Investment Proposal: Construction of the Aydarkul Hydroelectric Power Plant Based on the PPP

Invest Uzbekistan

Construction of the Aydarkul Hydroelectric Power Plant Based on the PPP

Industry

Energy industry

Why it's worth investing in the project

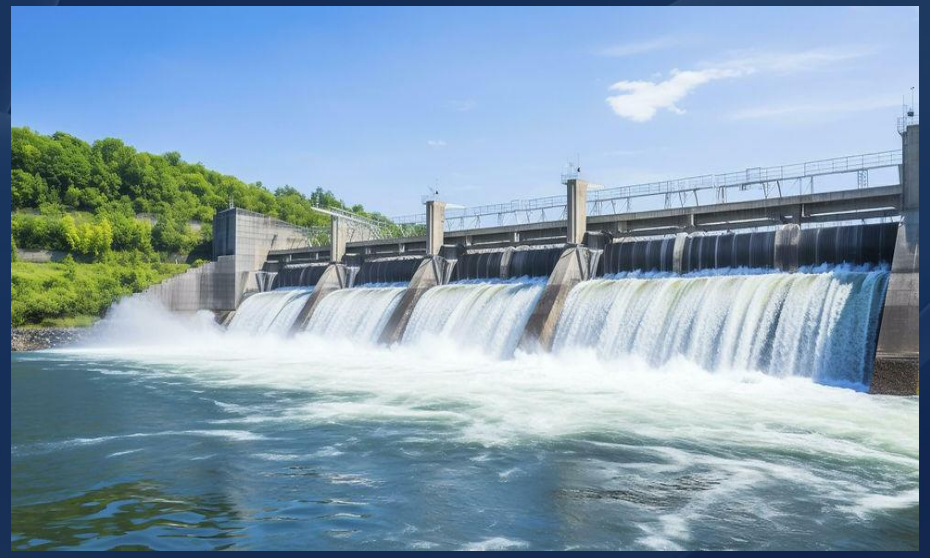
- ✓ ***Long service life and low operating costs***. Most hydropower plants operate for decades, with some running for over 100 years, requiring minimal technical upgrades.
- ✓ ***A stable and reliable energy source.*** Hydropower plants can generate electricity 24/7, regardless of time of day or weather conditions.
- ✓ **Fuel conservation.** Utilizing local renewable energy sources helps reduce reliance on traditional fuel that needs to be transported to the region. Uzbekistan's 2020-2030 electricity supply plan proposes diversifying the country's energy sector – the share of thermal power generation should decrease from 92% to 59%.

Market

According to the Eurasian Development Bank (EDB), electricity consumption in Central Asian countries is projected to increase by at least 34% by 2030.

This trend is linked to population growth in the region and large-scale programs implemented across the country.

According to the International Energy Agency (IEA), electricity demand in Eurasian markets excluding Kazakhstan and Russia is projected to grow at an average annual rate of 3.7% between 2025 and 2027.



Project objective

The project involves constructing a hydroelectric power plant (HPP) based on the Aydarqul Hydropower Plant. Located in the Farish District of Dzhizak Region on the shores of Aydarqul Lake, this facility will guarantee the purchase of electricity generated by the Solar Energy Plant for a period of 25 years.

Project capacity

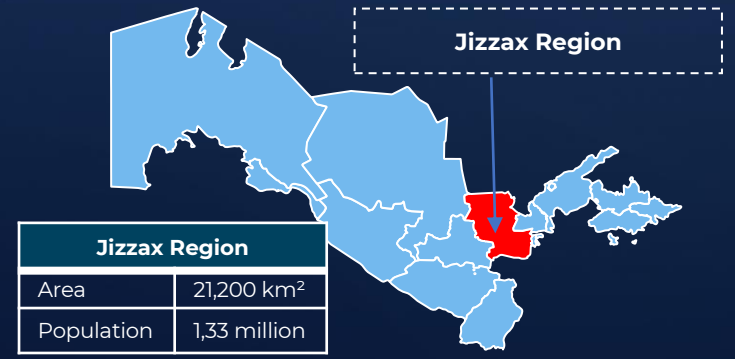
The annual electricity output will reach 495.9 GW. This facility will be able to purchase power from Uzbekistan's energy grid to charge hydroelectric power plants during off-peak hours, typically nighttime, as well as during peak generation periods for solar and wind farms.

We invite companies to become potential investors under the Public-Private Partnership (PPP) framework.

Economic indicators:

- **Cost: $443,6 million.**
- **Revenue: $40,7 million per year**
- **NPV: Approximately $42,1 million.**
- **IRR: ~ 5,3%**
- **DPP: 25,5 year**

Project placement



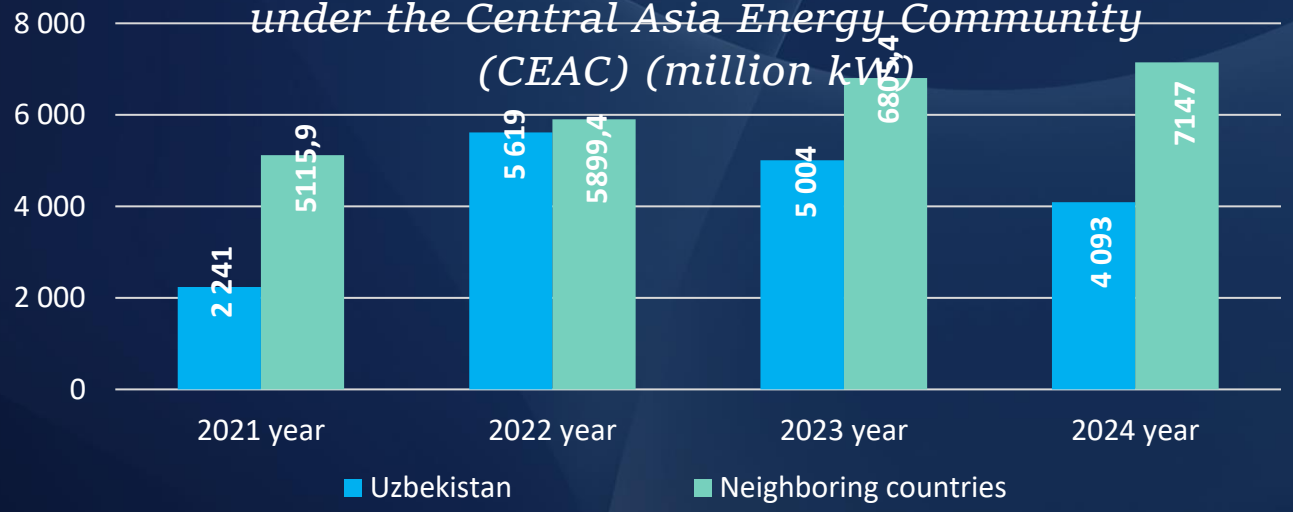
Jizzax Region	
Area	21,200 km²
Population	1,33 million

Project initiator

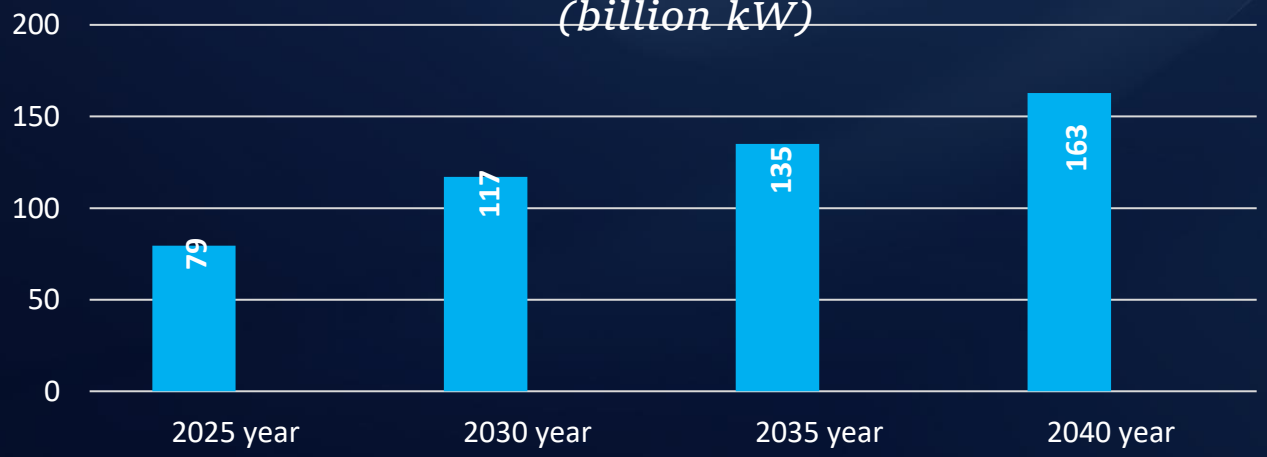
Title: JSC UzbekHydroEnergo
Created: 2017
Constitutional Fund: 731.1 billion som.
Address: 22 Navoi Street, Tashkent

Construction of the Aydarkul Hydroelectric Power Plant Based on the PPP

Electricity imports by Central Asian countries under the Central Asia Energy Community (CEAC) (million kW)



Electricity Demand Forecast for Uzbekistan (billion kW)



According to the Ministry of Energy of the Republic of Uzbekistan, the country will require 117 billion kilowatt-hours of electricity in 2030 and 135 billion kilowatt-hours in 2035 – a 1.7-fold increase from current levels. This growth trend is driven by population expansion and economic development.

Currently, over 40% of energy losses in the country are caused by outdated equipment in industrial facilities. Meanwhile, some regions still experience power outages and gas supply disruptions.

To tackle these challenges, a major industrial modernization initiative is set to be launched. The replacement of 35,000 obsolete units in Samarkand, Syrdarya, and Dzhizak regions will save 385 million kWh of electricity and 50 million cubic meters of gas annually.

The use of local renewable energy sources helps conserve traditional fuel that would otherwise need to be transported to the region. Uzbekistan's 2020-2030 electricity supply plan proposes diversifying the country's energy sector, with the share of thermal power generation to be reduced from 92% to 59%.

Construction of the Aydarkul Hydroelectric Power Plant Based on the PPP

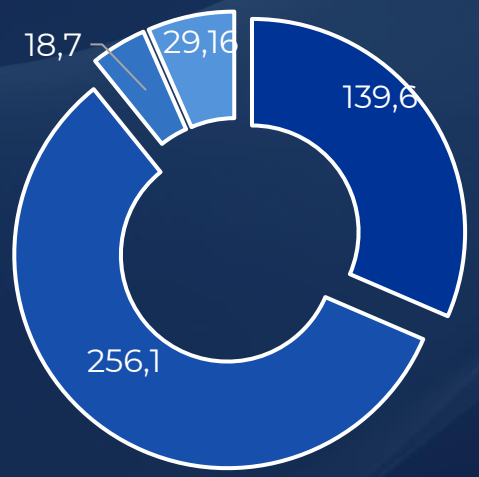
The total project cost includes hydroelectric power plant equipment, buildings and structures, as well as financing costs for securing and servicing the borrowed funds.

The project's direct investment and credit financing will be secured over a 20-year period.

The project's return on investment is projected to be.

($40,7 mln/ $443,6 mln.) = **0,1**

Project cost *(millions dollars)*



- Buildings and infrastructure
- Equipment and machinery
- Other fixed assets
- Working capital

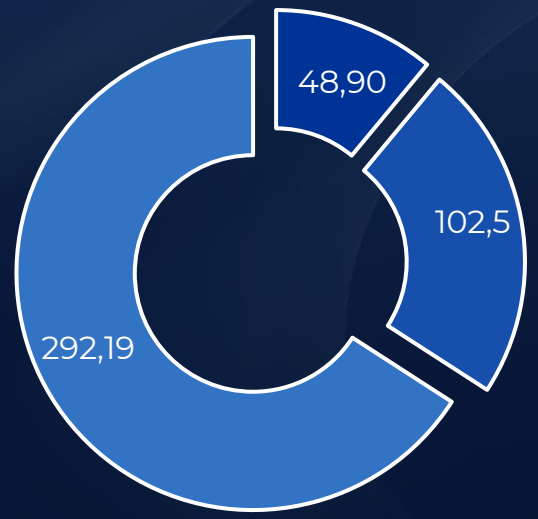
Total CAPEX: $ 443,6 млн.

Financing Plan *(imillions dollars)*

To implement the project, direct investment or loans must be secured based on their terms.

The financing scheme presented in this presentation is preliminary.

The project's funding structure will be finalized after discussions with the investor.



- Own capital
- Direct investment
- Credit

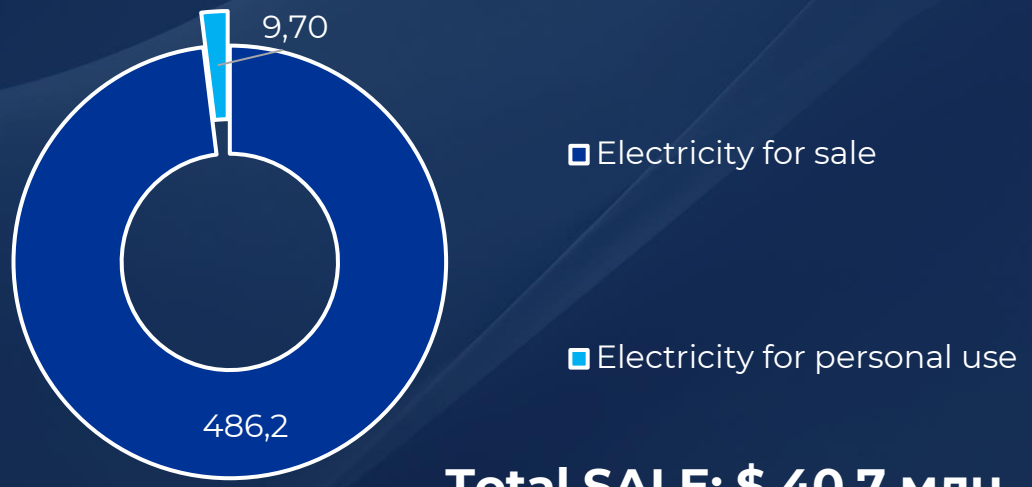
Total FINPLAN: $ 443,6 млн.

Construction of the Aydarkul Hydroelectric Power Plant Based on the PPP

The hydroelectric power plant has an installed capacity of 300 MW. The facility is projected to operate 1,914 hours annually, generating 495.9 GWh of electricity per year. Of this total, 9.7 GWh will be used for the plant's own operational needs.

Annual total revenue at full capacity is expected to reach approximately $40,7 million.

Revenue *(imillions dollars)*



Total SALE: $ 40,7 млн.

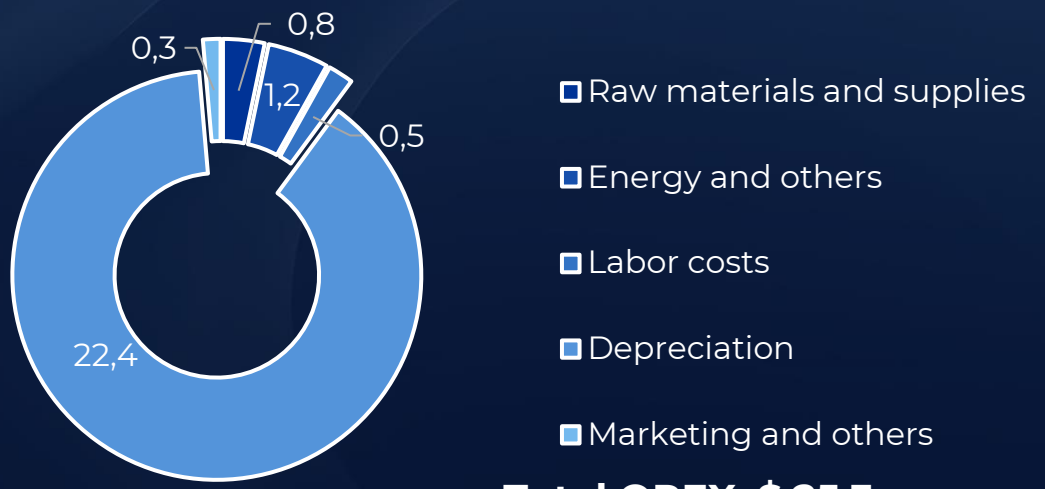
The majority of the project's operating costs consist of energy, other production expenses, and depreciation.

The total annual cost of the project's financial and operational activities at full capacity will be $25,3 million.

Project operating profitability

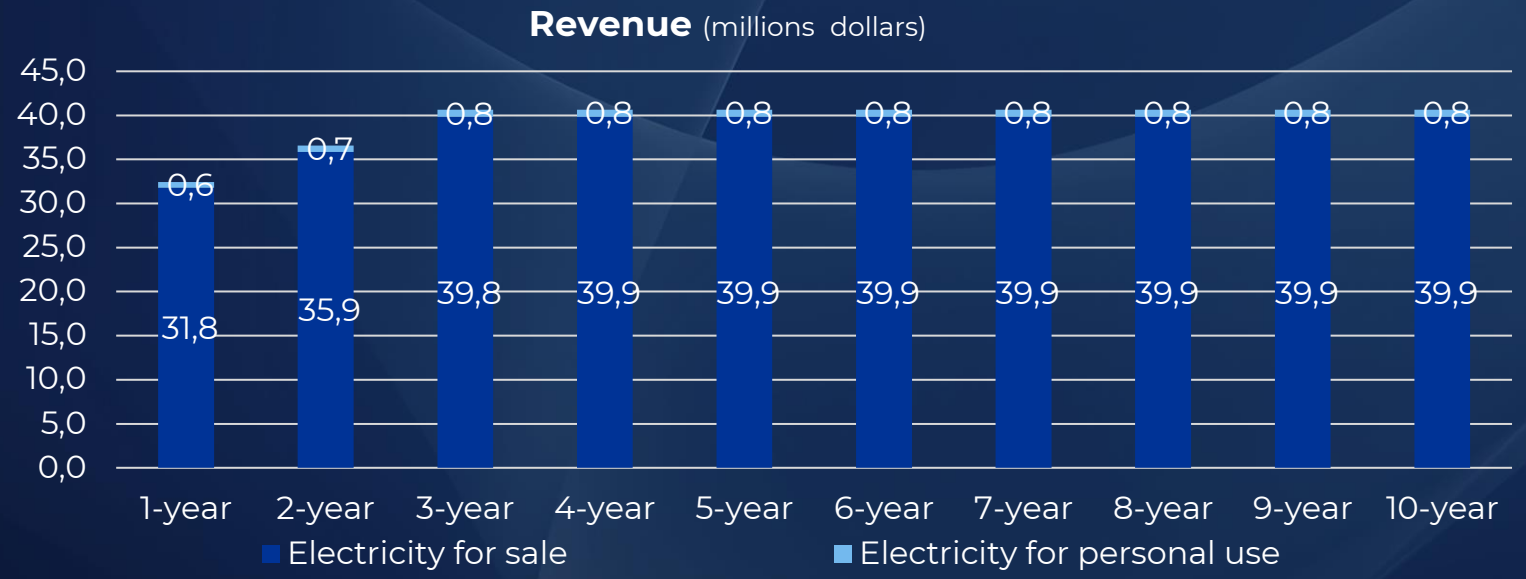
($40.7 million – $25.3 million) / $25.3 million = 60.9%

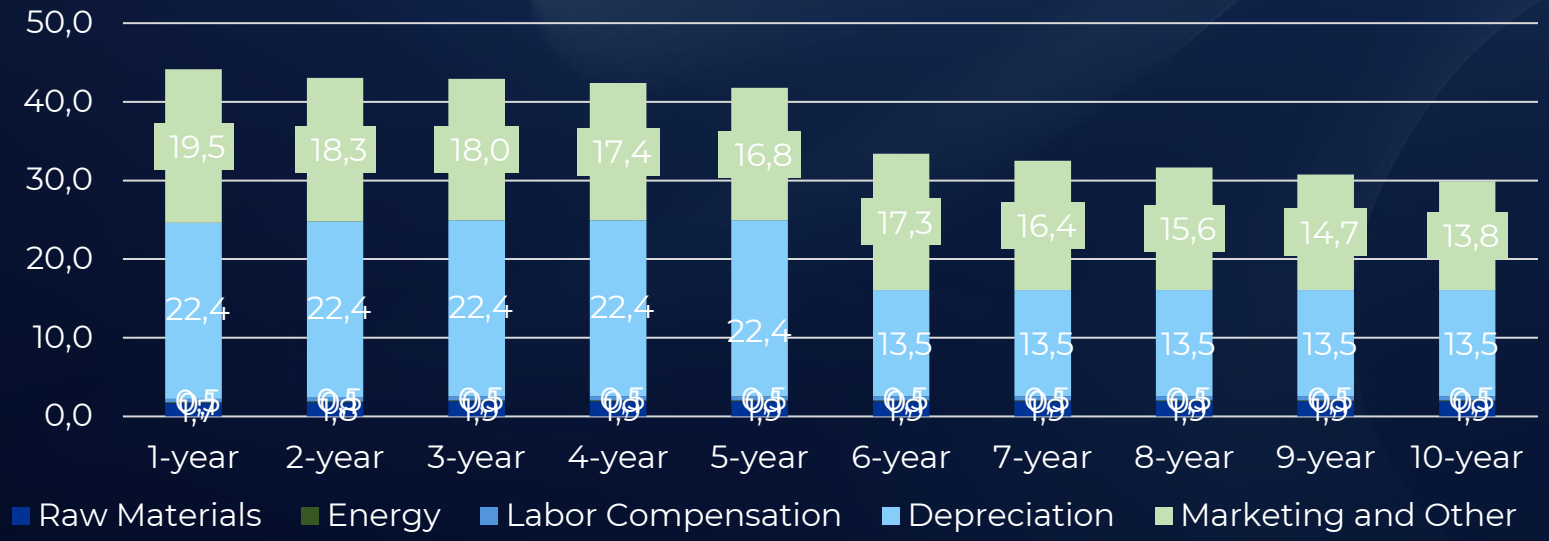
Cost *(millions dollars)*



Total OPEX: $ 25,3 млн.

Construction of the Aydarkul Hydroelectric Power Plant Based on the PPP





The annual output will be 495.9 GW, with 9.7 GW allocated to the hydroelectric power plant's own needs.

Annual total revenue at full capacity is projected to reach $40.7 million.

The project's capacity is conservatively estimated at its operational level by the third year of operation.

The main components of the project's operating costs are depreciation, labor costs, and other production expenses.

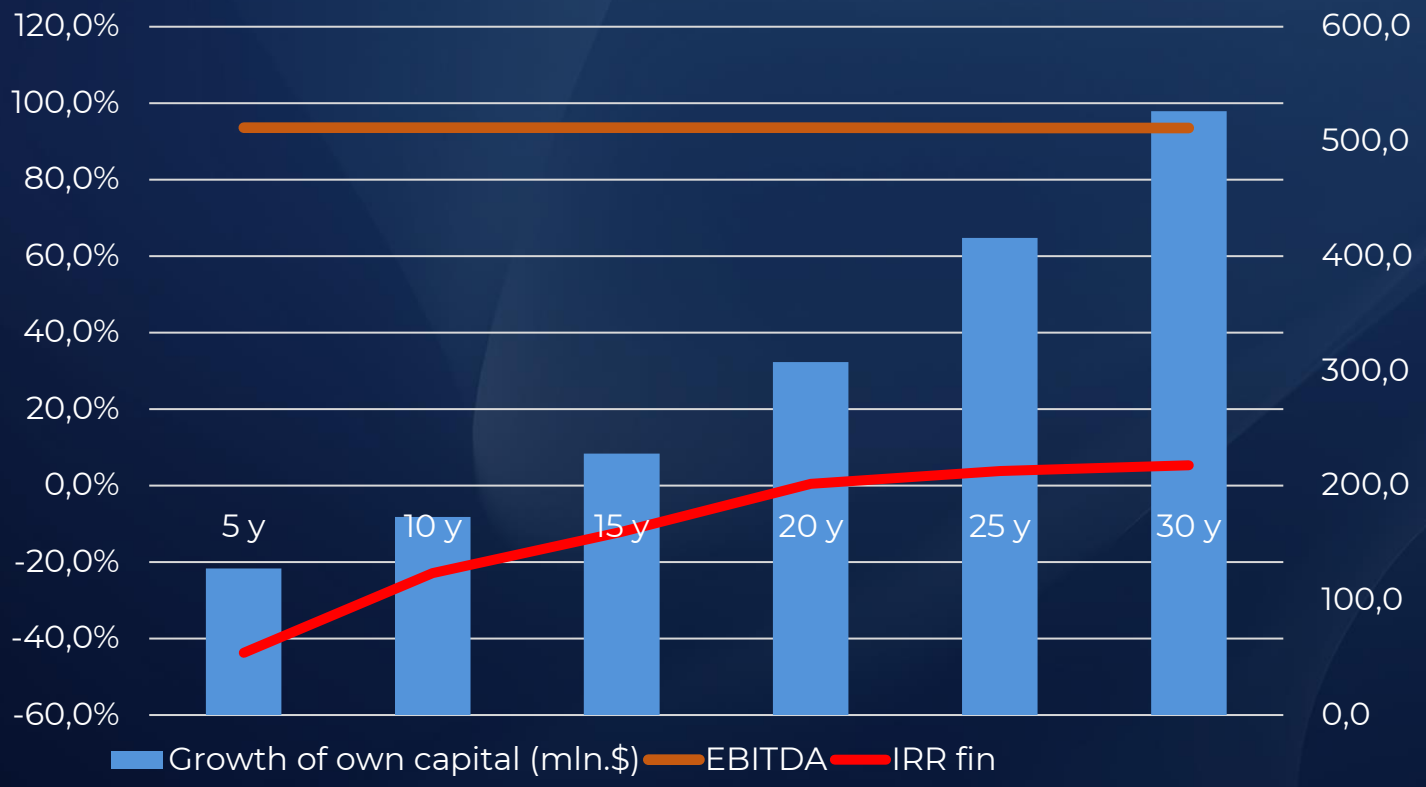
All operational expenses will be determined through competitive market analysis, with the resulting savings being allocated to investors and used for employee incentives and outsourcing company bonuses.

Construction of the Aydarkul Hydroelectric Power Plant Based on the PPP

Project Financial Statements

(30-Year Period)

Profitability (millions dollars)



- **Cost: $443.6 million.**
- **Revenue: $40.7 million per year**
- **NPV: $42.1 million**
- **IRR: ~ 5,3%**
- **DPP: 25,5 year**
- **Dept service ratio: 1,3**

The project demonstrates sufficient profitability and market demand, positioning it as an attractive investment opportunity.

Invest Uzbekistan

Prospective Development Plan for Central Asia's Power Grids by 2030