Business plan

Construction of a cement plant

June, 2023

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Methodological comments on the business plan

This business plan is a draft of the implementation of business operations, actions of the firm, containing information about the firm, the product, its production, the organization of operations and their effectiveness. The planning period is 2024-2029.

The object and subject of research and business planning

The object of the study is the creation of a cement plant in the Kamashi district.

Goals and objectives of the business plan

The purpose of business planning: to assess the economic efficiency of the creation of cement production in the Kamashi district.

The challenges of business planning:

- Assessment of the economic efficiency of the project;
- Justification of investment funds for the implementation of the project;
- Planning the business operations of the future company and financial forecasting of activities.

Sources of information

- Database of state statistical bodies;
- Industry Statistics;
- Data from government agencies;
- Specialized databases of the Global Innovation Trade Agency;
- Ratings;
- Information resources of market participants;
- Industry and specialized information portals;
- Materials of the sites of the subject under study (web-resources of manufacturers and suppliers, electronic trading platforms, bulletin boards, specialized forums, Internet stores);
- Regional media;
- Portals of information disclosure (reporting of public companies);
- Surveys of major market participants.

Distribution of the business plan

The Business Plan materials are not intended for wide distribution or publication. When making the Business Plan available to users, the purpose of the document, the assumptions adopted for its preparation, and any restrictions on its use must be communicated to them.

Limitation of liability

All opinions, conclusions and estimates contained in this business plan are valid as of the date hereof. The contractor is not responsible for changes in economic, political, social, or other conditions that may affect the validity of these judgments. Contractor shall not be liable for any loss or damage incurred by a third party as a result of the use of the information in this business plan.

1. PROJECT SUMMARY

The project assumes the construction of a cement plant in the Kamashi district. Capacity of the plant is 400,000 tons of cement per year. The key point in the project is the availability of a deposit providing such a plant with key types of raw materials used in cement production (limestone, clay, gypsum).

The entrepreneur must establish a production base and purchase the necessary technological equipment. Cement is sold to buyers in bulk and Big-Bag (60 percent of sales), as well as in 50-kilogram bags (40 percent of sales).

The project provides for the purchase of modern equipment and machinery, the construction of all necessary infrastructure, as well as providing the enterprise with its own fleet of vehicles and quarry equipment. Ideological basis of the project - the organization of cement production and profit from the implementation of its activities. Target markets are the Republic of Uzbekistan and Central Asia.

The stages of the project are shown in Table 1:

Table 1. Project implementation schedule

Project Stage	Beginning of work	Duration, days	End of job
Rationale for the investment project and management decision	01.09.2024	122	31.12.2024
Preparation of the site and engineering networks for construction	01.01.2025	31	31.01.2025
Obtaining funding	01.09.2024	61	31.10.2024
Creating a comprehensive plant design	01.09.2024	122	31.12.2024
Performing construction work	01.02.2025	393	28.02.2026
Purchase and installation of equipment	01.08.2025	273	30.04.2026
Attracting staff	01.05.2026	61	30.06.2026

Project Stage	Beginning of work	Duration, days	End of job
Equipment expertise	01.05.2026	31	31.05.2026
Equipment commissioning	01.05.2025	61	30.06.2026
Purchase of raw materials and supplies	01.06.2026	30	30.06.2026
Running the plant	01.07.2026	31	31.07.2026

**The implementation schedule is presented in abbreviated form, full information is presented in Chapter 4*

Source: Global Innovation Trade analysis and calculations

Investments

The volume of investment in the implementation of the project is $29,982.4 million**.** Payback period of the project is 5.11 years from the start of the project. The main financial indicators of the project are presented in Table 2:

Table 2. Key financial indicators

Investment performance indicators	
Calculation period (planning horizon), months.	100
Net income (NV), thousand dollars	32 245,0
Net discounted income (NPV), thousand dollars	19 323,0
Internal rate of return (IRR), % per year	26%
Profitability index (PI), units.	1,64
Payback period (PB), months.	61,3
Discounted payback period (DPB), months.	66,8
Investments in the project, thousand dollars	29 982,4
Average return on sales for the project, %	51%
Net profit (cumulative), thousand dollars	45 491,2
Discount rate, %	5,40%

** The definition of the concepts of financial indicators is presented in section 6.11 of this business plan*

Source: Global Innovation Trade calculations

Figure 1: Graph of the NPV of the project

Source: Global Innovation Trade calculations

2. ESSENCE OF THE PROPOSED PROJECT

2.1. Project Description

The underlying purpose of this project is to build a cement plant in the Kamashi district. The design capacity of the plant is 400,000 tons of cement per year.

The production will be equipped with the most advanced equipment allowing to organize the production of Portland cement for sale both in the domestic and foreign markets. Automated equipment purchased from leading manufacturers will ensure high competitiveness of cement due to low specific costs of energy resources and, accordingly, the cost of production. At the same time it will ensure compliance with the most stringent environmental standards in the construction and operation of plant facilities.

The capacity of the plant is up to 400 000 tons of Portland cement per year. The number of personnel involved in the project will be 122 people.

2.2. Description of the intended products

Cements are a large group of inorganic binding powdered materials that form a plastic mass when mixed with water, hardening into a strong stone-like body.

Cement is the most common binder that makes it possible to produce products and structures of the highest strength. Cement is produced by finely pulverized sintering products of one of the types of marl clay or a mixture of limestone and clay. The sintering process is carried out in special furnaces. Cement is a basic component of the construction industry.

The main materials, raw materials and resources used in cement production are:

- natural materials (gypsum, lime, clay, marl, magnesia, high alumina, siliceous rocks);
- industrial waste (metallurgical and fuel slag, ash, whitewash-nepheline sludge, etc.);
- pyrrhotite burns;

- coal;
- electricity;
- Fuel and lubricants - diesel fuel, gasoline, machine oils, etc;
- refractory bricks for furnace lining;
- rail and road transport services.

Cement production mainly consists of the following operations: extraction of raw materials, preparation of the raw mix (crushing the starting materials, grinding them, homogenizing the mixture), roasting the raw mix, grinding the roasted product (clinker) into a fine powder.

During grinding, dosed additions of gypsum, slag, sand and other components are made to the sintering products, which makes it possible to obtain cement with a variety of properties. Depending on the raw materials and additives introduced, cements are divided into Portland and Portland slag cement. Portland cements include quick-hardening and Portland cements with mineral additives. Concrete structures that use a particular brand of cement can acquire unique properties. First of all, it is particularly durable concrete, such as for runways airfields and missile launch pads, frost-, fire- and salt-resistant grades. The term "grade" is used to represent the maximum strength properties of cement. Grade 400 means that in the factory laboratory during a test run a hardened cement cube with a rib of 100 mm crushed on the press it withstands the load of not less than 400 $^{kg/cm2.}$ The most common are grades from 350 to 500. Cement grades up to 600 and even 700 are produced. All cements have a sufficiently fast hardening time. The beginning of hardening - setting - is within 40-50 minutes, and the end of hardening is about 10-12 hours.

The plant, which will be built during the implementation of the project, is planned to produce Portland cement of M400 and M500 grades.

Below is information about the participants of the investment project.

2.3. Project Location

The production site is located in Kashkadarya region, Kamashi district at the following address: Kiziltepa village.

The district occupies an area of more than 2.66 thousand square kilometers. It is located 60 kilometers from Karshi city and 485 kilometers from Tashkent.

The district is connected to Karshi city by a road1.

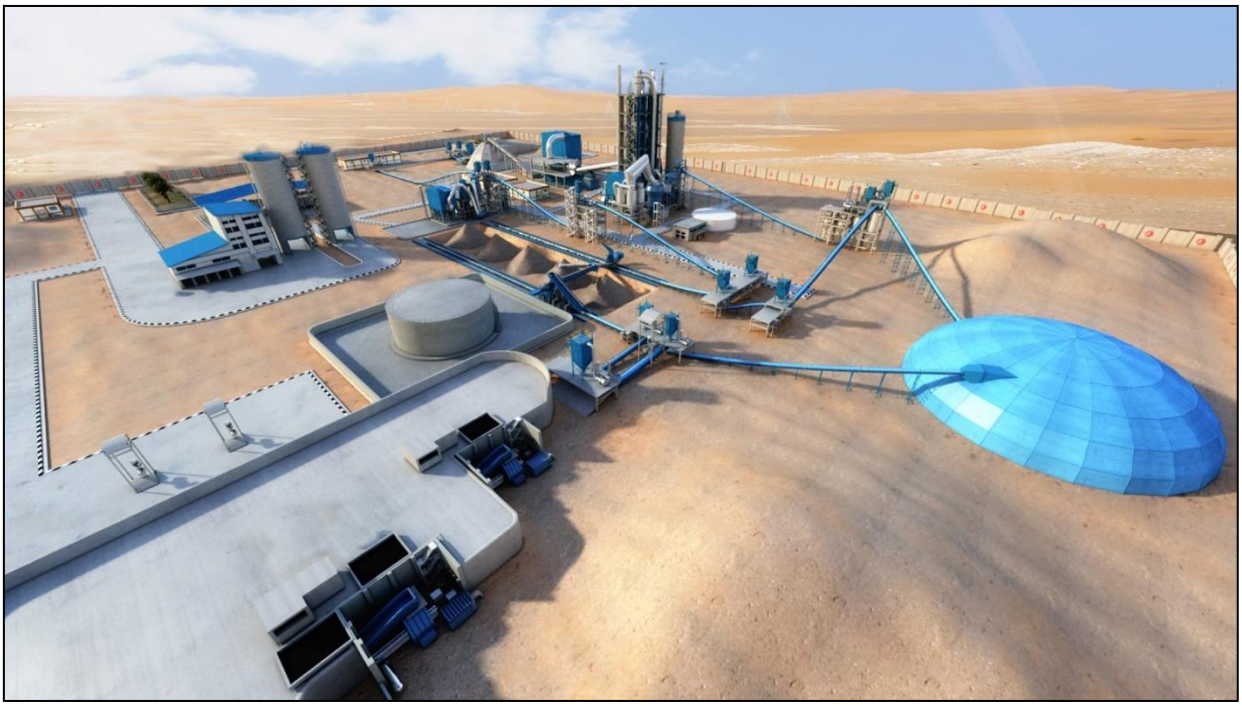
The population of the Kashkadarya region as of 2023 is 3.5 million people, with the population of the Kamashin region itself being 286,000.

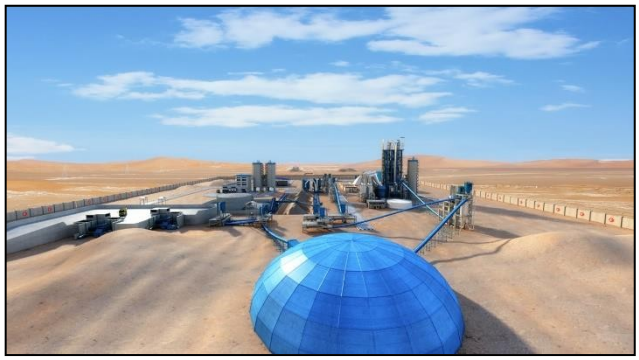
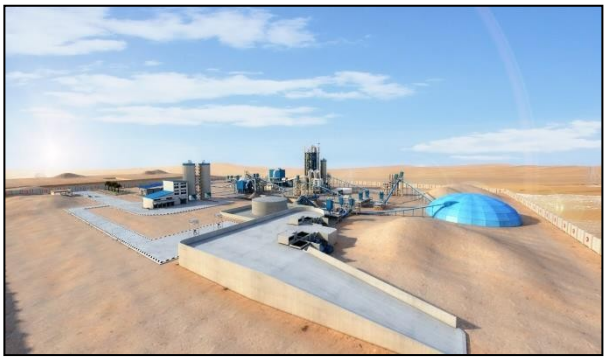
Figure 2: Location on the map

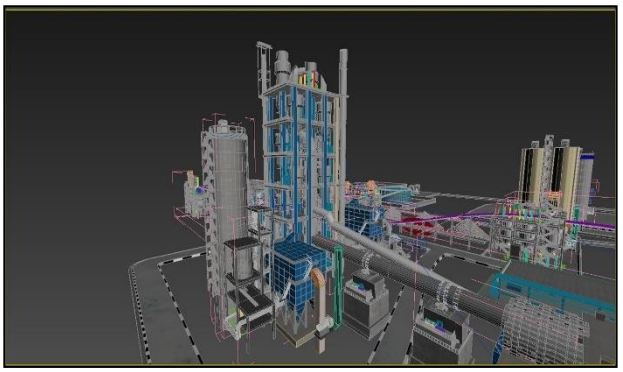
Source: Yandex.map

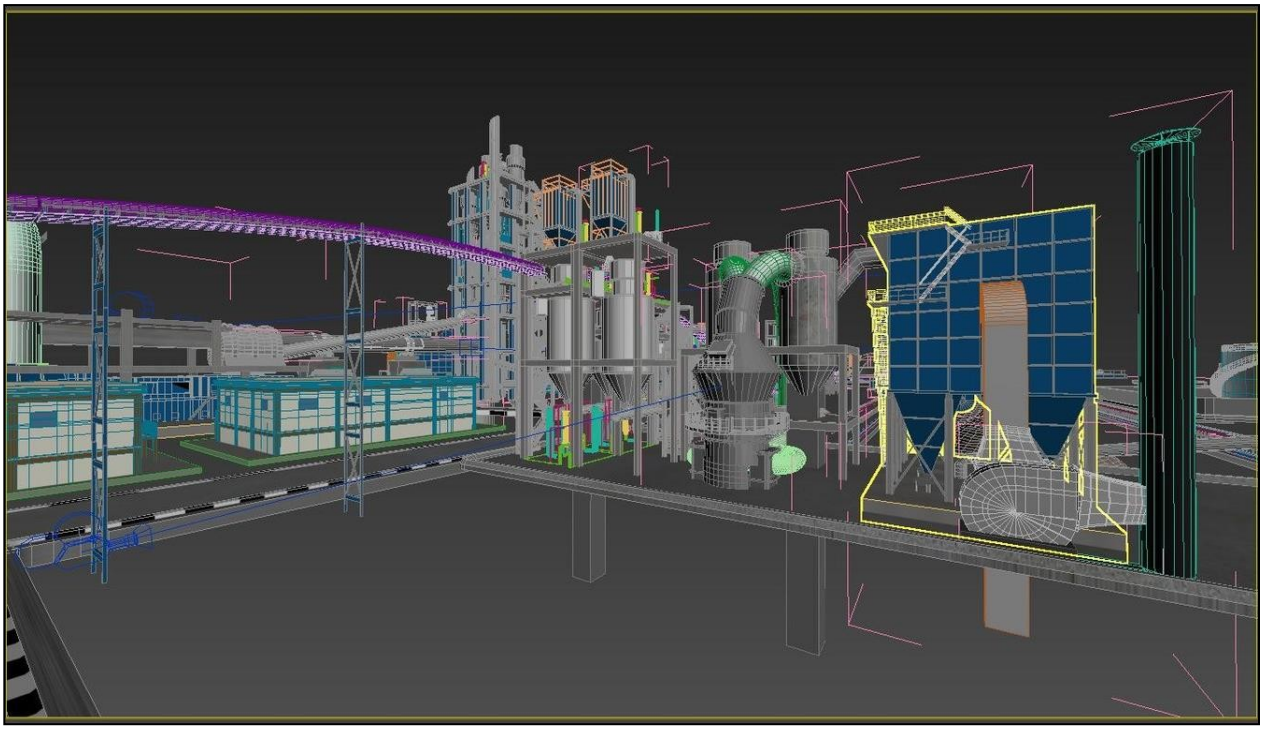
Figure 3 Overview scheme of land plots in the territory of Kamashi district

Figure 4 View of the production area





3. MARKETING PLAN

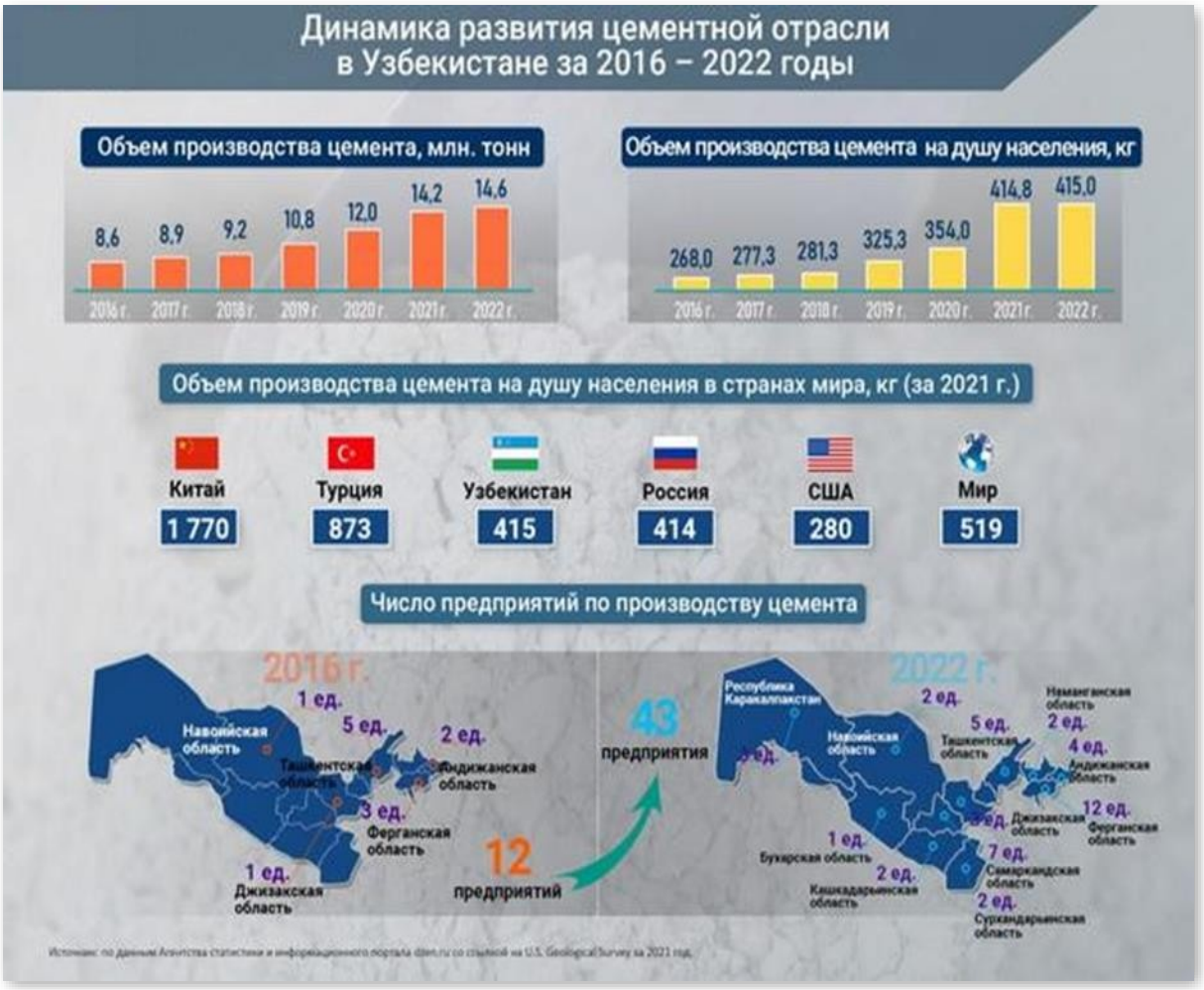
3.1. General overview market production of cement production in Uzbekistan

Cement Industry of the Republic of Uzbekistan.

In 2017-2022, 21 new cement production facilities were organized in different regions on the basis of energy-saving "dry" technologies, with a total capacity of up to 27 million tons. In 2022, Uzbekistan will produce 14.6 million tons of cement, bringing the output per person to 415 kg. The world's average production per person is 519 kg, China produces 1,770 kg, Turkey produces 873 kg, Russia produces 414 kg and the United States produces 280 kg of cement.

With construction work increasing by 71.5% from 2017 to 2022, cement production increased by 69.3%, which shows the match between supply and demand in the market.

Figure 5: Volumes and dynamics of cement production in Uzbekistan



Building materials industry of the Republic of Uzbekistan is actively developing today due to the dynamic growth of construction. It represents one of the basic components of the economy of Uzbekistan and is essential for its stable development in the long term. consumers of construction materials are almost all sectors of industry, transport, agriculture, etc.

In order to further improve the construction industry, the formation of mechanisms for the consistent development of agencies and institutions of architecture and construction, to ensure the effectiveness of public administration, the progressive introduction of digital technologies in the field of presidential decree approved the Strategy for Modernization, Accelerated and Innovative Development of Construction Industry of the Republic of Uzbekistan 2021-2025 (1).

As a result of deepening economic reforms aimed at creating a favorable business environment, modernization, technical and technological renewal of production, the economy of the Republic since 2000 has demonstrated high and sustained economic growth rates of 7-9% per year. Even despite the global pandemic in 2020, Uzbekistan's economy showed positive growth of 101.6%, although there was a decline in economic growth worldwide. The republic is also carrying out extensive work to further deepen structural reforms in the building materials industry to ensure sustainable growth rates of production and exports of competitive products, as well as modernization, technical and technological renovation of enterprises (1-5).

The achieved level of cement production of about 9000 thousand tons per year (as of 2018) is not able to meet the needs of the market (Table 1-3). As presented in Table 1, the volume of construction work is increasing every year, over 20 years from 388 billion UZS in 2000 to 65154.6 billion UZS in 2020, indicating significant economic growth of the industry.

Table 1.

VOLUME OF CONSTRUCTION WORK IN THE REPUBLIC OF UZBEKISTAN (in billion soums)

Years	2000	2004	2008	2012	2016	2020
Volumes of construction work	388,4	1121,9	3575,9	11753,9	29413,9	65154,6

Source: State Statistics Committee of the Republic of Uzbekistan

In order to optimize the volume of supply, stable and rhythmic satisfaction of the needs of industries of the republic in cement, including for the implementation of the most important

The Cabinet of Ministers of the Republic of Uzbekistan annually approves the balance of cement production and consumption for national development and modernization programs and major investment projects.

In order to create favorable conditions for the accelerated development and diversification of the industry, attract investment in the processing of local mineral raw materials and increase exports of construction materials, the Government approved the forecast parameters for the expansion of the raw material base of the construction industry. On the basis of geological exploration, extraction and processing of local raw materials in 2019-2025 and Target parameters of production of construction materials in 2019-2025, taking into account the diversification and expansion of the range of products, the increase in the production of wallpaper more than 47 times, gas concrete blocks - 7 times, paint materials - 4 times, composite fittings from basalt - 3 times and cement - 2 times.

These target parameters were developed by the government taking into account the growing demand for construction products. According to the Decree, a planned increase in cement production in the country more than doubled. The production plan was at the level of 10,984 thousand tons of cement in 2019, but in fact the country produced 10549.8 thousand tons of cement (Table 2), which indicates the under-fulfilled planned volumes, which is associated with the temporary suspension of cement production in late 2020 at JSC

"Kuvasaycement" and "Akhangarancement" JSC, due to the reduction of gas pressure supplied to cement producers.

At present 12 cement plants with total annual capacity of more than 9.0 million tons operate in Uzbekistan, including big ones - JSC "Kizilkumcement" (Navoi city, production capacity - 3500 thousand tons), JSC "Ahangarancement" (Ahangaran city, 1740 thousand tons), JSC "Akhangarancement" (Akhangaran city, 1740 thousand tons).

"Bekabadcement (Bekabad town, 1,250 thousand tons), Kuvasaycement JSC (Kuvasay town, 1,080 thousand tons), Jizzak Cement Plant (Jizzak town, 1,000 thousand tons of grey cement or 450 thousand tons of white cement) and small cement plants with total capacity of 640 thousand tons a year (Table 4)

Table 2.

TARGETED PARAMETERS OF CEMENT PRODUCTION IN 2019-2025 WITH ACCORDANCE TO DIVERSIFICATION AND WIDTH OF PRODUCTION DIVERSITY (in thousand tons)

Name of indicators	2018					Forecast		
		2019	2020	2021	2022	2023	2024	2025
Cement, including high quality and special types based on energy-saving technologies	9080	10984	13400	16400	19100	19500	19900	20260

Source: Decree of the President of the Republic of Uzbekistan PP-4335 of May 23, 2019 "On additional measures to accelerate the development of the building materials industry

Table 3. The indicators of production volumes, sales and price indices of cement in UZBEKISTAN for 2016-2019.

	2016	2017	2018	2019
Cement production in Uzbekistan (thousand tons)	8645,9	9132,2	9080,4	10549,8
Sale of cement at the Commodity Exchange of Uzbekistan (million UZS)	2435307,3	2330384,6	5546717,0	4839813,1
Price index (December to December of the previous year; in %)	135,7	122,1	97,9	119,9

Source: State Statistics Committee of the Republic of Uzbekistan

Cement consumption

The achieved level of cement production (about 8,500 thousand tons per year) does not meet the market demand. In order to optimize the volume of supply, stable and rhythmic satisfaction of needs of industries of the republic in cement, including the implementation of the most important national development and modernization programs, major investment projects, the Cabinet of Ministers of the Republic of Uzbekistan annually approves the balance of production and consumption of cement.

All large cement enterprises of the republic are included in the register of monopolists and the cost of their products is declared. For construction projects financed from centralized sources, cement is supplied at a declared price, while for other consumers cement is sold through exchange trades at free (market) prices.

The volume of cement consumption in the country in 2016 was 8462.0 thousand tons. Figure 2 shows the distribution of cement by the main areas of its use. In 2012-2016 the volume of cement production in the country increased from 6803.5 thousand tons to 8462 thousand tons or by 24 %. The average annual growth rate of cement production was 104.5 %.

Consumption of cement per capita in the Republic of Uzbekistan in 2016 was 268 kg (for comparison: in Western Europe - 395 kg, in Russia - 462 kg, in Turkey - 931 kg, the world average - 433 kg).

By 2020, per capita consumption of cement in the Republic of Uzbekistan will be at least 328 kg of cement per year.

Figure 6 Spheres of cement consumption *(%)*

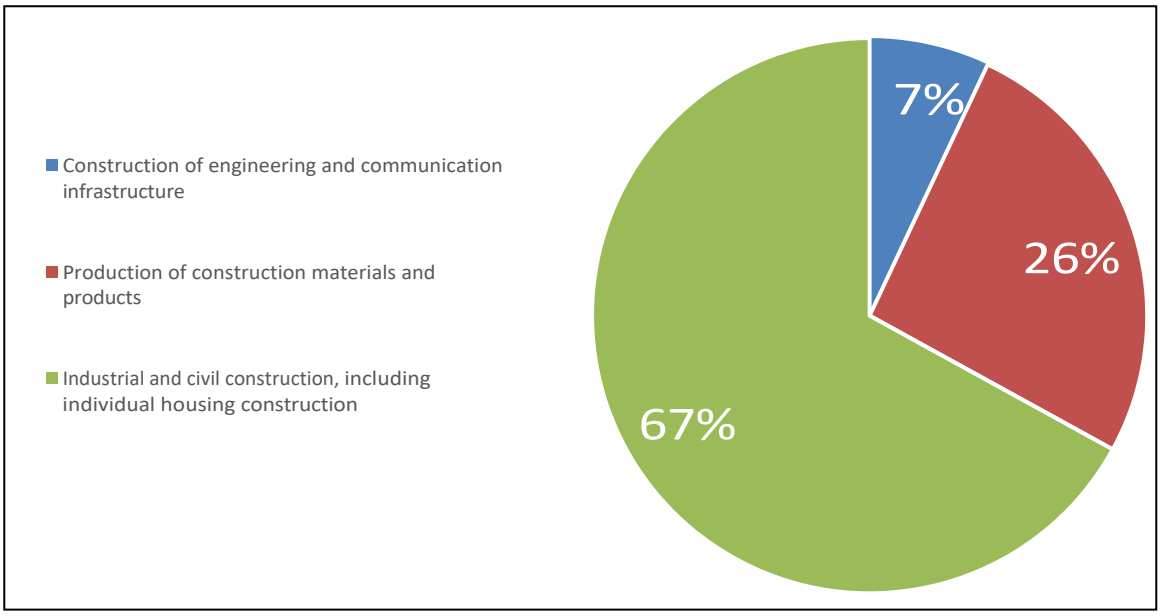


Table 3 Design capacity of cement plants, thousand tons

Operating plants		Plants under design and construction	
Company*	**Power**	**Company***	**Power**
JSC Kizilkumcement	3 500	TITAN CEMENT LTD.	221
Akhangarancement JSC	1 740	Shangfeng Bridge of Friendship JV	1 200

JSC Bekabadcement	1 250	Yaipanshifer LLC	100
Kuvasaycement JSC	1 080	Gallaorolcement	100
Jizzakh Cement Plant	1 000	Sherobod Cement Works JSC	1 500
JV Fergana Cement LLC	120	Surkhantsementinvest IE LLC	360
Turon Eco Cement Group LLC	100	**Total**	**3 531**
Farhadshifer LLC	100		
Everest Metal Favourite Ltd.	100		
Kezar LLC	60		
JV Sing Lida LLC	100		
PE "Buyuk	60		
Total	**9 210**		
Total		**12 482**	

** All existing, projected and under construction plants are full-cycle production plants.*

Creation of additional capacities

The Action Strategy on five priority directions of the Republic of Uzbekistan development in 2017-2021 outlines new measures to stimulate entrepreneurs. Among the urgent tasks are to further improve the competitiveness of the cement industry by intensifying construction, modernization, technical and technological re-equipment of enterprises; introduction of a strict economy regime; sharp reduction of production costs through rationalization of technological processes, reduction of material intensity, energy intensity of production, etc.

These projects are implemented or planned within the framework of implementation of the Decree of the President of the Republic of Uzbekistan No. PP2343 of May 5, 2015 "On the program of measures to reduce energy intensity, introduction of energy-saving technologies in sectors of economy and social sphere for 2015-2019" and instruction of the Cabinet of Ministers of the Republic of Uzbekistan No. 06/1278 of November 20, 2015 to create energy-saving program for 2015-2020. In addition, new plants with a total capacity of about 3.5 million tons are being built or planned in the Republic of Karakalpakstan, Andijan, Surkhandarya, and other regions.

Table 4 Dynamics of cement production in 2012-2016 by enterprises of the Republic of Uzbekistan, thousand tons

The company	2012	2013	2014	2015	2016
JSC Kizilkumcement	3 283,0	3 334,0	3 450,0	3 490,0	3 500,0
Akhangarancement JSC	1 533,7	1 620,0	1 700,5	1 770,0	1 863,0

JSC Bekabadcement	924,6	1 006,0	1 000,2	1 400,3	1 066,9
Kuvasaycement JSC	1 042,2	1 030,0	1 039,1	1 080,5	1 066,4
Jizzakh Cement Plant	-	-	155,1	422,0	726,0
Ferganacement JV LLC	20,0	64,3	80,5	88,4	107,3
Kezar LLC	-	10,1	1,3	-	11,0
Sing Lida JV	-	21,1	33,2	-	50,9
Everest Metal Favourite Ltd.	-	-	-	-	9,2
PE "Buyuk	-	-	-	-	11,0
Turon Eco Cement Group LLC	-	-	-	-	46,2
Farhadshifer LLC	-	-	-	-	4,0
Total	**6 803,5**	**7 148,8**	**7 459,9**	**8 251,2**	**8 461,9**
Growth rate relative to the previous year, %	**100,1**	**105,1**	**104,4**	**110,6**	**102,6**

In total, in January-April 2023 large enterprises of the Republic of Uzbekistan produced 3,267.3 thousand tons of cement and this production increased by 7.4% compared to the corresponding period in 2022. In April 2023 large enterprises of the Republic of Uzbekistan produced 1,241,900 tons of cement.

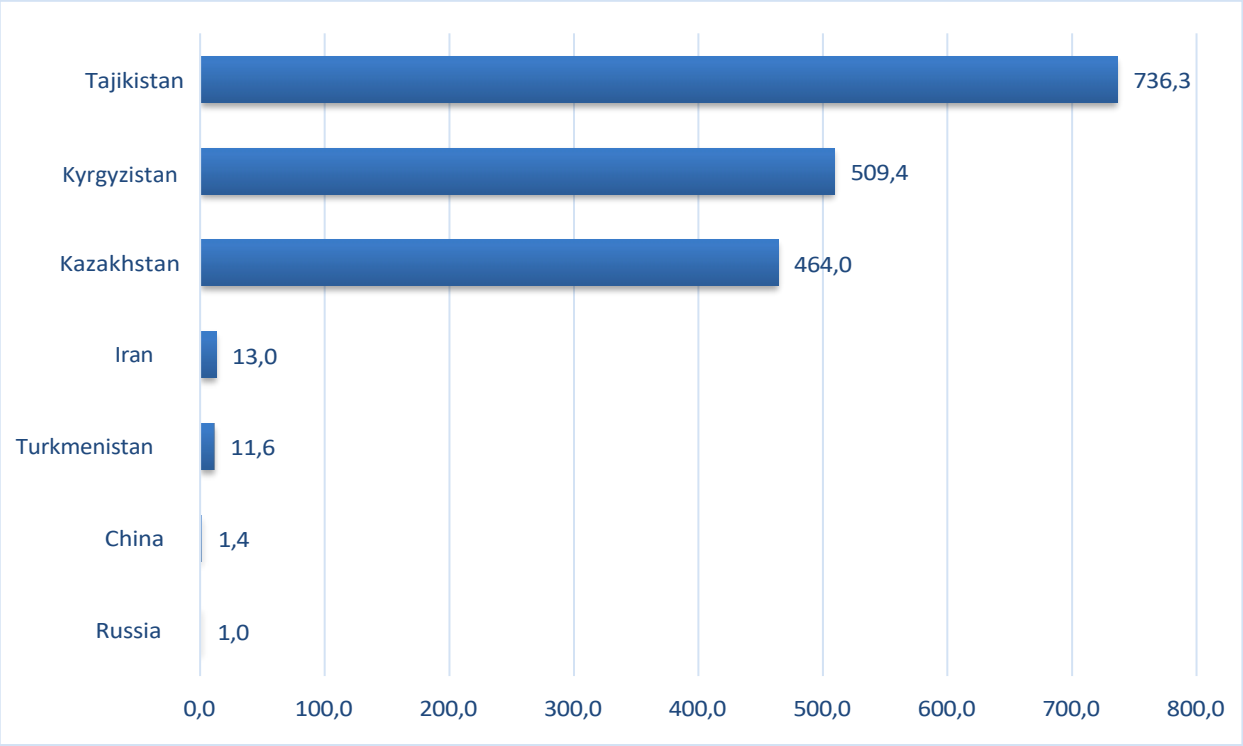
3.2. Cement imports in Uzbekistan

In January-September 2022 Uzbekistan imported 1.7 million tons of cement worth 71.6 million USD. The volume of cement imports decreased by 416.4 thousand tons compared to the same period last year.

The main countries to which Uzbekistan imported cement in 9 months of 2022:

- *Tajikistan - 736.3 thousand tons*
- *Kyrgyz R. - 509.4 thousand tons*
- *Kazakhstan - 464 thousand tons*
- *Iran - 13 thousand tons*
- *Turkmenistan - 11.6 thousand tons*
- *China - 1.4 thousand tons*
- *Russia - 1.0 thousand tons*

Figure 7 Import of cement to Uzbekistan (thousand tons)



3.3. Cement exports to Uzbekistan in January-July 2022

According to the State Statistics Committee, Uzbekistan imported 1.3 million tons of cement in seven months.

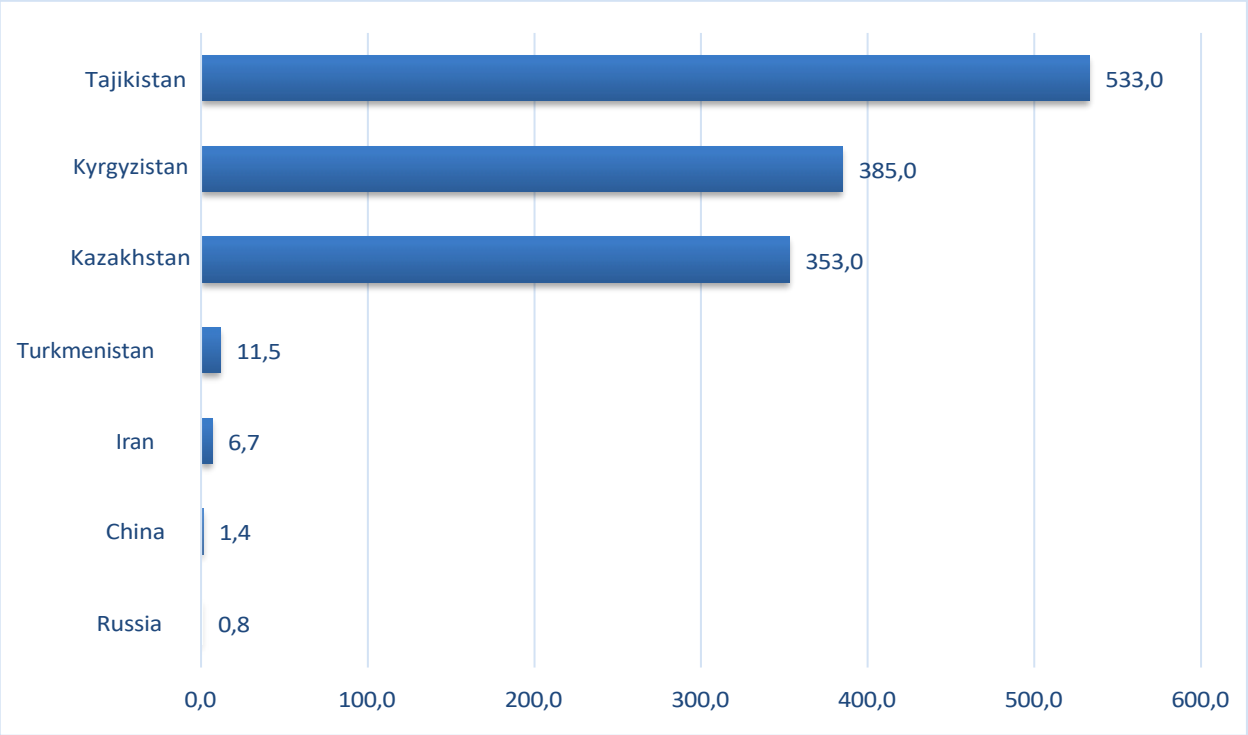
According to the committee's report, Uzbekistan imported 1.3 million tons of cement worth $52.5 million in January-July 2022.

It is noted that the volume of imports of cement decreased by 421 thousand tons compared to the same period last year.

The main countries that exported cement to Uzbekistan in the 7 months of 2022:

- *Tajikistan - 533 thousand tons;*
- *Kyrgyzstan - 385 thousand tons;*
- *Kazakhstan - 353 thousand tons;*
- *Turkmenistan - 11.5 thousand tons;*
- *Iran - 6.7 thousand tons;*
- *China - 1.4 thousand tons;*
- *Russia - 782 tons.*

Figure 8 Cement Export from Uzbekistan (thousand tons)



3.4. Price of cement in Uzbekistan

This year, the cement market saw increased demand.

Starting from February this year, the selling price of cement began to increase and reached 619-625 soum/kg in March. After quarantine due to the Covid-19 pandemic was announced, the price decreased to 512-523 soum/kg in March.

Thus, after the easing of quarantine measures, the price of cement began to pick up again, which is also associated with a decrease in imports in the first half of this year.

The situation with the Covid-19 pandemic has certainly had its impact on cement imports, which in the first half of this year was 813 thousand tons or an average of 135.5 thousand tons per month, compared to 1,838 thousand tons or 306.3 thousand tons per month in the same period last year.

In order to stabilize the price of cement, the Committee conducted a study of the order of imports, as well as held talks with major suppliers of imported cement, which established the need to simplify the import of cement, which was accordingly reported to the Cabinet of Ministers of the Republic of Uzbekistan.

In turn, the Cabinet of Ministers on July 2 this year instructed to draft a document to simplify the import of cement, which was reported on the website of the Committee, which certainly also contributed to a one-time drop in weekly prices from 777 to 752 soums / kg.

Release of the decision of the Cabinet of Ministers on July 23 had an informational impact on the reduction of the price, which fell from 875 to 784 soum/kg. The actual action and impact of the decree is observed in the increase in imports to 70-97 thousand tons per week and reduction of the exchange price to 712 soum/kg.

In particular, daily prices were as follows: 24.08 - 733.0 sum/kg; 25.08 - 722.7 sum/kg; 26.08 - 705.9 sum/kg; 27.08 - 684.2 sum/kg.

Table 5 Information about the sale of cement on the stock market of JSC "UzRTXB" as of 01.05.2021

Selling companies and brands	Posted by *(tons)*	Sold out *(tons)*	Appreciate *(million dollars)*	Initial price *(thousand USD/t)*	Selling price *(thousand USD/ton)*
JAMIE	**268,0**	**249,2**	**144,8**	**5,9**	**7,0**
"OHANGARONSEMENT" AO	-	-	-	-	-
Kuvasaycement JSC	12,0	12,0	8,9	7,0	8,9
SPC M-400 D-20	12,0	12,0	8,9	7,0	8,9
QIZILQUMSEMENT AO	144,7	144,7	78,3	5,2	6,5
PC II A-C (P-I) 32.5H	144,7	144,7	78,3	5,2	6,5
JSC Almalyk MMC	17,5	17,5	11,3	5,0	7,7
PC II/A-I 32.5 N	17,5	17,5	11,3	5,0	7,7
JSC Bekabadcement	56,4	51,7	32,2	7,2	7,5
MPC M-400	18,0	18,0	10,9	6,9	7,3
RC M-400 D-20	38,4	33,7	21,3	7,3	7,6
Total local businesses	**230,6**	**225,9**	**130,7**	**5,7**	**6,9**
"NAMANGAN SEMENT" OOO	6,0	1,3	0,9	8,0	8,1
PC II/A-C 32.5 N	6,0	1,3	0,9	8,0	8,1
"FARXOD SHIFER" OOO	6,0	6,0	3,4	6,7	6,7

Selling companies and brands	Posted by *(tons)*	Sold out *(tons)*	Appreciate *(million dollars)*	Initial price *(thousand USD/t)*	Selling price *(thousand USD/ton)*
RC M-400 D-0	6,0	6,0	3,4	6,7	6,7
"KARAKALPAK SEMENT OOO QK	1,6	1,6	1,1	8,2	8,3
RC M-400 D-20	1,6	1,6	1,1	8,2	8,3
"Jomboy Yashil Chiroklari Ltd.	6,0	6,0	3,4	6,6	6,8
RC M-400 D-20	6,0	6,0	3,4	6,6	6,8
IE LLC "SURHANCEMENTINVEST".	6,0	5,0	3,0	7,1	7,1
RC M-400 D-20	6,0	5,0	3,0	7,1	7,1
BEXRUZ SHAXRUZ BARAKA SERVIS LTD.	0,3	-	-	-	-
PPC M-500	0,3	-	-	-	-
IBAYRA LLC	6,0	-	-	-	-
PC II/A-I 32.5 N (import)	6,0	-	-	-	-
SEMENT TA`MINOTI LTD.	1,0	1,0	0,7	8,9	8,9
PC II A-I 32.5 N	1,0	1,0	0,7	8,9	8,9
STROY MATERIAL BUSINESS LTD.	2,2	-	-	-	-
PC II A-III 32.5 N (import)	2,2	-	-	-	-
HUAXIN "CEMENT JIZZAKH" LTD.	2,4	2,4	1,7	8,6	8,6
PC 400-D20	1,2	1,2	0,9	8,9	8,9
RC M-400 D-20	1,2	1,2	0,8	8,4	8,4
Jamie (Hususii korhonalar):	**37,4**	**23,3**	**14,2**	**7,2**	**7,3**
Oq Cement	0,54	0,54	1,30	9,83	**28,85**
PCB I-1-500	0,54	0,54	1,30	9,82	28,85

3.5. Potential competitors

ANHUI CONCH CEMENT

The capacity of the plant in Kitab district will be 1.2 million tons of cement per year. Portland cement of M-400, M-500 and M-600 grades will be produced here. Approximately 70 percent of products will be sent to the domestic market, the remaining 30 percent will be exported to Kazakhstan, Kyrgyzstan, Afghanistan and China.

In addition, Anhui Conch Cement also began construction of another cement plant in Ahangaran district of Tashkent region in December last year. To implement this project, 183.3 hectares of land have been allocated for quarry development and 34.2 hectares for the construction of the plant. When the plant reaches its full capacity, it will produce 2.5 million tons of cement per year. The total cost of this project exceeds 200 million dollars.

Anhui Conch Cement is a state-owned company owned by the Anhui provincial government. The cement produced is of a quality that meets the standards of American ASTM and European EN-197 and is exported to more than 40 countries around the world. The company owns plants in Russia, Indonesia, Cambodia, Myanmar, Laos and Vietnam.

CONTACTS:

Address: Kashkadarya region, Kitab district, Makrid KUF, Ortachil village, Navruz microdistrict

Tel: (998) 91 441 07 07

E-mail: 30709676@qq.com

KYZYLKUMCEMENT

QIZILQUMSEMENT Joint Stock Company is the leading cement producer in the Republic of Uzbekistan.

The plant is located 8 km southwest of Navoi city and 3 km south of the Tashkent-Bukhara railway line.

Today, JSC "QIZILQUMSEMENT" is a modern enterprise using advanced technology for the production of cement, modern technological equipment with a high level of automation of the technological process.

CONTACTS:

Address: Navoi region, Navoi - 3

Tel: (998) 79 223 42 51

E-mail: info@qizilqumsement.uz

AHANGARANCEMENT

Joint Stock Company "Akhangarantsement" was founded in 1961. Today it is a unique enterprise in the cement industry of the Republic of Uzbekistan, having on one site two different plants by the method of cement production:

Traditional "wet" with a capacity of 2 million tons per year

A new high-tech "dry" with a capacity of 3 million tons per year

At the beginning of 2021 the innovative industrial cluster for the production of construction materials was created on the basis of "AHANGARANTsement" enterprise and its key project - a high-tech plant for the production of cement by "dry" method - was launched. It is the largest in Central Asia and the most modern enterprise in CIS with fully automated production, low consumption of energy and minimal environmental impact. The digital plant uses the latest production control technologies, installed advanced reliable equipment of the fifth generation from the world's leading manufacturers, minimized environmental impact (85 state-of-the-art filtering systems in all production areas).

Modern complex allows to produce wide range of high quality cement corresponding to international standard GOST 31108-2020. Products of the new plant meet any requirements of consumers and provide cement for the most responsible construction sites of the republic: road junctions, airfield pavements, power plants, construction of nuclear power facilities, residential, office and commercial buildings.

As part of the cluster is also implemented:

Production of refractory bricks for the cement, chemical and metallurgical industries as well as housing construction (masonry saunas, baths, fireplaces). Production of high quality ready-mix concrete with specified properties and reinforced concrete products.

CONTACTS:

Address: 110300, Uzbekistan, Tashkent Region, Akhangaran, Industrial Zone

Tel: (998) 70 645 70 01

E-mail: info@akhancem.uz

KUWASAYCEMENT

Joint Stock Company "Kuwasaycement" with the participation of foreign investment is the leading and largest supplier of high quality building materials to the market of Uzbekistan and the Central Asian region. The enterprise is located in Kuvasay town of Fergana region of the Republic of Uzbekistan. The total area is 42.10 hectares of land.

Construction of the plant began in 1929 and 1932 produced the first products - 42.3 tons of cement. On October 25, 1999, in Geneva, taking into account the outstanding contribution of AO "Kuwasaycement" in the production of high quality products, global business development and professionalism "Business Initiative Directorate" awarded a special international award "Golden Star for Quality".

Currently, Kuvasaycement JSC produces more than 1 million tons of the following types of cement: In 2007 the interstate standard ISO 9001-2000 was implemented at Kuvasaycement JSC.

In February 2009 products-cement of JSC "Kuvasaycement" successfully passed certification in British laboratory "Kirton Concrete Services" for compliance with European standard EN197 (similar to GOST 10178-85).

In 2010, a grinding station was put into operation in Yangiyul, Tashkent region, with a capacity of 1 million tons of cement per year.

CONTACTS:

Address: Republic of Uzbekistan, Ferghana region, Kuvasay city, 138 Mustakillik str.

Tel: (998) 73 372 22 51

E-mail: info@kuvasaycement.uz

4. ORGANIZATIONAL PLAN

4.1. Personnel plan

At Plant will work 122 people. List involved of the personnel involved is presented in the table below:

Table 6: Personnel and Salaries

№	Job title	Number of employees	Salary of 1 worker, *thousand dollars/month.*	Total FOT, *thousand dollars*
1	**Administrative management and support personnel**	**23**		**6,90**
1.1	CEO	1	0,80	0,80
1.2	Deputy General Director for General Affairs	1	0,57	0,57
1.3	Deputy General Director for Technical Affairs	1	0,57	0,57
1.4	Chief Technology Officer	1	0,57	0,57
1.5	Chief Accountant	1	0,57	0,57
1.6	Cashier Accountant	1	0,23	0,23
1/7	Procurement Manager	1	0,34	0,34
1.8	Sales Manager	2	0,34	0,68
1.9	Instrumentation Engineer	1	0,23	0,23
1.10	Programmer	1	0,23	0,23
1.11	Chief of Security	1	0,23	0,23
1.12	Security guards	8	0,17	1,37
1.13	Cook	3	0,17	0,51

№	Job title	Number of employees	Salary of 1 worker, *thousand dollars/month.*	Total FOT, *thousand dollars*
2	**Production personnel**	**99**		**22,74**
2.1	Head of the extraction and processing section	1	0,46	0,46
2.2	Area Master	1	0,34	0,34
2.3	Excavator operator	2	0,23	0,46
2.4	Bulldozer operator	1	0,23	0,23
2.5	Locksmith	1	0,21	0,21
2.6	Electrician	1	0,23	0,23
2.7	Working	1	0,17	0,17
2.8	Security Guard	2	0,17	0,34
2.9	Quarry guard	1	0,17	0,17
2.10	Crusher	4	0,23	0,91
2.11	Transporter-doser	4	0,23	0,91
2.12	Miller	4	0,23	0,91
2.13	Assistant	4	0,17	0,68
2.14	Filterer	6	0,23	1,37
2.15	Working	4	0,14	0,55
2.16	Head of section (in shifts)	2	0,46	0,91
2.17	Area Master	2	0,34	0,68
2.18	Furnace operator	2	0,29	0,57

№	Job title	Number of employees	Salary of 1 worker, *thousand dollars/month.*	Total FOT, *thousand dollars*
2.19	Assistant	2	0,17	0,34
2.20	Dispenser	2	0,29	0,57
2.21	Transporter	2	0,29	0,57
2.22	Filterer	6	0,23	1,37
2.23	Shift Master	2	0,34	0,68
2.24	Dispenser	2	0,29	0,57
2.25	Millwright	2	0,29	0,57
2.26	Assistant	2	0,17	0,34
2.27	Transporter	2	0,23	0,46
2.28	Working	4	0,17	0,68
2.29	Packer	4	0,23	0,91
2.30	Working	4	0,17	0,68
2.31	Weigher	1	0,23	0,23
2.32	Warehouse manager	1	0,29	0,29
2.33	Chief Process Chemist	1	0,34	0,34
2.34	Assistant Process Chemist	4	0,21	0,82
2.35	Workers	4	0,17	0,68
2.36	Foreman	1	0,34	0,34
2.37	Turner	2	0,18	0,36

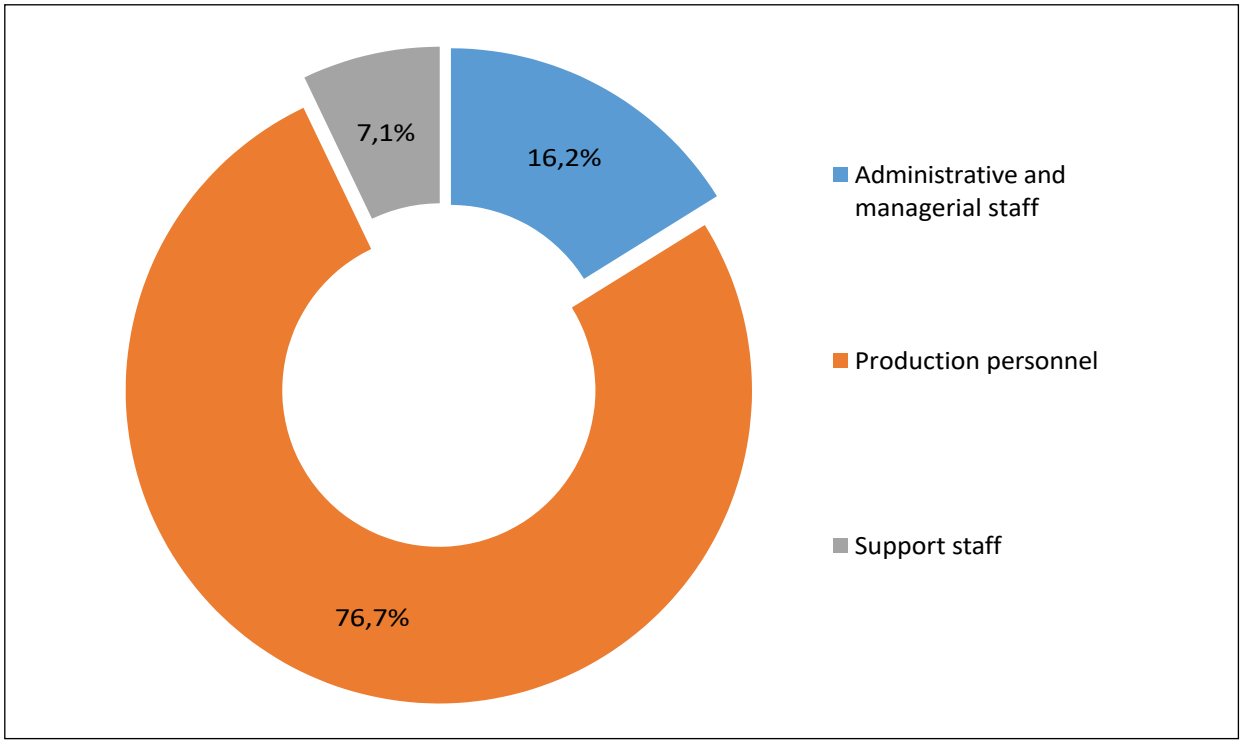
№	Job title	Number of employees	Salary of 1 worker, *thousand dollars/month.*	Total FOT, *thousand dollars*
2.38	Welder	1	0,23	0,23
2.39	Truck driver	6	0,23	1,37
2.40	Passenger car driver	1	0,23	0,23
	Total	**122**		**29,64**

Source: Global Innovation Trade analysis and calculations

Thus, the average monthly payroll would be $29,64,000. The average salary in this company will be about - $243 per month.

Below is the structure of the project's payroll:

Figure 9. Project payroll structure



Source: Global Innovation Trade analytics

4.2. Organizational structure of the company

The company will use a linear-functional management structure. The linear-functional structure implements the principle of one-man management, a linear structure of structural units and distribution of management functions between them and a rational combination of centralization and decentralization.

At the cement plant the management principle will be implemented, in which all the authority and responsibility in the field will be with the line managers (heads of sections, shops, e t c .). They, in their turn, will be assisted in making management decisions by representatives of various functional divisions (sales managers, chief technologist, etc.).

It should be noted that the linear-functional organizational structure of the company is the most successful for enterprises with mass serial production of rather homogeneous products (which do not change significantly over a certain period of time). It is on this basis (cement production just relates to such types of activity) we chose the future model of the organizational structure of the company.

4.3. Scheme of interaction with counterparties

Let us note that preliminary analysis of cement market saturation in the mentioned regions was carried out, negotiations with companies-dealers were held, in the course of these negotiations it was found out that cement dealers experience shortage of commodity products during high season of demand. That is, it is important to understand that sales of cement produced at the plant will be carried out through two main sales channels - direct sales to end users of cement, as well as sales through dealer companies.

Limestone, shale clay (shale/clay) and gypsum - key raw materials in cement production - will be extracted by plant employees from quarries and raw material sites under development. Iron oxide and coal - will be purchased based on the planned production needs for these materials, based on the permanent availability of monthly stocks of these materials at the plant. When purchasing raw materials and supplies necessary for production, an advance payment system with suppliers will be used.

Plans for the procurement of raw materials, supplies, other material and technical resources will be approved by the general director of the plant based on information from line and functional departments.

Depending on the specifics of the concluded transactions, both post-payment and prepayment for delivered cement will be used (combined conditions depending on the solvency and other indicators of a particular counterparty).

4.4. Work schedule for the project

The stages of the project are shown in the table below:

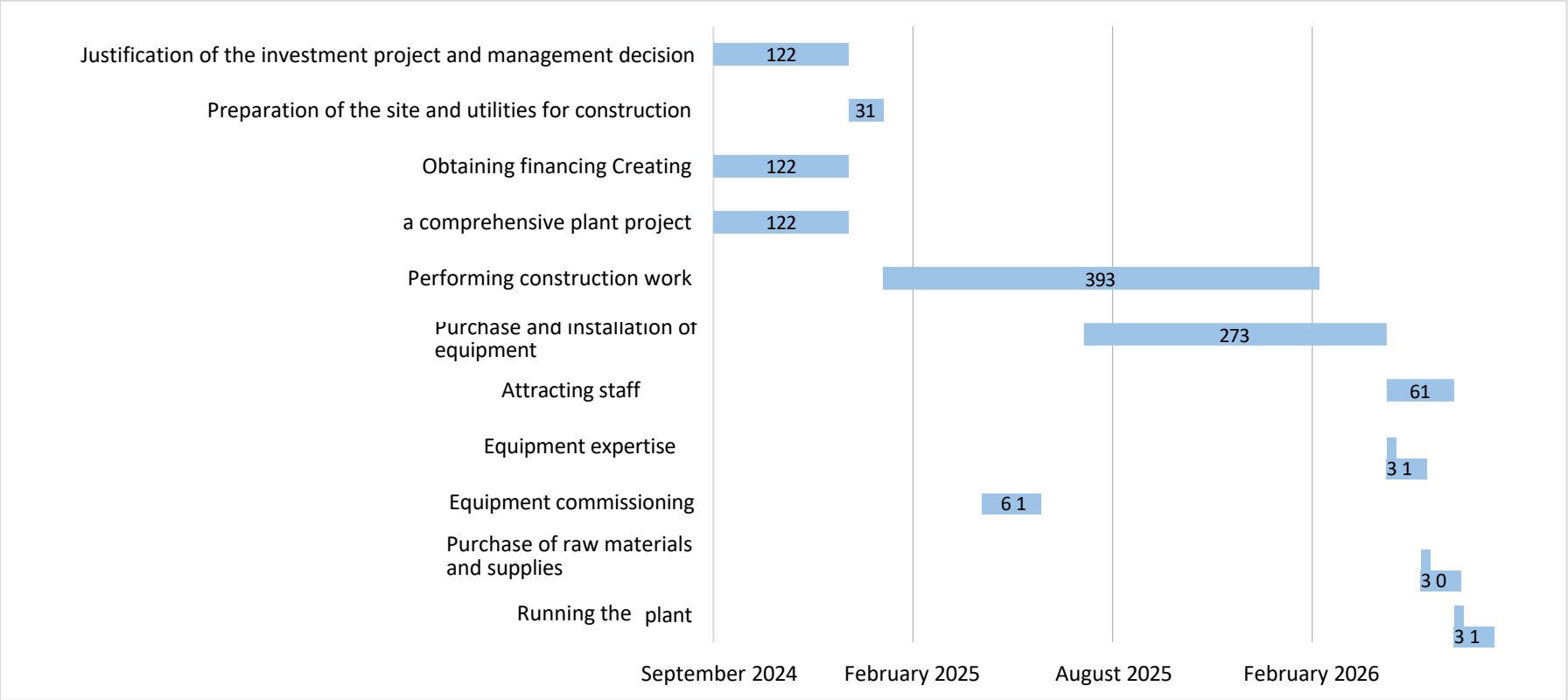
Table 7.Project implementation schedule

Project Stage	Beginning of work	Duration, days	End of job
Rationale for the investment project and management decision	01.09.2024	122	31.12.2024
Preparation of the site and engineering networks for construction	01.01.2025	31	31.01.2025
Obtaining funding	01.09.2024	61	31.10.2024
Creating a comprehensive plant design	01.09.2024	122	31.12.2024
Performing construction work	01.02.2025	393	28.02.2026
Purchase and installation of equipment	01.08.2025	273	30.04.2026
Attracting staff	01.05.2026	61	30.06.2026
Equipment expertise	01.05.2026	31	31.05.2026
Equipment commissioning	01.05.2025	61	30.06.2026
Purchase of raw materials and supplies	01.06.2026	30	30.06.2026
Running the plant	01.07.2026	31	31.07.2026

Source: Global Innovation Trade analysis and calculations

The project implementation schedule is shown graphically in the figure below:

Figure 10. Project implementation schedule



Source: Global Innovation Trade analysis and calculations

The first batch of cement will be shipped in July 2024.

4.5. Sources, forms and conditions of financing

Funding for the construction of the cement plant is provided entirely by borrowed funds in the form of investment loans.

Funding structure:

- Borrowed funds - 100%.

Assumed credit terms:

- the currency of the loan is U.S. dollars;
- the term of the loan is 84 months;
- The interest rate is 6% per annum on a monthly basis;
- Deferral of payments on the principal debt - 2 years (the body of the debt will begin to be paid in six months after the beginning of the proceedings);
- deferral of interest payments - 1.5 years until the start of production.

The timing and amounts of bank loan repayments are presented in an appendix to the financial plan.

4.6. Investment attraction schedule

The company-initiator of the project is given a credit line in the amount of investment costs of the project, based on the need for financial resources for the implementation of the initiative company, tranches are selected within the specified limit.

All issues related to the loan funds needed for the project will be resolved before the start of preparatory work at the plant site in January 2 0 2 5 , meaning that all issues related to borrowing in 2024 will be resolved by December.

5. WORK PLAN

5.1. Description of buildings and premises

It is planned to build a production complex to organize cement production. The production site is located in Kashkadarya region, Kamashi district at the address: Kiziltepa village.

The construction sites are shown below:

- Combined coal and additives clamshell warehouse;
- Cement Mill Section;
- Cement silos with shipment to vehicles;
- ACCS building with a laboratory and production control;
- Warehouse of refractories and grinding bodies;
- Joint Material Warehouse;
- ABC;
- Aisle;
- Elevated utilities;
- Car Garage;
- Raw material preparation area;
- Clinker burning shop;
- Clinker grinding shop;
- Mechanical shop;
- Warehouse of fuel and lubricants with a gas station;
- Warehouse mix of raw materials;
- The room inventory;
- Intermediate storage of raw materials;
- Clinker warehouse;
- Cement mill additive supply gallery;
- Feed galleries to the mill;
- Clinker feed gallery for cement mills;
- Coal galleries from warehouse to mill hoppers with reloading and sorting;

- Dusty-coal warehouse.

Buildings will be connected to the buildings all necessary communications.

5.2. Calculating the cost of construction

The cost of construction is shown in the table below:

Table 8: Calculating the cost of construction

№	Buildings and structures	Cost, US dollars
1	Combined coal and additives clamshell warehouse	**7 187 000**
2	Cement Mill Section	
3	Cement silos with shipping to trucks	
4	Control system building with laboratory and production control	
5	Warehouse of refractories and grinding bodies	
6	Joint Material Warehouse	
7	ABC	
8	Gateway	
9	Utility overpass	
10	Car Garage	
11	Raw material preparation area	
12	Clinker burning shop	
13	Clinker grinding shop	
14	Mechanical shop	
15	Fuel and lubricants warehouse with filling station	
16	Raw mix warehouse	
17	Inventory room	
18	Intermediate storage of raw materials	
19	Clinker storage	
20	Cement mill additive supply gallery	
21	Feed galleries to the mill	
22	Clinker feed gallery for cement mills	
23	Coal galleries from stockpile to mill hoppers with reloading and sorting	
24	Pulverized fuel storage	

№	Buildings and structures	Cost, US dollars
	Total	**7 187 000**

Source: Global Innovation Trade analytics

The total construction cost of all the necessary buildings, facilities, communications, etc. will be $9,200,000. All construction work will be managed by the Chinese company Sinoma with the involvement of local construction companies.

5.3. Description of the necessary equipment and techniques

The table below provides a list of the equipment required for the cement plant construction project, as well as the total cost of the necessary equipment.

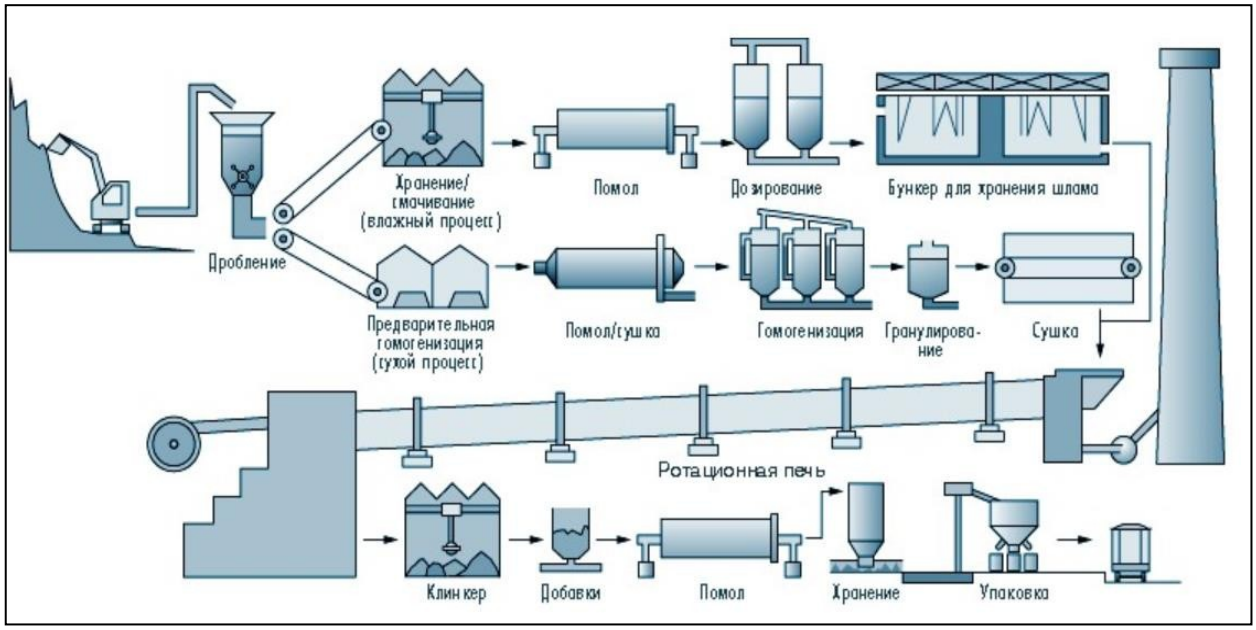
Table 9: Calculating the cost of equipment

№	Equipment costs	Cost, US dollars
1	Heater	16 875 000
2	Precalciner	
3	Belt conveyors	
4	Screw conveyors	
5	Chain conveyors	
6	Plate feeder	
7	Rotary feeder	
8	Dust collector	
9	Fans	
10	Sliders and plugs	
11	Magnetic separators	
12	Metal detectors	
13	Metering and weighing equipment	
14	Sampling equipment	
15	Laboratory equipment	
16	Firefighting equipment	
17	Electrical equipment, including power transformer	
18	Electric motor control devices (ACS)	

№	Equipment costs	Cost, US dollars
19	DCS system	
20	Wires, cables, cable trays	
21	Roller press	
22	Limestone crusher	
23	Hopper unloader	
24	Limestone mixing device	
25	Cement silo	
26	Cement grinding devices	
27	Equipment for compressed air station	
28	Furnaces	
Total		**16 875 000**

Source: Global Innovation Trade analytics

5.4. Description of the technological process



Cement production generally consists of several technological operations, which can be conditionally divided into two groups:

- clinker production;
- clinker grinding and introduction of additives.

It all starts with the extraction of raw materials. As a rule, limestone is extracted by demolishing part of the mountain, after which a layer of yellow-green limestone.

The depth of occurrence of the limestone layer is approximately 10 m, the thickness is on average 0.7 m. After the raw material is delivered to the plant, it is fired in a special kiln at +1 450° C to produce clinker.

The process of roasting the initial charge and obtaining clinker includes many stages, the main ones being:

1. Drying of incoming raw materials.

2. Decomposition of raw materials. Under the influence of high temperature, limestone decomposes into lime and carbon dioxide, and clay decomposes into silicon and aluminum oxides.

3. Exothermic reactions. Freshly laid oxides are usually very active, so they interact with each other, forming new substances - calcium aluminates and silicates. The course of these processes is accompanied by the release of heat, which additionally warms up the reaction mass.

4. Sintering of the reaction mass. This stage is extremely important because it is during sintering that the future structure of the clinker is formed and the free lime left over from the previous stage is bound.

5. Cooling. The structure formed during sintering must be preserved. It is quite difficult to do this, because during slow cooling the processes of crystallization and recrystallization occur, sharply reducing the quality of the cement. Therefore, it is necessary to cool sharply, which is quite difficult due to the viscosity of the mass and the high temperature.

All cement production technologies include all of the above stages. The main difference between the processes used in different plants lies in the way the raw mix is prepared.

Depending on the type of preparation of raw materials for burning there are wet, dry, semi-dry and combined methods of production of cement clinker.

In the wet production method, raw materials are milled in water, and the averaging and adjustment of the mixture is carried out with raw slurry, which is an aqueous suspension of finely dispersed raw materials with a moisture content of 32-50%. The raw slurry is then sent to a rotary kiln for roasting.

In the dry method, the charge is ground into a fine powder, and mixing, averaging and adjustment is done with the mixture in the form of raw meal. The raw meal is then sent for roasting.

In the combined method, the raw mix is prepared by wet or dry method. In the first case, the raw slurry is sent for dehydration in vacuum filters or filters - presses, get a crust or a dried product with a residual moisture content of 16-18% and send it for roasting.

If the mixture is prepared by the dry method, the raw meal is moistened to 12-15%, granulated and the resulting pellets are sent for burning.

Each of the methods has its own advantages and disadvantages, but experts note that the dry method of cement production is the most economical. The advantages of the dry method include:

1. Low specific heat consumption for clinker burning. In the dry method the heat consumption for burning is 2900-3750 kJ/kg clinker, with wet - 5400-6700 kJ/kg. In general, the dry method, taking into account the heat for drying raw materials consumes 3100-4400 kJ/kg clinker.

2. The volume of furnace gases in the dry method is 35-40% less than in the wet method at the same furnace capacity. As a consequence, the cost of dedusting of furnace gases is lower. At a dry method there is a possibility to use hot exhaust gases for drying raw materials during their grinding in ball mills. This in turn allows an additional reduction in the overall heat consumption for clinker production.

3. Dry process furnaces are less metal- and material-intensive compared to wet process furnaces of the same capacity. In the dry method short furnaces with cyclone heat exchangers are used (Ø 5x75 m; Ø 6.4; 7.0x95 m), and in the wet method long furnaces (Ø 5x185 m; Ø 7x230 m).

4. Dry process furnaces have a high production capacity of up to 3 000-5 000 t/day and a high specific clinker removal from 1 m3 of furnace. As a consequence, dry process lines in 2
3 times more powerful than the wet process lines, increasing labor productivity, reducing operating costs and lowering production costs.

5. In conditions of water scarcity (especially in the southern regions) eliminates the need for its consumption for the preparation of the raw slurry.

In the project to be implemented it will be used exactly the dry method of cement production.

5.5. Other technological issues

Coal as fuel and electricity are needed to ensure the operation of the equipment. Their consumption, as well as the consumption of other raw materials used for cement production, is presented in the table below:

Table 10. Calculation Consumption materials, fuel and power for cement production

№	Purchasing raw materials	Average cost per month, thousand dollars.
1	Limestone (own production)	79,12
2	Clay (own extraction)	10,64
3	Gypsum (own production)	1,90
4	Iron oxide	20,90
5	Fuel (coal)	174,80
6	Paper bags	5,32
7	Soft containers (Big Bag)	2,28
8	Water	1,22
9	Electricity	137,33
10	Salaries of production personnel	22,74
	Total	**456,25**

Source: Global Innovation Trade analysis and calculations

Coal supply is planned from local producers in order to reduce the logistics costs of raw material delivery.

5.6. Raw materials and components

The main components of the cement mixture in the projected plant will be extracted independently. These components are: limestone, clay and gypsum. The requirements for the volumes of the required raw materials are presented below:

Table 11. Calculation of required volumes of raw materials for production of 400,000 tons of cement per year

Need for raw materials	Annual requirement (tons)	Monthly requirement (tons)
Limestone	555 200	46 267
Clay	85 520	7 127
Gypsum	31 600	2 633
Iron oxide	20 000	1 667

Source: Global Innovation Trade analysis and calculations

5.7. Local quarries

МЕСТОРОЖДЕНИЯ НЕРУДНОГО СЫРЬЯ

Месторождение гипсового камня Лянгарское

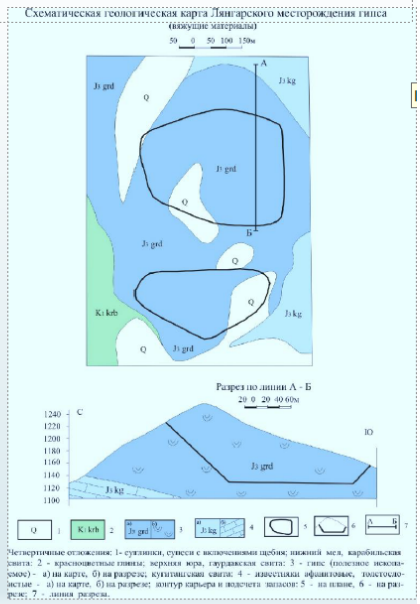
Местоположение: South-west spurs of Hissar ridge, in Kamashi rayon of Kashkadarya oblast, 1km to the NW of Lyangar settlement and 35km to the SE of Kamashi railway station. Kamashi is connected with them by asphalted road. Prospecting was carried out in 1990-1993, in 2002-2005. - preliminary, detailed assessment and exploration (Kashkadarya State Geological Exploration Department, Iskanov S.).

Geology: Formed by limestones (J3kg); limestones and gypsums (J3grd); red-colored clays and sandstones (K1krb); sandy loams, loams (Q). The mineral mineral is gypsums (J3grd). Limestones occur intermittently in the Formation basement. Gypsum is white, in some interbeds light bluish, sometimes yellowish, fine-grained, with a sugar-like fracture, in some places lamellar, medium- and thick-layered, sometimes anhydrite lenses are found. The thickness of gypsum in the middle part of the section is up to 150m. The length is 420m, strike NW, dip SW. The gypsum chemical composition meets the requirements of RST Uz 760-96 for gypsum of the 2nd grade. It is possible to produce gypsum binders of G-7, G-10, G-13 grades.

Reserves as of 01.01.2019: for category B+C1 - 13,900 thousand tons. B+C1 - 13,900 thousand tons, C2 - 2,854 thousand tons. C2 - 2854 thousand tons. Reserves are calculated to a depth of 125.1m. Approved by GKZ RUz (Minutes No. 265 dated 25.04.2006) Gypsum reserves, previously accounted by Uzstroymaterialy Association, were transferred to the balance of Goskomgeologiya (Resolution No. 18 of CM RUz Commission meeting dated 01.11.2013).

Proposals (recommendations): open-pit mining - by two pits: I pit - 420 x 220-350 x 70m; II pit - 370 x 130-200 x 60m.

Scope: the quality of gypsum stone should meet the requirements of RST Uz 760-96 "Gypsum and gypsum-anhydrite stone for production of binders".



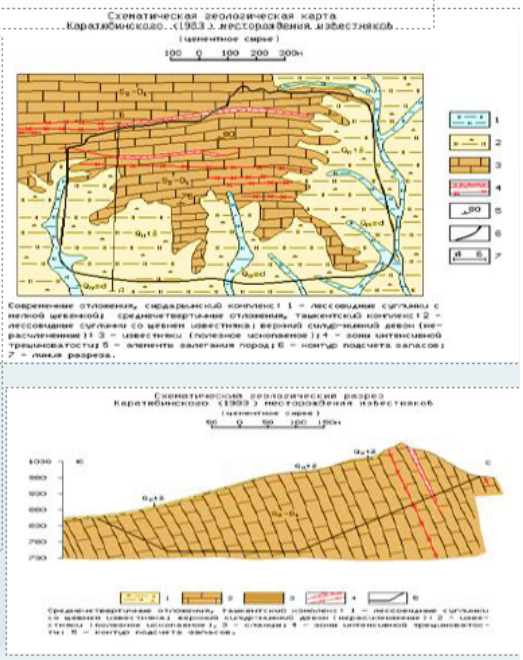
MINERAL DEPOSITS

Karatyubinskoye (1983) limestone deposit (cement raw material)

Location: in Kitab district of Kashkadarya region, 12 km to the NW of Kitab town, 4.0 km to the East is the Big Uzbek highway. Explored in 1982 ("Khimgeolnerud").
Geological position: Khazretdavutskaya sedimentary rocks formations (S2-D1) and crushed stone, loess-like loams mixed with clastic and sandy material (Q). The mineral is interlayered layered and thickly layered, less often massive, fine-grained marbleized limestone, gray and light gray, slightly bituminous in the upper horizons, and dark to black in the lower horizons. At the base of the pay zone are mica-quartz shales with interlayers of sandstones and sandy limestones. The thickness of the productive horizon is 500-600m.

Reserves as of 01.01.2019: by cat.(thousand tons): A + C + C1 -177555, C2 - 2 314. Approved by GKZ RUz (Minutes #9228, 1996)Method of mining: open mining (by open pit, ledges of 15m), by excavation method with the use of drilling and blasting. Overburden thickness is 4,7m, volume -2 644,2 thousand m3, they can be used for preliminary reclamation of the worked-out space.

Field of application: for production of Portland cement by dry method under the condition of introduction of two corrective additives high-iron (cinders) and alumina (Angren kaolins).



6. FINANCIAL PLAN

6.1. Initial data and assumptions

An 8-year planning horizon was adopted in the economic evaluation of the project.
The assumptions adopted in the project are described below.

Product Assumptions

The product of this company is cement. The main volume of cement sales (60%) will be supplied in bulk as well as in Big-Bag packaging (1,000 kg), 40% of the produced cement will be supplied in 50 kg bags.

For the calculations of this project we use the average monthly volume of production, taking into account the plans of the initiators of the project and the productivity of the equipment, it is planned to produce annually about 400,000 tons of cement (33.33 thousand tons per month).

Assumptions about price

Prices for all products and services of the plant are set at the level of the average market. It is possible to provide discounts depending on purchase volumes and seasonality.

Assumption about the sales plan

The average annual production level is 400,000 tons of products per year and is driven by equipment capacity and seasonality in the market.

Assumptions about investment costs

Investment costs are divided into two categories: the initial costs of creating the company and working capital of the project. To determine the amount of necessary initial working capital, a forecast calculation of profits and losses on current activities of the company until the moment of reaching self-sufficiency was made.

Assumptions about the initial working capital requirements

In order to calculate the initial working capital, a list of resources required to carry out all current activities of the project was analyzed. This list included such categories of costs as:

- Administrative costs;
- Employee payroll;
- Other costs.

Assumption about the discount rate

The project adopted a discount rate of 5.4% per year. Below is the rationale for the calculation of this indicator.

The cumulative construction method is based on summing up the risk-free rate of income and risk premiums for investing in the evaluated enterprise. The method takes into account all kinds of investment risks related both to the factors common for the industry and economy, and to the specifics of the evaluated enterprise. The calculations are made according to the formula:

$$r = r_b + \sum_{i=1}^{n} Ri$$

where r is the discount rate; rb is the base (risk-free or least risky) rate; Ri is the premium for the i-type of risk; n is the number of risk premiums. Let us present below the calculation according to this methodology.

Table 12. Determination of the cost of equity

Evaluation Factor	Expert evaluation, %
The size of the risk-free rate	8,69%
Amount of country risk adjustment	3,00%
Amount of industry risk adjustment	0,50%
Amount of other risk adjustment	1,00%
Cost of equity	**13,19%**

Source: Global Innovation Trade analysis and calculations

Then, based on this, the discount rate was determined.

Table 13. Determination of the discount rate

Constituents	%
Equity share	0%
Share of borrowed capital (loans)	100%
Tax	10%
Cost of equity	13,19%
Cost of borrowed capital	6%
Total discount rate	**5,4%**

Source: Global Innovation Trade analysis and calculations

Thus, the expert calculation of the discount rate was 5.4% per annum.

Assumptions about revenue, profit and loss projections (P&L) and cash flow (CFP)

All of the above indicators were used to build revenue, P&L, and DDS plans.

6.2. Nomenclature and prices

For the calculation in this project, the following product nomenclature and price was adopted:

Table 14. Nomenclature and prices

Product	Average volumes of work (tons per month)	Price ($ per 1 ton)
Cement (bulk + Big-Bag 1 000 kg)	20 000	48,0
Cement (50 kg bags)	13 333	48,3

Source: Global Innovation Trade calculations

The costs listed in the table are averaged over the year.

6.3. Investment costs

The capital costs that would be required to establish a cement production plant are shown in the table below:

Table 15. Investment costs of the project (thousands of dollars)

№	Capital expenditures	Cost, thousands of dollars
	The first start-up complex	
1.	**Preparatory work**	**939**
1.1.	Development of a business plan for the project	2
1.2.	Development of the plant project	937
2.	**Construction and installation work, project management**	**7 187**
3	**Equipment and machinery**	**16 875**
4.	**EPC control**	**2 070**

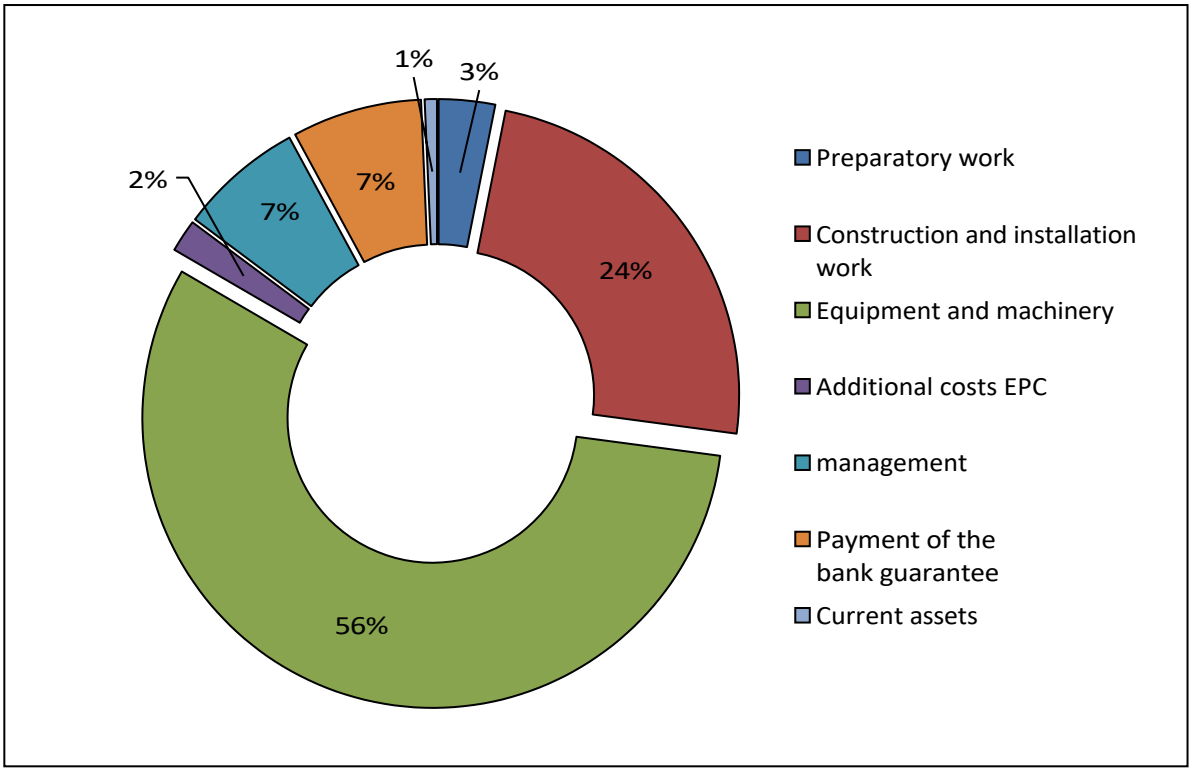
5.	**Additional expenses**	**541**
5.1.	Unforeseen expenses (2%)	541

№	Capital expenditures	Cost, thousands Dollars
6.	**Current assets**	**2 166**
6.1.	Purchase of purchased raw materials to fulfill the monthly work plan	**203**
Total capital costs		**29 982**
Coverage of the cache-flo deficit		0
Total investment in the project		**29 982**

Source: Global Innovation Trade analysis and calculations

The figure shows the structure of capital expenditure categories by cost item for the project implementation:

Figure 11. Structure of the project capital costs



Source: Global Innovation Trade analysis and calculations

As can be seen from the diagram, most of the project's investments are the costs of purchasing equipment and machinery (56.0% of all capital expenditures).

6.4. Initial working capital requirement

Initial working capital requirements consist primarily of the costs of purchasing purchased (but not mined) raw materials and supplies used in cement production. Such expenses include the cost of forming a monthly stock of iron oxide, coal, as well as packaging used to store and transport cement (bags and Big-Bags).

Working capital is included in the investment costs of this project and amounts to 214.0 thousand dollars, which in the structure of investment costs takes 0.7% of the total amount of capital investments.

6.5. Operating costs (fixed and variable)

Fixed project costs are project costs that do not depend on changes in production volume. They include, as a rule, maintenance and management costs. The main fixed costs are shown in the table below:

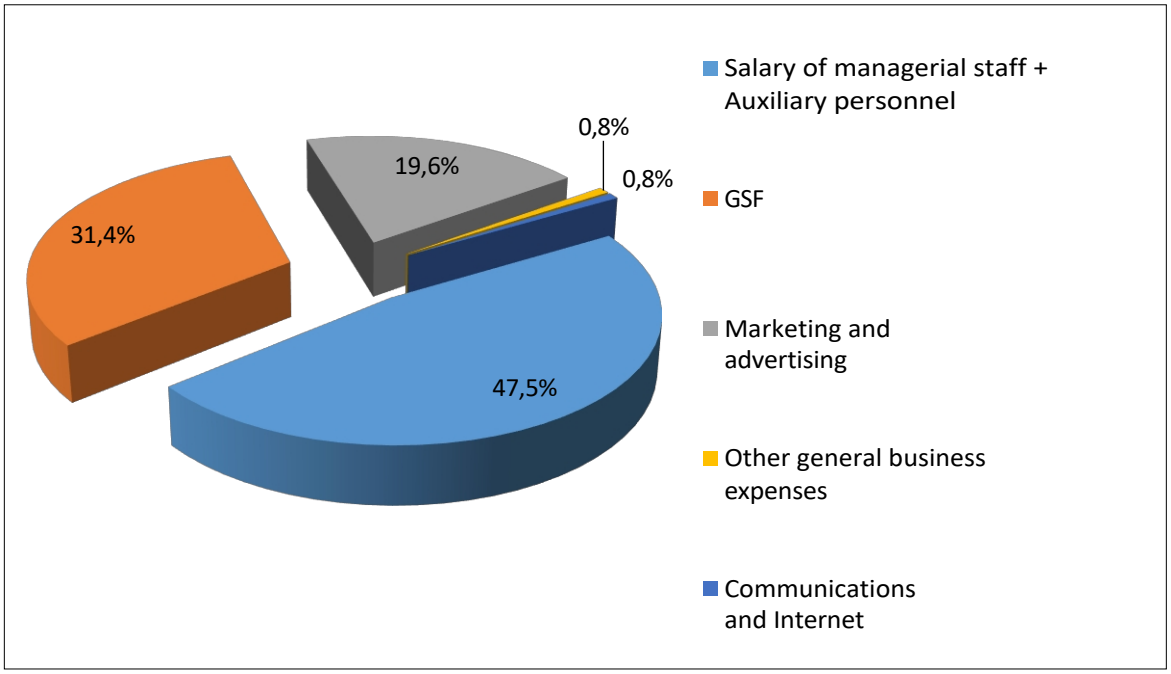
Table 16. Fixed costs, thousands of dollars

№	Indicator	Consumption	Thousands of dollars in month
1	Salary of AUP + Auxiliary staff	Personnel sheet	6,90
2	GSF	$4.56 million per year	4,56
3	Marketing and advertising	$2.85 million per year	2,85
6	Other general business expenses	$0.11 thousand per year	0,11
7	Communications and Internet	$0.11 thousand per year	0,11
	TOTAL		**14,54**

Source: Global Innovation Trade analysis and calculations

The main part of fixed costs are wages of administrative and auxiliary personnel (47.5% of the total), fuel and lubricants - 31.4%.

Figure 12. Structure of fixed costs of the project



Source: Global Innovation Trade analysis and calculations

Project variable costs are the costs of raw materials required for production:

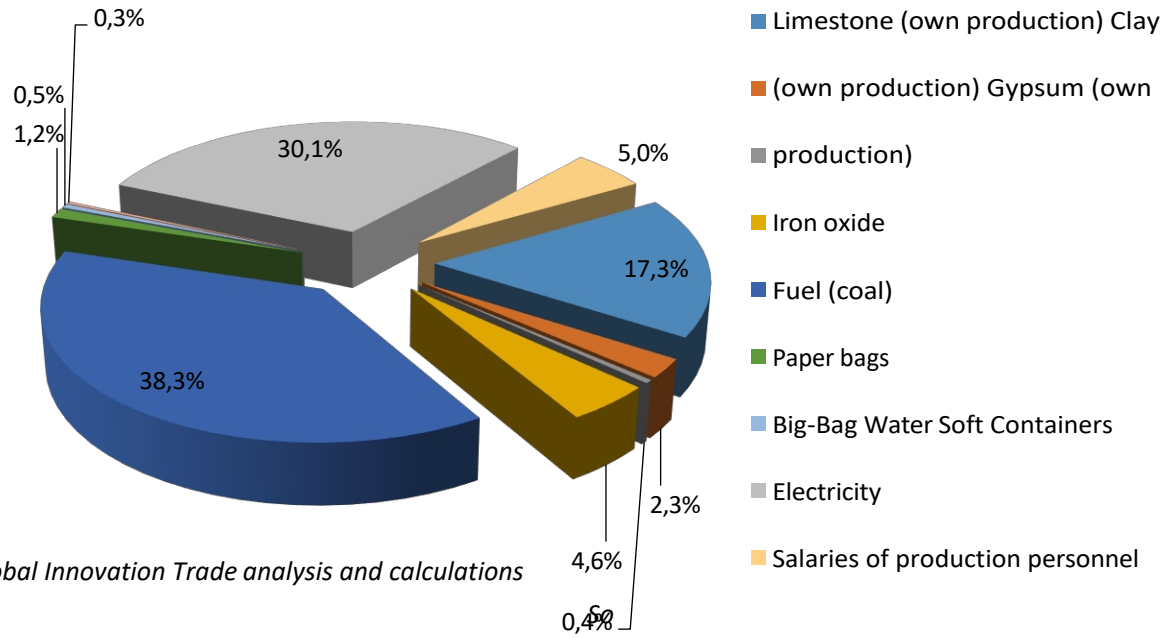
Table 17. Variable costs (thousands of dollars)

№	Purchasing raw materials	Average costs in month, thousands of dollars
1	Limestone (own production)	79,12
2	Clay (own extraction)	10,64
3	Gypsum (own production)	1,90
4	Iron oxide	20,90
5	Fuel (coal)	174,80
6	Paper bags	5,32
7	Big-Bag Soft Containers	2,28
8	Water	1,22
9	Electricity	137,33
10	Salaries of production personnel	22,74
	Total	**456,25**

Source: Global Innovation Trade analysis and calculations

The largest costs in the cost of production are coal (38.3%) and electricity (30.1%).

Figure 13. Structure of variable costs



Source: Global Innovation Trade analysis and calculations

6.6. Sales Plan

This project assumes annual production and sales of an average of 400,000 tons of products. Sales will begin when the plant is commissioned and the first batch is produced and are scheduled for July 2024. The sales plan by years of the forecast period is shown in the table:

Table 18. Sales plan by year (tons)

Period	2024	2025	2026	2027	2028	2029	2030	2031	2032
Cement (bulk+Big Bag)	0	0	120 000	240 000	240 000	240 000	240 000	240 000	240 000
Cement (50 kg bags)	0	0	80 000	160 000	160 000	160 000	160 000	160 000	160 000
Total	**0**	**0**	**200 000**	**400 000**	**400 000**	**400 000**	**400 000**	**400 000**	**400 000**

Source: Global Innovation Trade analysis and calculations

The revenue dynamics for the planning period (2024-2032) are shown below.

6.7. Revenue Calculation

The calculation of revenue is based on the sales plan and cost per product. The revenue plan in the first years of the project is presented in the table:

Table 19. Revenue plan by year (thousands of dollars)

Period	2024	2025	2026	2027	2028	2029	2030	2031	2032
Cement (bulk+Big Bag)	0,00	0,00	5 472,00	10 944,00	10 944,00	10 944,00	10 944,00	10 944,00	10 944,00
Cement (50 kg bags)	0,00	0,00	3 670,80	7 341,60	7 341,60	7 341,60	7 341,60	7 341,60	7 341,60
Total	**0,00**	**0,00**	**9 142,80**	**18 285,60**	**18 285,60**	**18 285,60**	**18 285,60**	**18 285,60**	**18 285,60**

Source: Global Innovation Trade analysis and calculations

Next (point 6.9) consider the profit and loss projection through 2032.

6.8. Profit and loss forecast

The profit and loss statement by year is shown in Table 6.10:

Table 20. Profit and loss statement (thousand dollars)

Income / expense item	2024	2025	2026	2027	2028	2029	2030	2031	2032
Revenue from sales	0,0	0,0	9 142,8	18 285,6	18 285,6	18 285,6	18 285,6	18 285,6	18 285,6
Initial costs	3 105,2	1 915,3	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Variable costs	0,0	0,0	2 737,5	5 475,0	5 475,0	5 475,0	5 475,0	5 475,0	5 475,0
Gross profit	-3 105,2	-1 915,3	6 405,3	12 810,6	12 810,6	12 810,6	12 810,6	12 810,6	12 810,6
Fixed costs	0,0	0,0	87,2	174,4	174,4	174,4	174,4	174,4	174,4
Taxes (other than the tax on profit)	0,0	0,0	139,5	1 538,2	1 537,2	1 536,2	1 535,2	1 534,1	1 521,9
EBITDA	**-3 105,2**	**-1 915,3**	**6 178,6**	**11 098,0**	**11 099,0**	**11 100,0**	**11 101,0**	**11 102,1**	**11 114,3**
EBITDA, % (to revenue) average	-	-	68%	61%	61%	61%	61%	61%	61%
Depreciation of fixed assets	0,0	0,0	901,2	1 802,4	1 802,4	1 802,4	1 802,4	1 802,4	1 802,4
EBIT	**-3 105,2**	**-1 915,3**	**5 277,4**	**9 295,5**	**9 296,6**	**9 297,6**	**9 298,6**	**9 299,6**	**9 311,8**
Payment of interest on credits and loans	0,0	0,0	1 884,8	1 163,8	913,1	646,8	364,1	77,2	0,0

Income / expense item	2024	2025	2026	2027	2028	2029	2030	2031	2032
Profit (Loss) to taxation	-3 105,2	-1 915,3	3 392,6	8 131,7	8 383,5	8 650,8	8 934,5	9 222,5	9 311,8
Income tax	0,0	0,0	0,0	865,3	929,7	929,8	929,9	930,0	931,2
Retained earnings	**-3 105,2**	**-1 915,3**	**3 392,6**	**7 266,4**	**7 453,8**	**7 721,0**	**8 004,6**	**8 292,5**	**8 380,7**
Retained earnings cumulatively	**-3 105,2**	**-5 020,4**	**-1 627,8**	**5 638,6**	**13 092,4**	**20 813,4**	**28 818,0**	**37 110,5**	**45 491,2**
Net income	-3 105,2	-1 915,3	3 392,6	7 266,4	7 453,8	7 721,0	8 004,6	8 292,5	8 380,7
Return on sales	-	-	58%	51%	51%	51%	51%	51%	51%

Source: Global Innovation Trade analysis and calculations

6.9. Cash flow forecast

Cash flow forecast by years is shown in Table 6.11. Cash flow forecast by months is shown in the appendix.

Table 21. Cash flow forecast (thousands of dollars)

	2024	2025	2026	2027	2028	2029	2030	2031	2032
INVESTMENT CASH POTUS (IPP)	**-3 105,2**	**-17 371,8**	**-9 505,4**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Capital expenditures	3 105,2	17 371,8	9 505,4	0,0	0,0	0,0	0,0	0,0	0,0
OPERATING CASH POTW (UDP)	**0,0**	**0,0**	**4 293,8**	**9 068,8**	**9 256,3**	**9 523,4**	**9 807,0**	**10 095,0**	**10 183,1**
Revenue total	**0,0**	**0,0**	**9 142,8**	**18 285,6**	**18 285,6**	**18 285,6**	**18 285,6**	**18 285,6**	**18 285,6**
Expenses total	0,0	0,0	2 824,7	5 649,4	5 649,4	5 649,4	5 649,4	5 649,4	5 649,4
Variable costs	*0,0*	*0,0*	*2 737,5*	*5 475,0*	*5 475,0*	*5 475,0*	*5 475,0*	*5 475,0*	*5 475,0*
Fixed costs	*0,0*	*0,0*	*87,2*	*174,4*	*174,4*	*174,4*	*174,4*	*174,4*	*174,4*
Accrued taxes and payments	0,0	0,0	139,5	2 403,5	2 466,9	2 466,0	2 465,0	2 464,1	2 453,1
Payments of interest on the loan	0,0	0,0	1 884,8	1 163,8	913,1	646,8	364,1	77,2	0,0
FINANCIAL MONEY POTOC (FDP)	**3 105,2**	**17 371,8**	**9 505,4**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Own funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

	2024	2025	2026	2027	2028	2029	2030	2031	2032
Borrowed funds	3 105,2	17 371,8	9 505,4	0,0	0,0	0,0	0,0	0,0	0,0
Tax refunds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Payment of the body of the debt	0,0	0,0	0,0	5 423,8	5 599,9	5 945,3	6 312,0	6 701,3	0,0
Net cash flow (NFC)	-3 105,2	-17 371,8	-5 211,6	9 068,8	9 256,3	9 523,4	9 807,0	10 095,0	10 183,1
Cumulative NPD	**-3 105,2**	**-20 477,0**	**-25 688,6**	**-16 619,8**	**-7 363,5**	**2 159,9**	**11 967,0**	**22 061,9**	**32 245,0**

Source: Global Innovation Trade analysis and calculations

6.10. Project efficiency analysis

6.11.1. Methodology for assessing the effectiveness of the project

Evaluation of investment projects is carried out according to the following main indicators:

- Net present value NPV
- Profitability index PI
- PBP payback period
- Discounted payback period DPBP
- Internal rate of return IRR

6.11.2. Project performance indicators

Performance indicators of an investment project make it possible to determine the efficiency of investment of funds in this or that project. When analyzing the effectiveness of investment projects the following indicators of investment efficiency are used: Net discounted (discounted) income (cash flow); Net present value, NPV; Payback period (period), PBP; Discounted Payback period, DPBP; Internal rate of return (profitability), Rate of Return, IRR (Modified Rate of Return, MIRR); Profitability index, profitability index, profitability index, PI.

6.11.3 Net present value (NPV)

Net present value (commonly abbreviated as NPV) is the sum of discounted simultaneous differences between the benefits and costs of a project. - The sum of discounted simultaneous differences between benefits and costs of a project. The sum of cash flows (receipts and payments) associated with operational and investment activities, reduced (discounted) at the beginning of the investment.

Net discounted income NPV is calculated by the formula 1.

$$NPV = \sum_{t=o}^{T} \frac{CFt(}{(1+i)^t} 1)$$

Where i is the discount rate;

CFt - net cash flow of period t;

T - the duration of the project in periods.

The NPV calculation is a standard method of evaluating the effectiveness of an investment project and shows an estimate of the effect of the investment, adjusted for the present time value of money. If the NPV is greater than 0, the investment is profitable, and if the NPV is less than 0, the investment is unprofitable.

With the help of NPV can also assess the relative effectiveness of alternative investments (with the same initial investment is more profitable project with the highest NPV).

Positive qualities of NPV:

- clear criteria for decision-making
- indicator takes into account the value of money over time (using the discount factor in the formulas).

Negative qualities of NPV:

- the indicator does not take risks into account.
- does not take into account the probability of the event outcome, since all cash flows and the discount factor are predicted values.

6.11.4 Internal rate of return (IRR)

In the case of heterogeneous cash flows, as in this project, can be applied appropriate analogue of IRR - the modified internal rate of return (MIRR).

The calculation algorithm involves several procedures. First, the total discounted value of all outflows and the total accrued value of all inflows are calculated, and both discounting and accretion are performed at the price of the project's financing source. The accrued value of inflows is called the terminal value. Then the discount rate is determined, which equalizes the total present value of outflows and the terminal value, which in this case is the MIRR. So, the general formula for calculation is as follows:

$$\sum_{t=0}^{N} \frac{OF_t}{(1+r)^1} = \frac{\sum_{t=0}^{N} IF_t(1+r)^{n-1}}{(1+MIRR)^n} \quad (2)$$

Where OF, - cash outflow in the N-th period (in absolute value); IF, - cash inflow in the

N-th period;

d - the cost of the source of funding for this project; n - the

duration of the project.

Note that the formula makes sense if the terminal value exceeds the sum of discounted outflows.

6.11.5 Return on investment index (PI)

The profitability index (PI) is the discounted value of cash proceeds from the project (NPV) per unit of investment. It shows the relative profitability of the project.

Profitability index PI is calculated by formula 3.

$$PI = \frac{NPV}{Investments} \quad (3)$$

PI values:

For an effective project PI must be greater than 1

Discounted cost and investment return indices are greater than 1 if the NPV is positive for that stream.

6.11.6 Payback Period (PBP)

Payback period (PBP) - the expected period of recovery of the initial investment from the net cash proceeds. The time in which the revenues from the operating activities of the enterprise will exceed the costs of the investment.

PBP payback period is calculated by formula 4. PBP=

Investments/ACF (4)

Where Investments is the initial investment;

ACF - Annual Cash Flow (average annual amount of net cash flow).

6.11.7 Discounted Payback Period (DPBP)

Discounted Payback Period (DPBP) - payback period (see above), but including discounting.

The discounted payback period of DPBP is calculated by formula 5.

$$DPBP = t_{-} - \frac{NPVt_{-}}{NPVt_{+} - NPVt_{-}} \quad (5)$$

Where t -, t + - the period when negative and positive NPV were observed.

6.11.8 Analysis of project effectiveness and project conclusions

The main financial indicators are shown in the table below:

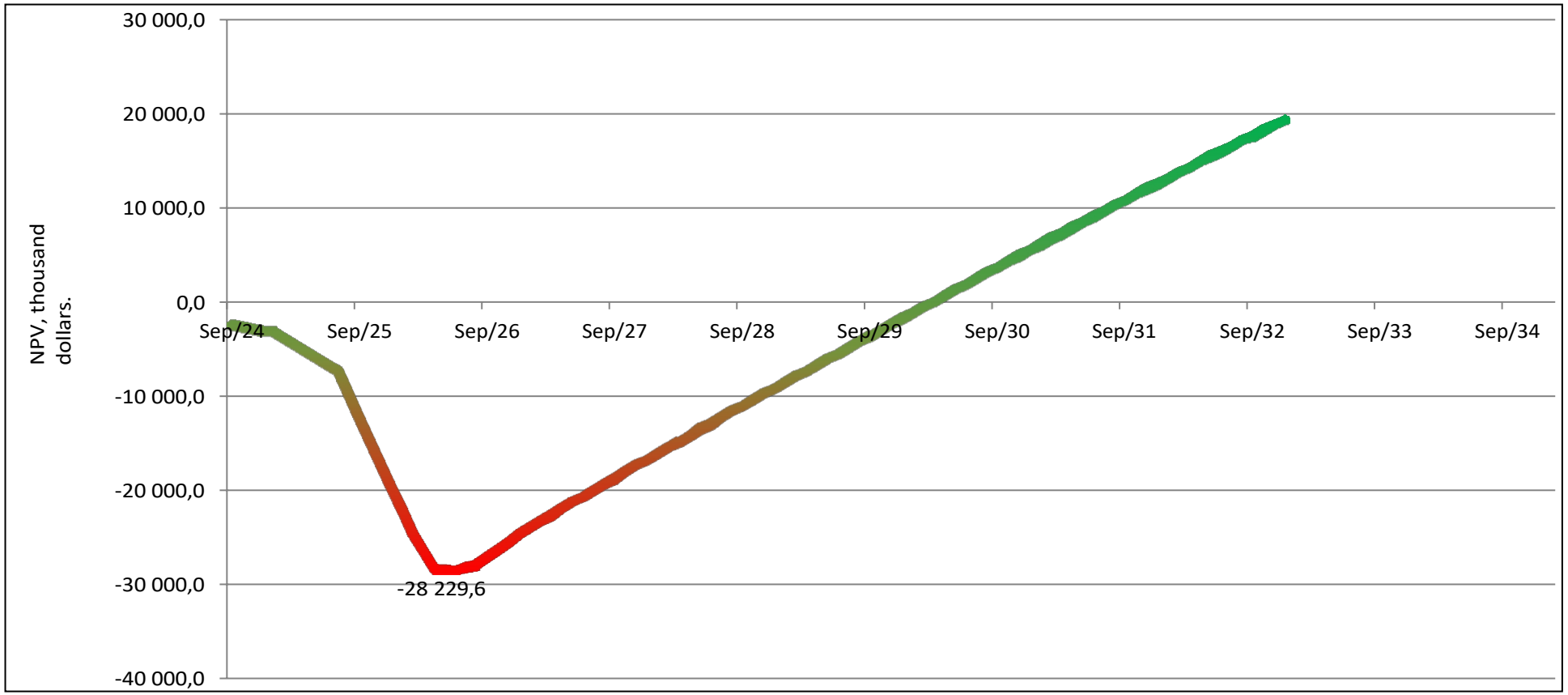
Table 22. Indicators of investment efficiency

Investment performance indicators	
Calculation period (planning horizon), months.	100
Net income (NV), thousand dollars	32 245,0
Net discounted income (NPV), thousand dollars	19 323,0
Internal rate of return (IRR), % per year	26%
Profitability index (PI), units.	1,64
Payback period (PB), months.	61,3
Discounted payback period (DPB), months.	66,8
Investments in the project, thousand dollars	29 982,4
Average return on sales for the project, %	51%
Net profit (cumulative), thousand dollars	45 491,2
Discount rate, %	5,40%

Source: Global Innovation Trade analysis and calculations

According to the study, it is clear that the project is profitable. It will pay for itself in 5.11 years after the start of production. The payback period with discounting will be 5.57 years from the start of production. The graph below shows the NPV of the project:

Figure 14. Graph NPV of the project



Source: Global Innovation Trade analysis and calculations

On the NPV graph we see the increase in the net present value of the project by years of its implementation.

Net cash flow NPV of $19,323.0 thousand at the end of the period shows the amount of cash that the investor will receive from the project after cash inflows recoup its initial investment costs and periodic cash outflows associated with the project, taking into account the time value of money and project risks.

The internal rate of return was 26%, which is significantly higher than the discount rate (5.4%) and is an excellent indicator for similar projects.

PI indicator equal to 1.64 units means that at the end of 2025 for each dollar invested, the investor will receive $ 0.019 (taking into account discounting).

7. PROJECT RISK ANALYSIS

7.1. Quantitative risk analysis

The table shows the sensitivity of the project to changes in external market conditions:

Table 23. Sensitivity analysis of the project

Indicator	NPV, thousand dollars.		IRR	
Base value	19 323,0		26%	
Deviations	Δ	%	Δ	%
Product price reduction by 5%	15638,96	-19,1%	23%	-11,0%
Decrease in production volume by 5%	16687,04	-13,6%	24%	-7,1%
Increase in variable costs by 5%	18274,94	-5,4%	25%	-3,2%
Increase in fixed costs by 5%	17939,64	-7,2%	24%	-7,1%

Continued

Indicator	PI, units.		PB, months.	
Base value	1,64		61,3	
Deviations	Δ	%	Δ	%
Product price reduction by 5%	1,52	-7,6%	64,5	-5,3%
Decrease in production volume by 5%	1,56	-5,1%	63,5	-3,6%
Increase in variable costs by 5%	1,61	-2,1%	62,1	-1,3%
Increase in fixed costs by 5%	1,57	-4,5%	63,0	-2,8%

Source: Financial model calculations

According to the results of the analysis, there is the greatest dependence of the project on the sales price and sales volumes, as well as on changes in costs. The highest sensitivity of the project is observed with a decrease in the price of finished products.

7.2. Qualitative risk analysis

During the development of the business plan a qualitative analysis of the possible risks of the project was carried out. The main possible risks of the project, the probability of their realization, the degree of danger and ways to reduce them are shown in the table:

Table 24. Main risks of the project

Risk	Probability and degree of danger. Manifestations adverse effects	Risk leveling tools
Production risks		
Breakdowns Process equipment failures	Probability: low Degree of danger: high Impact: production stoppage	Timely maintenance of equipment plant, spare parts availability
Lack of qualified personnel, lack of competent technologists/engineers	Probability: high Degree of danger: high Impact: disruption production cycle	Effective personnel policy, attractive motivation system
Disruption of deliveries to the consumer due to logistics problems	Probability: medium Degree of danger: medium Impact: decrease in sales	Optimization supply chain optimization
Market risks		
Dumping competitors' prices	Probability: low Degree of danger: high Impact: decrease in profit companies	Cost reduction
Financial risks		
Delayed payments to customers	Probability: medium Degree of danger: medium Impact: Shortage turnover company resource	Tracking payment schedule for delivered products, control upholding commitments
Shortage of working capital in the investment phase of the company	Probability: low Degree of danger: medium Impact: "freezing" the project	Planning of expenditures and cash receipts in the investment phase of the project

Source: Global Innovation Trade analysis

In general, we can say that the project does not have any extraordinary risks. The low cost of cement production, which is formed at the expense of our own.

The extraction of the main raw materials used in the production process significantly levels out all the major risks of the project.

7.3. Project break-even point

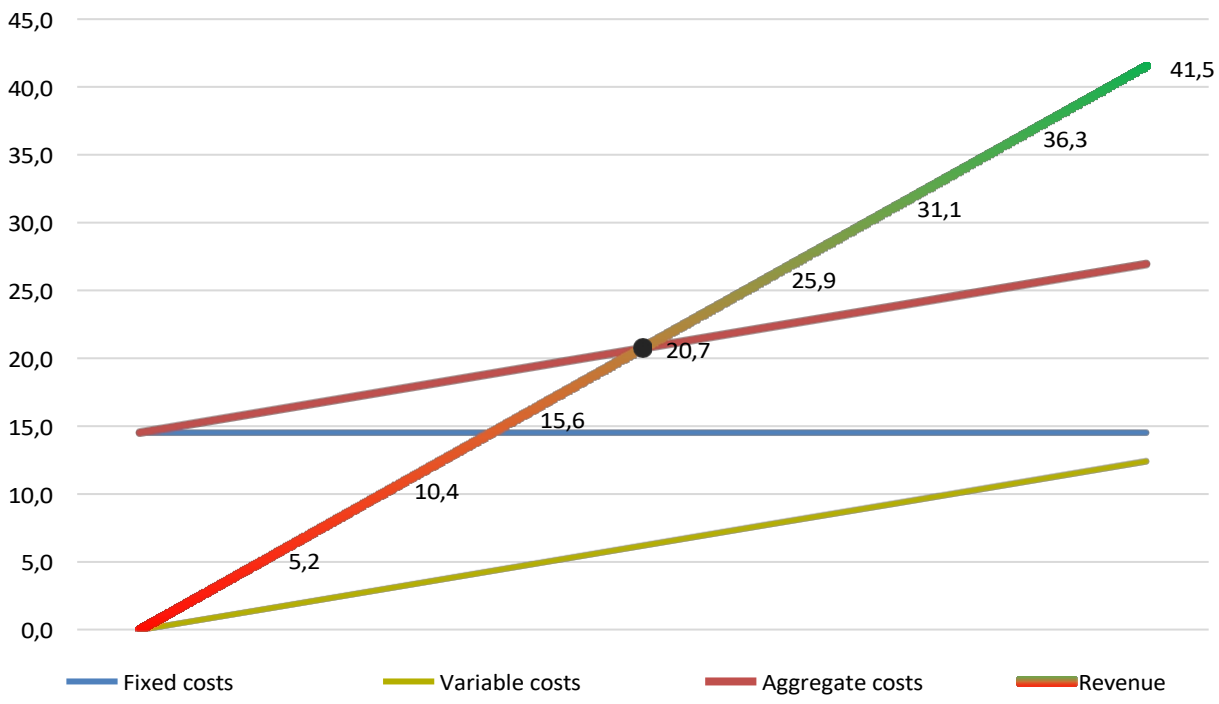
The break-even point determines what the volume of sales should be in order for the company to work on a break-even basis, to cover all its costs without making a profit. To calculate the break-even point, we have to divide the costs into two components:

Variable costs - increasing in proportion to the increase in production (volume of services).

Fixed costs - does not depend on the number of services rendered (goods sold) and whether the volume of operations is increasing or decreasing.

For this company, the break-even point graph will look as follows (figure below):

Figure 15. Break-even point chart (thousands of dollars)



Source: Global Innovation Trade analysis and calculations

The break-even point is of great importance in the stability of the company and its solvency. Thus, the degree to which sales volume exceeds the break-even point determines the financial strength (margin of safety) of the company.

The break-even point chart shows that the company must sell cement for at least 20.7 thousand dollars a month to make a profit on sales (which is just over 1% of the maximum load).

8. APPLICATIONS

8.1. Cash flow statement by month (thousands of dollars)

Table 25 Statement of Cash Flows by Month (thousands of dollars)

	Jan.24	Feb.24	mar.24	Apr.24	May.24	Jun.24	July 24.	Aug. 24	sen.24	Oct. 24	Nov.24	Dec. 24
INVESTMENT CASH FLOW (ICEF)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**-2 402,0**	**-234,4**	**-234,4**	**-234,4**
Capital expenditures	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	2 402,0	234,4	234,4	234,4
OPERATING CASH FLOW (OPF)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Revenue total	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Expenses total	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Variable costs	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*
Fixed costs	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*
Accrued taxes and payments	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Payments of interest on the loan	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Accrued interest on the loan before production starts (paid within the first 2 months from the start of production)	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	13,0	14,0	15,0
FINANCIAL CASH FLOW (FDP)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**2 402,0**	**234,4**	**234,4**	**234,4**
Own funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Borrowed funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	2 402,0	234,4	234,4	234,4
Tax refunds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Payment of the body of the debt	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Net cash flow (NFC)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**-2 402,0**	**-234,4**	**-234,4**	**-234,4**
Cumulative NPD	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**-2 402,0**	**-2 636,4**	**-2 870,8**	**-3 105,2**

	Jan.24	Feb.24	mar.24	Apr.24	May.24	Jun.24	July 24	Aug. 24	sen.24	Oct. 24	Nov.24	Dec. 24
Cash balance at the beginning of the period	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Cash balance at the end of the period	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Net discounted income (NPV)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**-2 402,0**	**-233,3**	**-232,3**	**-231,3**
NPV on an accrual basis	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**-2 402,0**	**-2 635,4**	**-2 867,7**	**-3 099,0**

	Jan.25	fev.25	mar.25	Apr. 25	May.25	Jun 25	July 25	Aug. 25	sen.25	Oct. 25	Nov. 25	Dec. 25
INVESTMENT CASH FLOW (ICEF)	**0,0**	**-727,0**	**-727,0**	**-727,0**	**-727,0**	**-727,0**	**-727,0**	**-2 602,0**	**-2 602,0**	**-2 602,0**	**-2 602,0**	**-2 602,0**
Capital expenditures	0,0	727,0	727,0	727,0	727,0	727,0	727,0	2 602,0	2 602,0	2 602,0	2 602,0	2 602,0
OPERATING CASH FLOW (OPF)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Revenue total	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Expenses total	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Variable costs	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*
Fixed costs	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*
Accrued taxes and payments	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Payments of interest on the loan	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Accrued interest on the loan before the start of production (paid within the first 2 months from the start of production)	14,9	18,1	21,4	24,5	27,6	30,6	33,5	44,7	55,6	66,2	76,6	86,7
FINANCIAL CASH FLOW (FDP)	**0,0**	**727,0**	**727,0**	**727,0**	**727,0**	**727,0**	**727,0**	**2 602,0**	**2 602,0**	**2 602,0**	**2 602,0**	**2 602,0**
Own funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Borrowed funds	0,0	727,0	727,0	727,0	727,0	727,0	727,0	2 602,0	2 602,0	2 602,0	2 602,0	2 602,0
Tax refunds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Payment of the body of the debt	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Net cash flow (NFC)	**0,0**	**-727,0**	**-727,0**	**-727,0**	**-727,0**	**-727,0**	**-727,0**	**-2 602,0**	**-2 602,0**	**-2 602,0**	**-2 602,0**	**-2 602,0**

	Jan.25	fev.25	mar.25	Apr. 25	May.25	Jun 25	July 25	Aug. 25	sen.25	Oct. 25	Nov. 25	Dec. 25
Cumulative NPD	**-3 105,2**	**-3 832,1**	**-4 559,1**	**-5 286,1**	**-6 013,1**	**-6 740,1**	**-7 467,1**	**-10 069,1**	**-12 671,1**	**-15 273,0**	**-17 875,0**	**-20 477,0**
Cash balance at the beginning of the period	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Cash balance at the end of the period	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Net discounted income (NPV)	**0,0**	**-711,2**	**-708,1**	**-705,0**	**-701,9**	**-698,9**	**-695,8**	**-2 479,5**	**-2 468,7**	**-2 457,9**	**-2 447,1**	**-2 436,4**
NPV on an accrual basis	**-3 099,0**	**-3 810,3**	**-4 518,4**	**-5 223,4**	**-5 925,4**	**-6 624,2**	**-7 320,1**	**-9 799,6**	**-12 268,2**	**-14 726,1**	**-17 173,2**	**-19 609,7**

	Jan.26	Feb.26	mar.26	Apr.26	May.26	Jun 26	July 26.	Aug 26	sen.26	Oct. 26	Nov. 26	Dec. 26
INVESTMENT CASH FLOW (ICEF)	**-2 602,0**	**-2 602,0**	**-2 049,1**	**-2 049,1**	**0,0**	**-203,3**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Capital expenditures	2 602,0	2 602,0	2 049,1	2 049,1	0,0	203,3	0,0	0,0	0,0	0,0	0,0	0,0
OPERATING CASH FLOW (OPF)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**-4,3**	**322,4**	**324,0**	**919,5**	**933,9**	**935,5**	**862,8**
Revenue total	0,0	0,0	0,0	0,0	0,0	0,0	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8
Expenses total	0,0	0,0	0,0	0,0	0,0	0,0	470,8	470,8	470,8	470,8	470,8	470,8
Variable costs	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*
Fixed costs	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*
Accrued taxes and payments	0,0	0,0	0,0	0,0	0,0	4,3	8,0	8,0	20,8	8,0	8,0	82,4
Payments of interest on the loan	0,0	0,0	0,0	0,0	0,0	0,0	722,6	721,0	112,7	111,1	109,5	107,8
Accrued interest on the loan before the start of production (paid within the first 2 months from the start of production)	96,5	106,0	113,1	119,9	118,3	117,5	0,0	0,0	0,0	0,0	0,0	0,0
FINANCIAL CASH FLOW (FDP)	**2 602,0**	**2 602,0**	**2 049,1**	**2 049,1**	**0,0**	**203,3**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Own funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Borrowed funds	2 602,0	2 602,0	2 049,1	2 049,1	0,0	203,3	0,0	0,0	0,0	0,0	0,0	0,0

	Jan.26	Feb.26	mar.26	Apr.26	May.26	Jun 26	July 26.	Aug 26	sen.26	Oct. 26	Nov. 26	Dec. 26
Tax refunds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Payment of the body of the debt	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Net cash flow (NFC)	**-2 602,0**	**-2 602,0**	**-2 049,1**	**-2 049,1**	**0,0**	**-207,6**	**322,4**	**324,0**	**919,5**	**933,9**	**935,5**	**862,8**
Cumulative NPD	**-23 079,0**	**-25 681,0**	**-27 730,0**	**-29 779,1**	**-29 779,1**	**-29 986,7**	**-29 664,3**	**-29 340,4**	**-28 420,8**	**-27 486,9**	**-26 551,4**	**-25 688,6**
Cash balance at the beginning of the period	0,0	0,0	0,0	0,0	0,0	0,0	-4,3	318,1	642,1	1 561,6	2 495,5	3 431,1
Cash balance at the end of the period	0,0	0,0	0,0	0,0	0,0	-4,3	318,1	642,1	1 561,6	2 495,5	3 431,1	4 293,8
Net discounted income (NPV)	**-2 425,8**	**-2 415,2**	**-1 893,7**	**-1 885,4**	**0,0**	**-189,3**	**292,7**	**292,9**	**827,7**	**837,0**	**834,8**	**766,5**
NPV on an accrual basis	**-22 035,4**	**-24 450,6**	**-26 344,2**	**-28 229,6**	**-28 229,6**	**-28 418,9**	**-28 126,2**	**-27 833,3**	**-27 005,6**	**-26 168,6**	**-25 333,8**	**-24 567,3**

	Jan.27	fev.27	mar.27	Apr.27	May.27	Jun.27	July 27.	Aug. 27	sen.27	Oct. 27	Nov.27	Dec. 27
INVESTMENT CASH FLOW (ICEF)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Capital expenditures	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
OPERATING CASH FLOW (OPF)	**822,8**	**824,5**	**645,4**	**827,8**	**829,5**	**586,2**	**832,8**	**834,5**	**591,3**	**837,9**	**839,7**	**596,5**
Revenue total	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8
Expenses total	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8
Variable costs	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*
Fixed costs	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*
Accrued taxes and payments	124,0	124,0	304,8	124,0	124,0	369,0	124,0	124,0	368,9	124,0	124,0	368,9
Payments of interest on the loan	106,2	104,6	102,9	101,2	99,6	97,9	96,2	94,5	92,8	91,1	89,3	87,6
Accrued interest on the loan before production starts (paid within the first 2 months from the start of production)	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

	Jan.27	fev.27	mar.27	Apr.27	May.27	Jun.27	July 27.	Aug. 27	sen.27	Oct. 27	Nov.27	Dec. 27
FINANCIAL CASH FLOW (FDP)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Own funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Borrowed funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Tax refunds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Payment of the body of the debt	576,8	429,7	431,9	434,0	436,2	438,4	440,6	442,8	445,0	447,2	449,5	451,7
Net cash flow (NFC)	**822,8**	**824,5**	**645,4**	**827,8**	**829,5**	**586,2**	**832,8**	**834,5**	**591,3**	**837,9**	**839,7**	**596,5**
Cumulative NPD	**-24 865,8**	**-24 041,3**	**-23 396,0**	**-22 568,2**	**-21 738,8**	**-21 152,6**	**-20 319,8**	**-19 485,2**	**-18 893,9**	**-18 056,0**	**-17 216,3**	**-16 619,8**
Cash balance at the beginning of the period	4 293,8	4 539,9	4 934,6	5 148,1	5 541,8	5 935,1	6 082,8	6 475,1	6 866,8	7 013,1	7 403,8	7 794,0
Cash balance at the end of the period	4 539,9	4 934,6	5 148,1	5 541,8	5 935,1	6 082,8	6 475,1	6 866,8	7 013,1	7 403,8	7 794,0	7 938,9
Net discounted income (NPV)	**727,8**	**726,1**	**565,9**	**722,6**	**720,9**	**507,2**	**717,5**	**715,8**	**505,0**	**712,5**	**710,9**	**502,8**
NPV on an accrual basis	**-23 839,5**	**-23 113,5**	**-22 547,6**	**-21 825,0**	**-21 104,1**	**-20 596,8**	**-19 879,3**	**-19 163,5**	**-18 658,5**	**-17 946,0**	**-17 235,1**	**-16 732,3**

	Jan.28	Feb.28	mar.28	Apr.28	May.28	Jun.28	July 28.	Aug.28	sen.28	Oct. 28	Nov.28	Dec. 28
INVESTMENT CASH FLOW (ICEF)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Capital expenditures	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
OPERATING CASH FLOW (OPF)	**843,1**	**844,9**	**601,8**	**848,4**	**850,2**	**607,2**	**853,8**	**855,6**	**612,7**	**859,2**	**861,0**	**618,2**
Revenue total	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8
Expenses total	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8
Variable costs	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*
Fixed costs	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*
Accrued taxes and payments	124,0	124,0	368,8	124,0	124,0	368,7	124,0	124,0	368,7	124,0	124,0	368,6

	Jan.28	Feb.28	mar.28	Apr.28	May.28	Jun.28	July 28.	Aug.28	sen.28	Oct. 28	Nov.28	Dec. 28
Payments of interest on the loan	85,9	84,1	82,4	80,6	78,8	77,0	75,2	73,4	71,6	69,8	68,0	66,1
Accrued interest on the loan before production starts (paid within the first 2 months from the start of production)	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
FINANCIAL CASH FLOW (FDP)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Own funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Borrowed funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Tax refunds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Payment of the body of the debt	454,0	456,2	458,5	460,8	463,1	465,4	467,8	470,1	472,4	474,8	477,2	479,6
Net cash flow (NFC)	**843,1**	**844,9**	**601,8**	**848,4**	**850,2**	**607,2**	**853,8**	**855,6**	**612,7**	**859,2**	**861,0**	**618,2**
Cumulative NPD	**-15 776,6**	**-14 931,7**	**-14 329,9**	**-13 481,5**	**-12 631,3**	**-12 024,0**	**-11 170,3**	**-10 314,7**	**-9 702,0**	**-8 842,8**	**-7 981,8**	**-7 363,5**
Cash balance at the beginning of the period	7 938,9	8 328,1	8 716,7	8 860,0	9 247,6	9 634,7	9 776,5	10 162,5	10 548,0	10 688,3	11 072,7	11 456,5
Cash balance at the end of the period	8 328,1	8 716,7	8 860,0	9 247,6	9 634,7	9 776,5	10 162,5	10 548,0	10 688,3	11 072,7	11 456,5	11 595,2
Net discounted income (NPV)	**707,6**	**705,9**	**500,7**	**702,7**	**701,1**	**498,5**	**697,9**	**696,3**	**496,5**	**693,2**	**691,6**	**494,4**
NPV on an accrual basis	**-16 024,7**	**-15 318,8**	**-14 818,1**	**-14 115,4**	**-13 414,4**	**-12 915,8**	**-12 217,9**	**-11 521,6**	**-11 025,2**	**-10 332,0**	**-9 640,4**	**-9 146,0**

	Jan.29	fev.29	mar.29	Apr.29	May.29	June 29	July 29.	Aug. 29	sen.29	Oct. 29	Nov. 29	Dec. 29
INVESTMENT CASH FLOW (ICEF)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Capital expenditures	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
OPERATING CASH FLOW (OPF)	**864,7**	**866,6**	**623,9**	**870,3**	**872,2**	**629,6**	**876,0**	**877,9**	**635,4**	**881,8**	**883,7**	**641,3**
Revenue total	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8
Expenses total	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8

	Jan.29	fev.29	mar.29	Apr.29	May.29	June 29	July 29.	Aug. 29	sen.29	Oct. 29	Nov. 29	Dec. 29
Variable costs	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*
Fixed costs	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*
Accrued taxes and payments	124,0	124,0	368,6	124,0	124,0	368,5	124,0	124,0	368,5	124,0	124,0	368,4
Payments of interest on the loan	64,3	62,4	60,6	58,7	56,8	54,9	53,0	51,1	49,2	47,2	45,3	43,3
Accrued interest on the loan before production starts (paid within the first 2 months from the start of production)	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
FINANCIAL CASH FLOW (FDP)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Own funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Borrowed funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Tax refunds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Payment of the body of the debt	482,0	484,4	486,8	489,2	491,7	494,1	496,6	499,1	501,6	504,1	506,6	509,1
Net cash flow (NFC)	**864,7**	**866,6**	**623,9**	**870,3**	**872,2**	**629,6**	**876,0**	**877,9**	**635,4**	**881,8**	**883,7**	**641,3**
Cumulative NPD	**-6 498,8**	**-5 632,2**	**-5 008,3**	**-4 138,0**	**-3 265,8**	**-2 636,2**	**-1 760,2**	**-882,2**	**-246,8**	**634,9**	**1 518,7**	**2 159,9**
Cash balance at the beginning of the period	11 595,2	11 978,0	12 360,2	12 497,3	12 878,3	13 258,9	13 394,3	13 773,7	14 152,6	14 286,4	14 664,1	15 041,2
Cash balance at the end of the period	11 978,0	12 360,2	12 497,3	12 878,3	13 258,9	13 394,3	13 773,7	14 152,6	14 286,4	14 664,1	15 041,2	15 173,3
Net discounted income (NPV)	**688,5**	**687,0**	**492,4**	**683,9**	**682,4**	**490,4**	**679,4**	**677,9**	**488,5**	**674,9**	**673,5**	**486,6**
NPV on an accrual basis	**-8 457,5**	**-7 770,5**	**-7 278,1**	**-6 594,2**	**-5 911,8**	**-5 421,4**	**-4 742,0**	**-4 064,1**	**-3 575,7**	**-2 900,7**	**-2 227,3**	**-1 740,7**

	Jan.30	fev.30	mar.30	Apr.30	May.30	Jun 30	July 30	Aug 30	sen.30	Oct. 30	Nov. 30	Dec. 30
INVESTMENT CASH FLOW (ICEF)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Capital expenditures	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
OPERATING CASH FLOW (OPF)	**887,6**	**889,6**	**647,3**	**893,6**	**895,6**	**653,3**	**899,6**	**901,7**	**659,5**	**905,7**	**907,8**	**665,7**

	Jan.30	Feb.30	mar.30	Apr. 30	May.30	Jun 30	July 30	Aug 30	sen.30	Oct. 30	Nov. 30	Dec. 30
Revenue total	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8
Expenses total	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8
Variable costs	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*
Fixed costs	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*
Accrued taxes and payments	124,0	124,0	368,3	124,0	124,0	368,3	124,0	124,0	368,2	124,0	124,0	368,2
Payments of interest on the loan	41,4	39,4	37,4	35,4	33,4	31,4	29,4	27,4	25,3	23,3	21,2	19,1
Accrued interest on the loan before production starts (paid within the first 2 months from the start of production)	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
FINANCIAL CASH FLOW (FDP)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Own funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Borrowed funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Tax refunds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Payment of the body of the debt	511,7	514,3	516,8	519,4	522,0	524,6	527,2	529,9	532,5	535,2	537,9	540,6
Net cash flow (NFC)	**887,6**	**889,6**	**647,3**	**893,6**	**895,6**	**653,3**	**899,6**	**901,7**	**659,5**	**905,7**	**907,8**	**665,7**
Cumulative NPD	**3 047,6**	**3 937,2**	**4 584,5**	**5 478,0**	**6 373,6**	**7 026,9**	**7 926,6**	**8 828,2**	**9 487,7**	**10 393,4**	**11 301,3**	**11 967,0**
Cash balance at the beginning of the period	15 173,3	15 549,3	15 924,6	16 055,1	16 429,2	16 802,8	16 931,5	17 303,9	17 675,7	17 802,6	18 173,2	18 543,2
Cash balance at the end of the period	15 549,3	15 924,6	16 055,1	16 429,2	16 802,8	16 931,5	17 303,9	17 675,7	17 802,6	18 173,2	18 543,2	18 668,3
Net discounted income (NPV)	**670,5**	**669,1**	**484,7**	**666,2**	**664,8**	**482,8**	**661,9**	**660,5**	**481,0**	**657,8**	**656,4**	**479,2**
NPV on an accrual basis	**-1 070,2**	**-401,1**	**83,6**	**749,8**	**1 414,6**	**1 897,4**	**2 559,3**	**3 219,9**	**3 700,9**	**4 358,6**	**5 015,0**	**5 494,2**

	Jan.31	Feb.31	mar.31	Apr.31	May.31	Jun.31	July 31	Aug. 31	sen.31	Oct.31	Nov.31	Dec. 31
INVESTMENT CASH FLOW (ICEF)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Capital expenditures	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
OPERATING CASH FLOW (OPF)	**912,0**	**914,1**	**672,1**	**918,3**	**920,4**	**678,5**	**924,7**	**926,8**	**685,0**	**929,0**	**929,0**	**685,1**
Revenue total	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8
Expenses total	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8
Variable costs	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*
Fixed costs	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*
Accrued taxes and payments	124,0	124,0	368,1	124,0	124,0	368,1	124,0	124,0	368,0	124,0	124,0	367,9
Payments of interest on the loan	17,0	15,0	12,8	10,7	8,6	6,5	4,3	2,2	0,0	0,0	0,0	0,0
Accrued interest on the loan before production starts (paid within the first 2 months from the start of production)	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
FINANCIAL CASH FLOW (FDP)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Own funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Borrowed funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Tax refunds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Payment of the body of the debt	543,3	546,0	548,7	551,4	554,2	557,0	559,8	562,6	565,4	568,2	571,0	573,9
Net cash flow (NFC)	**912,0**	**914,1**	**672,1**	**918,3**	**920,4**	**678,5**	**924,7**	**926,8**	**685,0**	**929,0**	**929,0**	**685,1**
Cumulative NPD	**12 879,0**	**13 793,0**	**14 465,1**	**15 383,4**	**16 303,8**	**16 982,3**	**17 906,9**	**18 833,8**	**19 518,8**	**20 447,8**	**21 376,9**	**22 061,9**
Cash balance at the beginning of the period	18 668,3	19 037,0	19 405,1	19 528,5	19 895,3	20 261,5	20 383,1	20 748,0	21 112,3	21 231,9	21 592,8	21 950,7
Cash balance at the end of the period	19 037,0	19 405,1	19 528,5	19 895,3	20 261,5	20 383,1	20 748,0	21 112,3	21 231,9	21 592,8	21 950,7	22 061,9
Net discounted income (NPV)	**653,6**	**652,3**	**477,5**	**649,5**	**648,2**	**475,7**	**645,5**	**644,2**	**474,0**	**640,1**	**637,3**	**467,9**
NPV on an accrual basis	**6 147,8**	**6 800,1**	**7 277,6**	**7 927,1**	**8 575,3**	**9 051,0**	**9 696,6**	**10 340,8**	**10 814,8**	**11 454,9**	**12 092,2**	**12 560,1**

	Jan.32	fev.32	mar.32	Apr.32	May.32	Jun.32	July 32	Aug.32	sen.32	Oct. 32	Nov.32	Dec. 32
INVESTMENT CASH FLOW (ICEF)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Capital expenditures	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
OPERATING CASH FLOW (OPF)	**929,0**	**929,0**	**685,1**	**929,0**	**929,0**	**685,2**	**929,0**	**929,0**	**685,3**	**929,0**	**929,0**	**695,4**
Revenue total	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8	1 523,8
Expenses total	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8	470,8
Variable costs	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*	*456,2*
Fixed costs	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*	*14,5*
Accrued taxes and payments	124,0	124,0	367,9	124,0	124,0	367,8	124,0	124,0	367,8	124,0	124,0	357,6
Payments of interest on the loan	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Accrued interest on the loan before production starts (paid within the first 2 months from the start of production)	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
FINANCIAL CASH FLOW (FDP)	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**0,0**
Own funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Borrowed funds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Tax refunds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Payment of the body of the debt	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Net cash flow (NFC)	**929,0**	**929,0**	**685,1**	**929,0**	**929,0**	**685,2**	**929,0**	**929,0**	**685,3**	**929,0**	**929,0**	**695,4**
Cumulative NPD	**22 991,0**	**23 920,0**	**24 605,1**	**25 534,1**	**26 463,1**	**27 148,3**	**28 077,4**	**29 006,4**	**29 691,6**	**30 620,6**	**31 549,7**	**32 245,0**
Cash balance at the beginning of the period	22 061,9	22 991,0	23 920,0	24 605,1	25 534,1	26 463,1	27 148,3	28 077,4	29 006,4	29 691,6	30 620,6	31 549,7
Cash balance at the end of the period	22 991,0	23 920,0	24 605,1	25 534,1	26 463,1	27 148,3	28 077,4	29 006,4	29 691,6	30 620,6	31 549,7	32 245,0
Net discounted income (NPV)	**631,7**	**629,0**	**461,8**	**623,5**	**620,7**	**455,8**	**615,3**	**612,6**	**449,9**	**607,3**	**604,6**	**450,6**
NPV on an accrual basis	**13 191,8**	**13 820,8**	**14 282,6**	**14 906,1**	**15 526,8**	**15 982,6**	**16 598,0**	**17 210,6**	**17 660,5**	**18 267,8**	**18 872,4**	**19 323,0**

Information about the performer of the project

Business plan "Opening of clinker production" was made by the research agency "**Global Innovation Trade**". All our specialists have impressive experience in developing business plans, supported by deep knowledge in various areas of economics and business, the presence of a strong information base, knowledge of the most advanced approaches to business organization, knowledge of the latest methods of calculation and their competent adaptation to the specifics of the region or a particular industry.

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