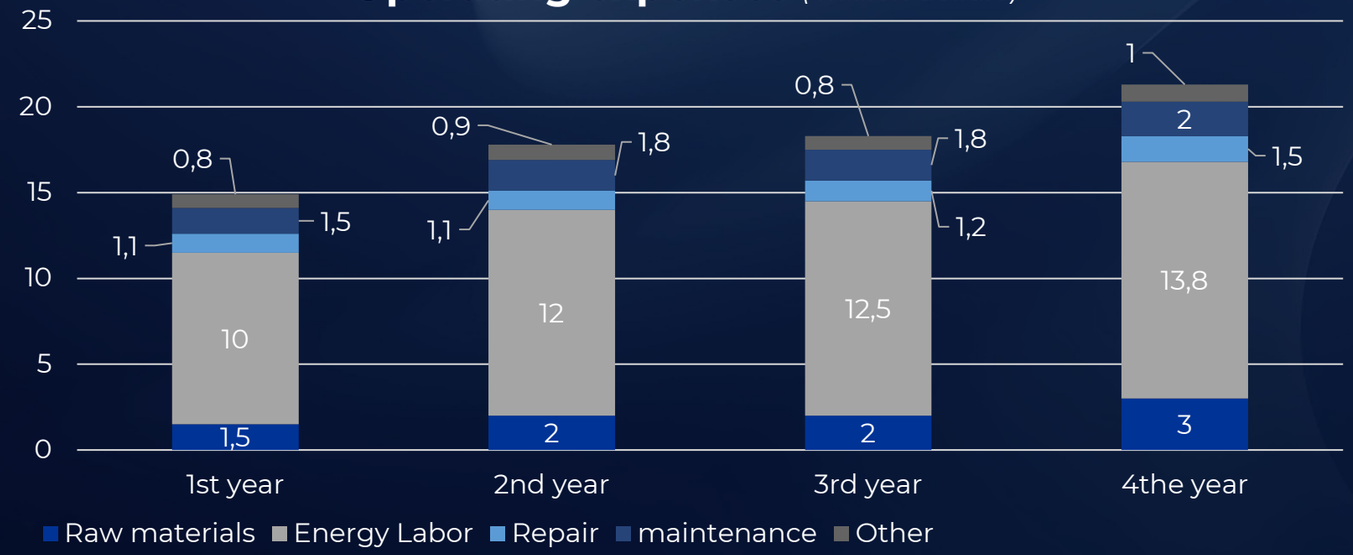
Financial indicators
(5-year forecast)

Revenues *(million dollars)*



Operating expenses *(million dollars)*



Total 5 annual cash flow:

$83,0 million after full capital expenditure recovery

NPV (12%)NPV (with terminal value) ≈ +$47,4 millionNPV (without terminal value) ≈ -$80,0 million

IRR (with terminal value) ≈ 34,0 %

Payback period (PP):

PP ≈ 4,8-5 years (baseline scenario, undiscounted).

Profitability Index (PI):

PI = (NPV + CAPEX) / CAPEX = (47,4 + 80) / 100 ≈ 1,27

Return on Investment (ROI):

Net profit ≈ $12.5 million/year

EBITDA ≈ $ 22.7 million/year