GLOBAL
INNOVATION TRADE

Business plan

Construction of a dairy complex for 1,000 dairy cows in the Kamashi district

June, 2023.

1. Table of contents

2. Appendixes (diagrams, charts, drawings)

3. Appendixes (tables)

4. Methodological comments on the business plan

This business plan is a blueprint for the implementation of business operations, actions of the firm, containing information about the firm, the product, its production, markets, marketing, organization of operations and their effectiveness.

The planning period is 2024-2048.

The object and subject of research and business planning

The object of the study is the construction of a dairy complex for 1,000 dairy cows in Kamashinsky district.

The subject of the study is the industry of raw milk production.

Goals and objectives of the business plan

The purpose of business planning: to assess the cost-effectiveness and feasibility of building a dairy complex for 1,000 dairy cows 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;
- Evaluation of the volume, capacity and structure of the market;
- Analysis of consumers and main competitors;
- Assessment of trends and prospects of market development;

Sources of information

- 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);

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.

Scope of analysis

The business plan was prepared on the basis of information obtained from publicly available sources.

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 suffered by a third party as a result of the use of the information in this business plan.

5. PROJECT SUMMARY

This business plan calculates project construction dairy complex at 5,000 milking cows in the Kamashi district.

The idea of the project is to create the largest modern dairy cattle-breeding complex in Uzbekistan for 1 000 dairy herds of Holstein-Friesian breed. The main activity - the production of raw milk in the amount of 9 000 tons per year, with 100% implementation of the project. Produced raw milk will fully comply with GOST R 52054-2003 "Natural raw milk".

The strategic goal of the company is to create a dairy complex with its own raw material base for feed production, herd reproduction, processing of raw materials.

The investment project is fully consistent with the priorities of the state investment policy of the region, which are defined in accordance with the priority areas established in the strategy for socio-economic development of Kashkadarya region and, in particular, the Kamashi district.

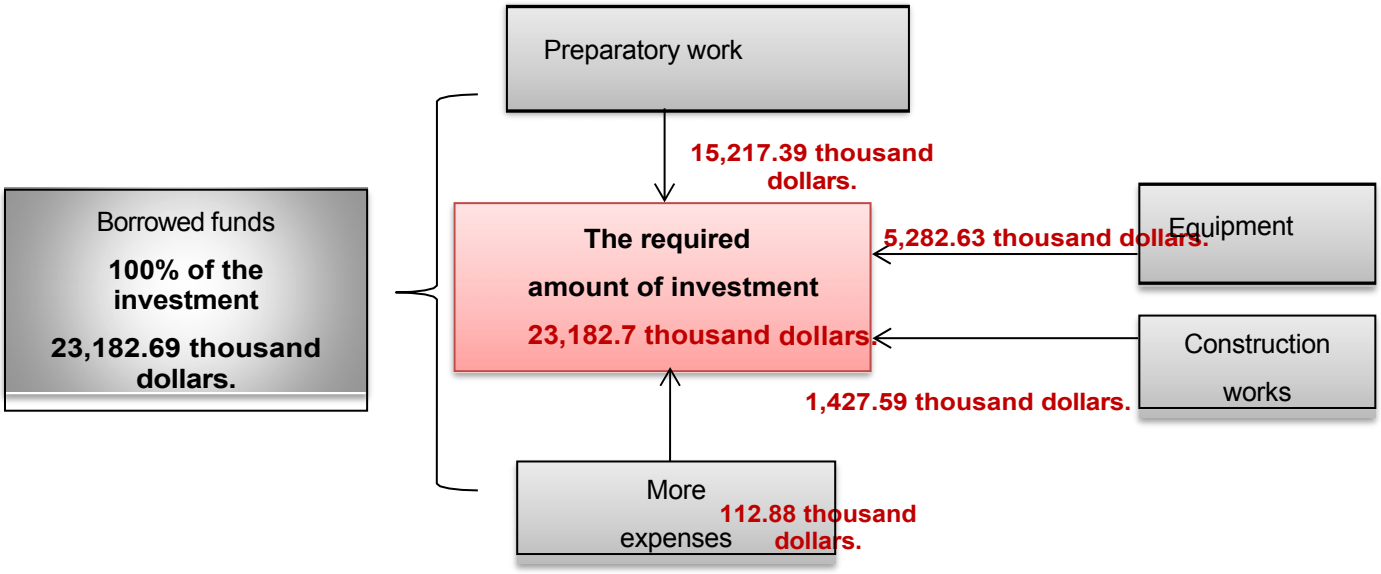
After the implementation of this investment project, it is expected to improve the infrastructure of Kamashi district in Kashkadarya region, through the construction of a road from the settlement to the dairy complex, the construction of bus stops, the launch of shuttle buses to the complex.

Investments

The volume of investment in the implementation of the project is **23 182.7 thousand dollars**. Payback period of the project under consideration is 23 years 4 months, taking into account discounting.

Below is the structure of the required amount of investment.

Figure 1 Required amount of investment



Source: Global Innovation Trade calculations

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

Table 1 Project implementation schedule

Project Stage	Beginning of work	Duration, days	End of job
Rationale for the effectiveness of the project	01.08.2024	31	01.09.2024
Permit registration documents	01.09.2024	91	01.12.2024
Designing a dairy complex	01.09.2024	122	01.01.2025
Construction of 1 farm for 100 cows	01.03.2025	365	01.03.2026
Construction of a calf barn for 48 cows	01.03.2026	306	01.01.2027
Construction of a storage facility for manure management	01.03.2026	366	01.03.2027
Construction of silage trenches	01.03.2026	2192	01.03.2032
Land development of 600 hectares (under feed base)	01.01.2025	1095	31.12.2027
Purchase and installation of equipment	01.11.2025	486	01.03.2027
Purchase of 100 head of cattle	01.01.2027	30	31.01.2027
Construction of two farms for 200 cows	01.03.2027	365	01.03.2028
Construction of 2 calf houses for 120 heads	01.03.2027	365	01.03.2028
Land development of 900 hectares (under feed base)	01.01.2028	729	31.12.2029

Project Stage	Beginning of work	Duration, days	End of job
Purchase and installation of equipment	01.04.2027	365	01.04.2028
Purchase of 120 head of cattle	01.01.2029	30	31.01.2029
Construction of 3 farms for 300 cows	01.03.2029	610	01.11.2030
Construction of 3 calves at 180 heads	01.03.2029	610	01.11.2030
Land development of 1,300 hectares (under feed base)	01.01.2030	730	31.12.2031
Purchase and installation of equipment	01.07.2030	153	01.12.2030
Purchase of 120 head of cattle	01.01.2031	30	31.01.2031
Construction of 4 farms for 400 cows	01.03.2031	883	01.08.2033
Construction of 2 calf houses for 120 heads	01.03.2031	883	01.08.2033
Land development of 1,700 hectares (under feed base)	01.01.2032	729	31.12.2033
Purchase and installation of equipment	01.05.2033	153	01.10.2033
Initial insemination and calf maturity	01.01.2027	274	01.10.2027
Start of milk sales	01.01.2027	91	01.04.2027

Source: Global Innovation Trade analysis and calculations

The main financial indicators of the project are presented in the table below.

Table 2 Key financial indicators

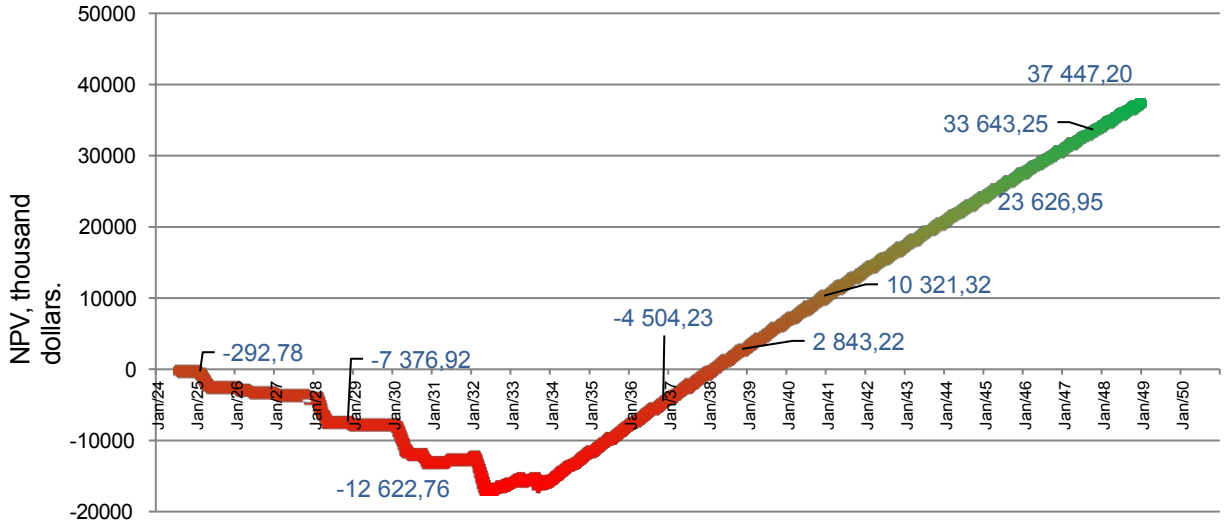
Indicator	Value
Calculation period (planning horizon), months.	300
Net income (NV), thousand dollars.	270,0
Net discounted income (NPV), thousand dollars.	37 447,2
Internal rate of return (IRR), % per year	13%
Profitability index (PI), units.	2,62
Payback period (PB), months.	158,9
Discounted payback period (DPB), months.	162,6
Investments in the project, thousand dollars.	23 182,7
Average return on sales for the project, %	61%
Net income (cumulative), thousand dollars.	64 741,0
Discount rate, %	14,61%
Return on investment (ROI), %	279,26%

Source: Global Innovation Trade calculations

*Definition of the concepts of financial performance is presented in section 7.11 of this business plan.

The figure below shows the NPV of the project by years of its implementation.

Figure 2 Graph NPV of the project



Source: Global Innovation Trade calculations

By according to research we can see, that the project pays off at 2048 year.

The net discounted income of the project at 2048 will be **$37,447.2 thousand.**

6. ESSENCE OF THE PROPOSED PROJECT

6.1 General description of the project and proposed to production

In the framework of this project in Kashkadarya region and, in particular, in Kamashi district it is planned to organize milk production with the introduction of advanced technologies and means of mechanization, reproduction of dairy cattle, construction of new barns with loose housing of cows and milking on robots VMS - "DeLaval", as well as construction of calf houses for growing repair heifers.

The main activity of the complex is the production of raw milk. As the main product of the project provides for the sale of raw milk in the amount of 9 000 tons per year, with 100% implementation of the project.

The aim of the project is to create and organize a modern dairy cattle-breeding complex in Kashkadarya region and, in particular, in Kamashi district for 1000 cows of Holstein-Friesian breed and to meet the demand of the population for the products offered.

The company's strategic goals are:

- Making a profit from the activities carried out;
- Creation of a vertically integrated holding;
- Creation of its own raw material base for the production of fodder;
- Herd reproduction;
- Processing of raw materials.

Produced raw milk will fully comply with GOST R 52054-2003 "Natural raw milk. It is planned to ensure it at the expense of its own control of milk production in the cattle breeding complex.

The planned annual production figures are:

- Milk - 9,000 tons;
- Sales of bulls and heifers - 665.0 tons in live weight.

6.2 Features of the project organization

The projected dairy complex for 1,000 dairy cows will be considered the largest in Uzbekistan.

The peculiarity of this project is also its implementation schedule. The project is divided into 4 phases, each with a duration of 2-3 years.

At the beginning of the project, 100 cattle will be purchased. In the future the herd will be increased to the planned number by young animals and additional purchase of cattle in the amount of 240 heads.

Even assuming that investment projects of this kind pay off long enough, the result of the implementation of this project in addition to profit will be:

- increasing raw milk production in Kamashi;
- increase in the number of dairy cows in Kamashi;
- creating jobs for the rural population;
- development of related sub-sectors of agriculture (feed production, milk processing and other auxiliary industries).

As a result of this project, the performance of the dairy industry in the Kamashi area will increase several times over in a positive trend.

6.3 Project Location

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

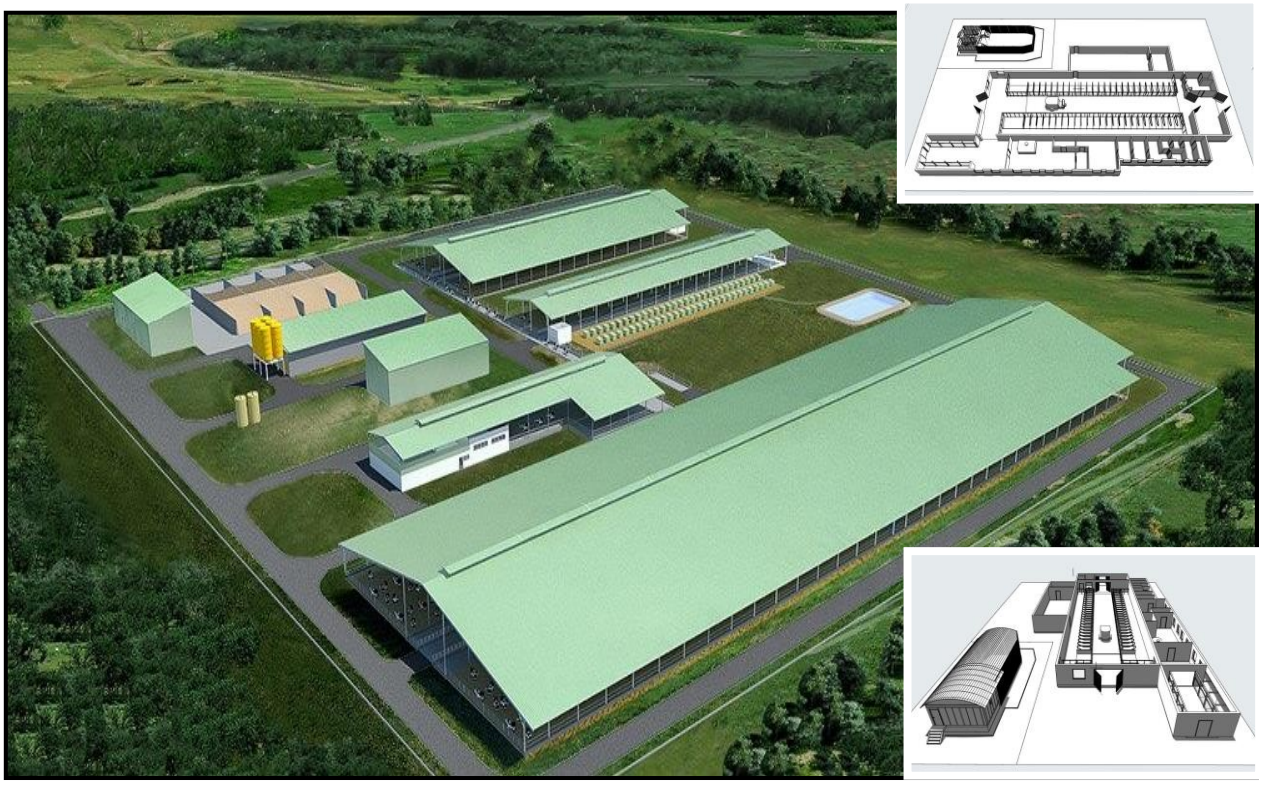
The population of the Kashkadarya region as of 2023 is 3.5 million people, and the population of the Kamashi district is 286,000.

Figure 3: Location on the map

Source: Yandex.map

Figure 4 Overview scheme of land plots in the area of Kamashi district

Source: Global Innovation Trade



Source: Global Innovation Trade

7. MARKETING PLAN
(analysis of the situation in the industry)

7.1 Milk market analysis

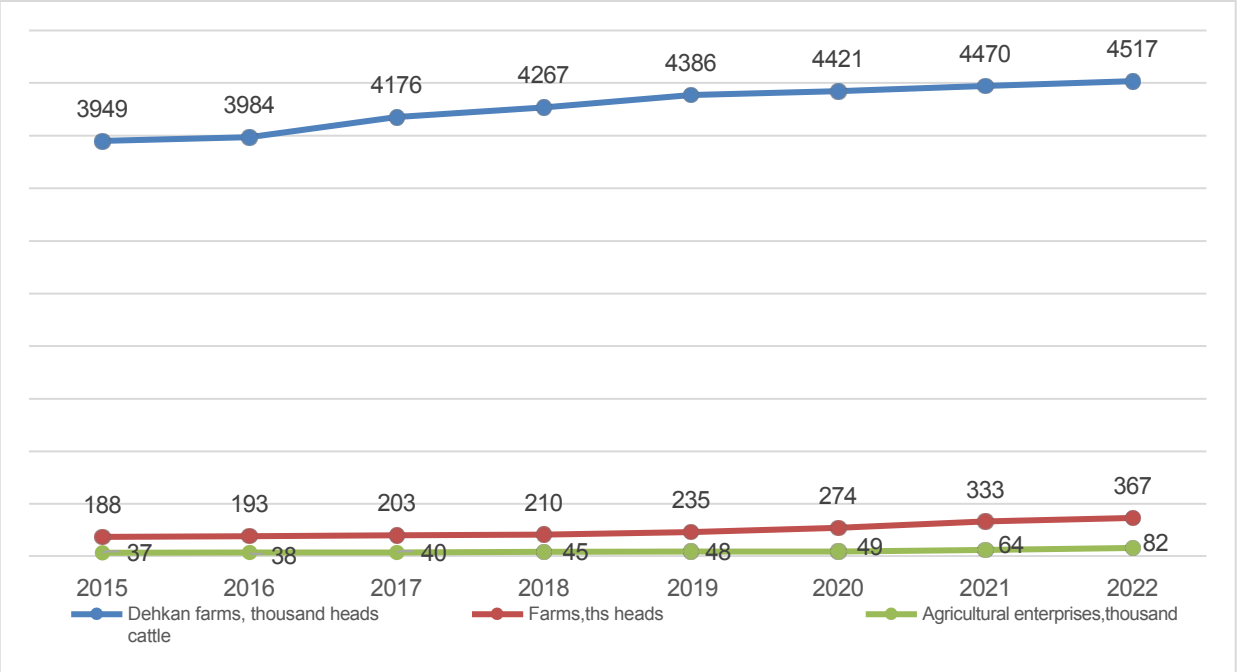
The Republic of Uzbekistan is the 56th largest country in the world by area (448,924 km²), 35,821 thousand people. - population as of October 1, 2022 (+549.7 thousand people +1.6% by 2022). 49.1% share of agricultural land

According to statistics from the State Committee of the Republic of Uzbekistan, the party GDP and independent party in 2022 amounted to 888.3 trillion soums, the true GDP and the real expression was 5.7%.

The share of agriculture, forestry and fisheries in the republic's GDP was 25,1%. Dairy cattle husbandry Uzbekistan

According to statistics from the State Committee of the Republic of Uzbekistan on January 1, 2023 there were 4.9 million heads of cattle (+2% or +99.6 thousand heads in 2021), of which 4.5 million heads in dehkan farms, 367 thousand heads contained in farms, 82 thousand heads - in agricultural enterprises.

Table 3 Population of cows in Uzbekistan

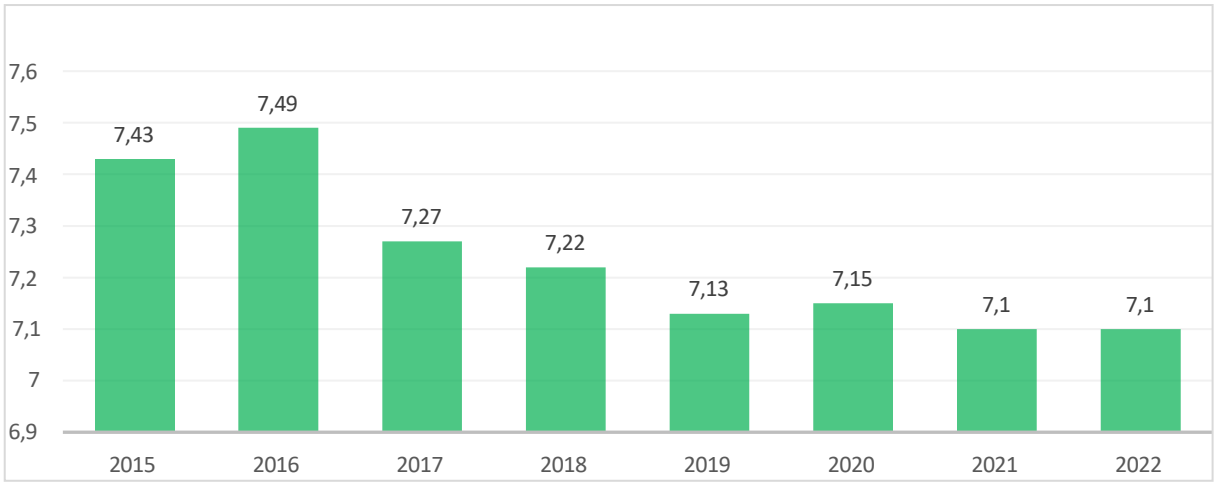


Source: Global Innovation Trade

In Uzbekistan, the non-commodity sector, dekhkan farms, dominates dairy cattle breeding, but farms and agricultural enterprises show high growth rates. The number of cows in dekhkan farms increased by 14.4% compared to 2015, the growth of cows in farms by 2022 compared to 2015 was 95.3%, in agricultural enterprises 122%.

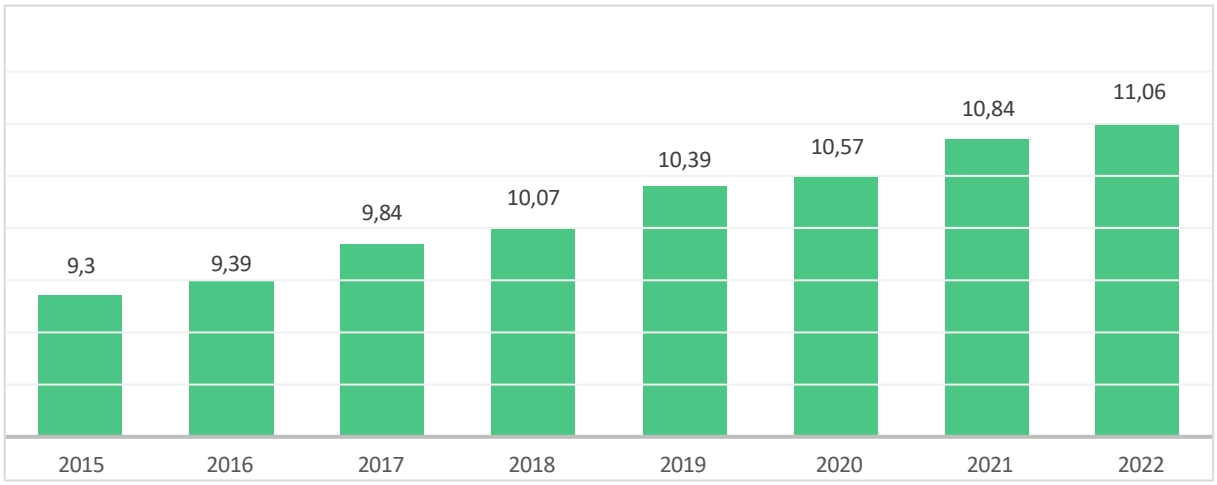
The number of cows per square kilometer in Uzbekistan in 2022 was 11 heads, in Russia by comparison this indicator is 0.3 heads. There are 7 people per cow in Uzbekistan and 31 people per cow in Russia. It is worth noting that in Uzbekistan, the population grew by an average of 2% per year in 2015-2022.

Table 4 Number of inhabitants per one roof, heads



Source: Global Innovation Trade

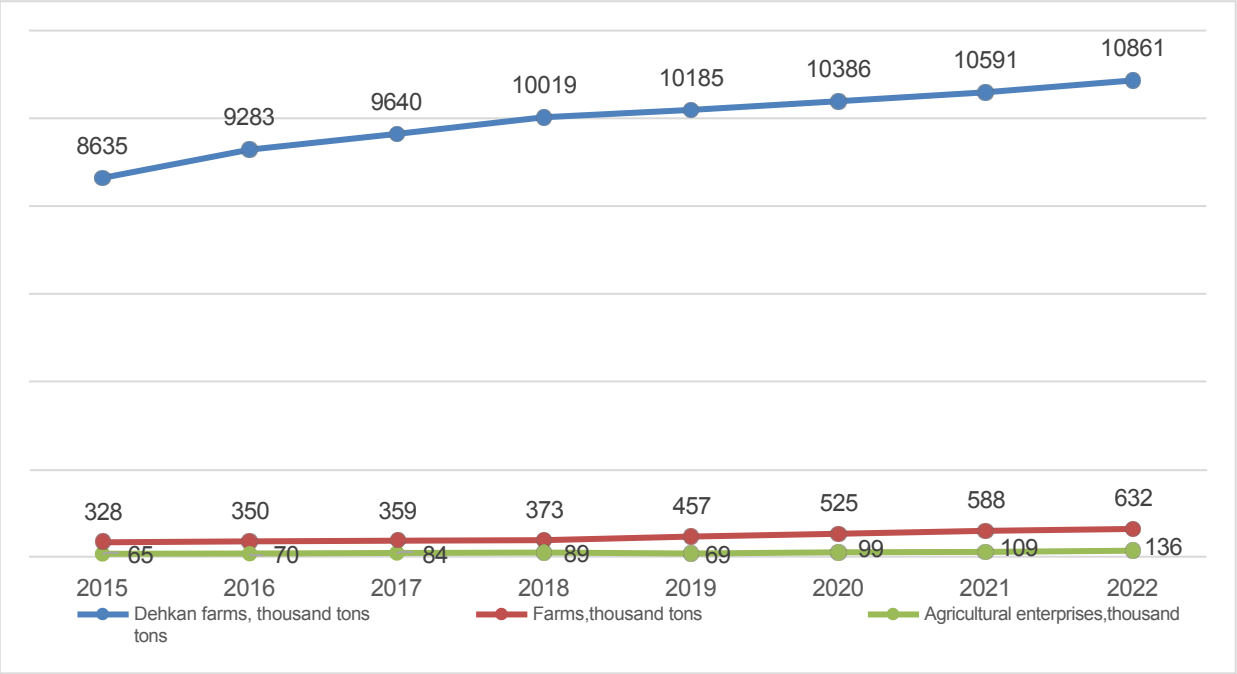
Table 5 Population of cows per square kilometer, heads



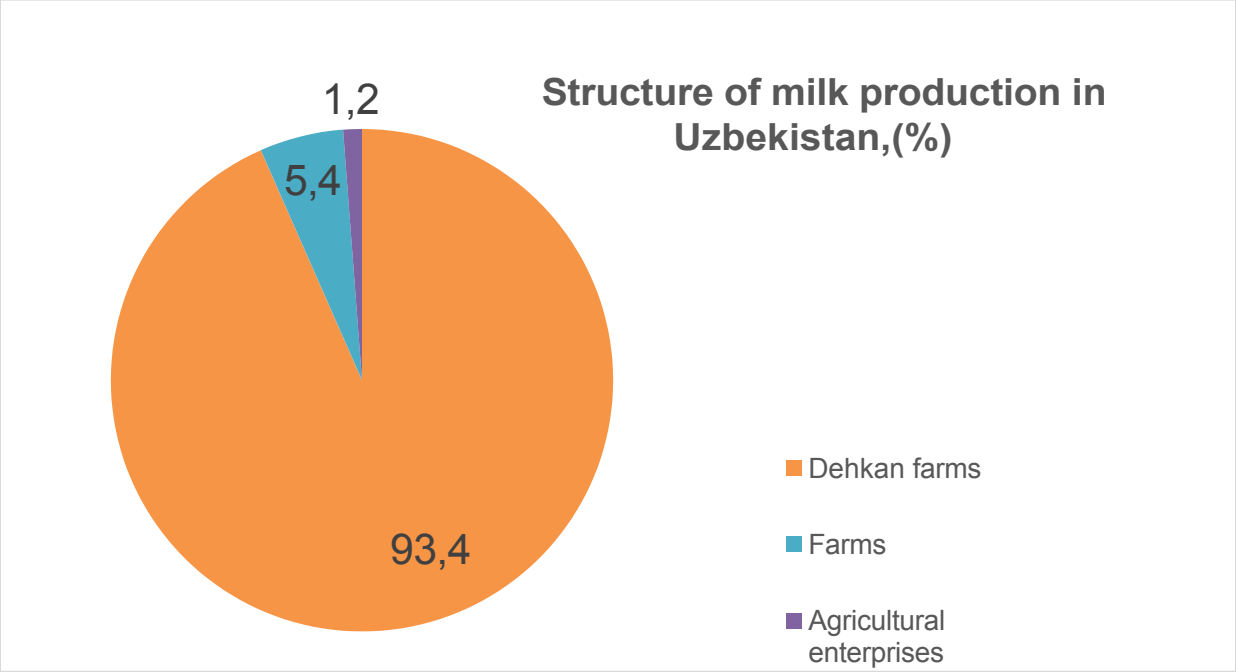
Source: Global Innovation Trade

Raw milk production in Uzbekistan in 2022 reached 11.6 million tons, 3% more than in 2021 and 29% more than in 2015. 93.4% of milk is produced in dehkan farms, 5.4% in farms, and 1.2% in agricultural enterprises. Production on dekhan farms in 2022 was 10.8 million tons, 3% more than in 2021. Farms produced 632,200 tons in 2022, 8% more than in 2021. Farms produced 135.8 thousand tons, 25% more than in 2021.

Table 6 Milk production in Uzbekistan

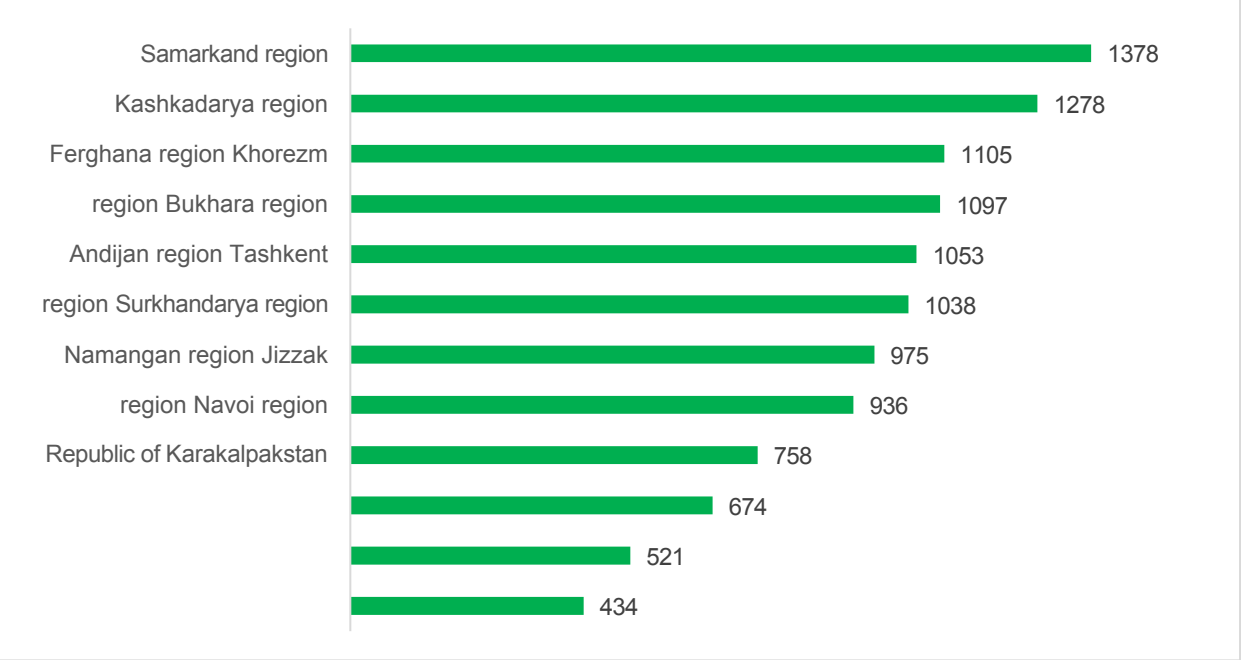


Source: Global Innovation Trade



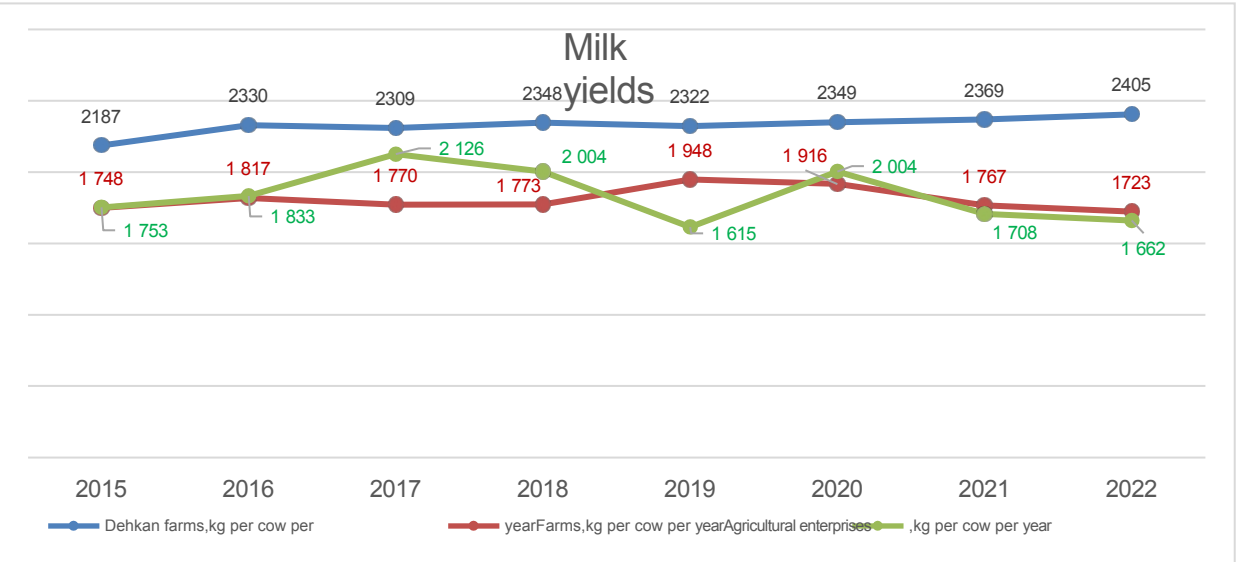
In terms of milk production in Uzbekistan, Samarkand province is the leader (1.4 million tons in 2022), with Kashkadarya province in second place (1.3 million tons) and Ferghana province in third (1.1 million tons).

Table 7 Milk production in the regions of Uzbekistan in 2022, thousand tons



Source: Global Innovation Trade

In Uzbekistan today the productivity is low, in 2022 the average milk yield in dehkan farms was 2405 kg per cow (+1% compared to 2021), in farms 1723 kg per cow (-2% compared to 2021), in agricultural enterprises - 1662 kg (-3%).



Source: Global Innovation Trade

Dairy industry in Uzbekistan

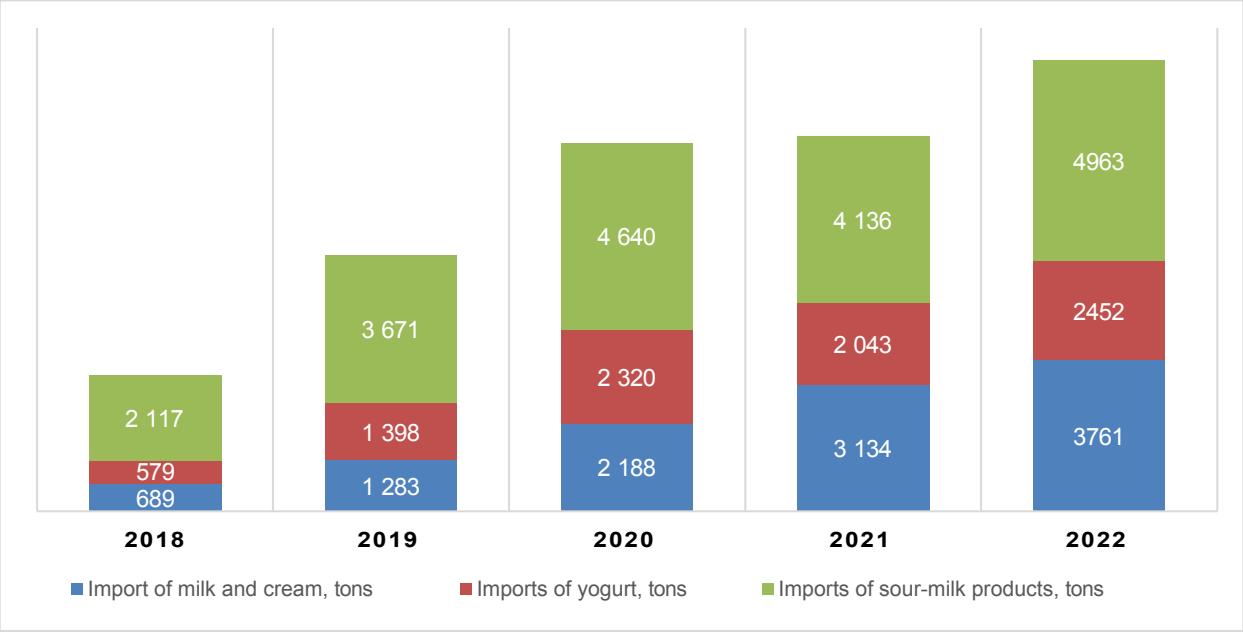
According to estimates of the analytical network IFCN, the marketability of milk in Uzbekistan is only 30%, in fact, not more than 3 million tons are received for processing.

According to the State Statistics Committee, large enterprises in Uzbekistan produced 389.4 tons of butter and 5659.1 tons of yogurt in January-December 2022.

Imports of dairy products to Uzbekistan

Imports of milk and cream to Uzbekistan according to UN Comtrade in 2021 amounted to 3.1 thousand tons, 946 tons more than in 2020. The largest supplier of milk and cream to Uzbekistan in 2021 was the Republic of Belarus (55%), followed by Russia (31%).

Table 8 Imports of whole-milk products in Uzbekistan



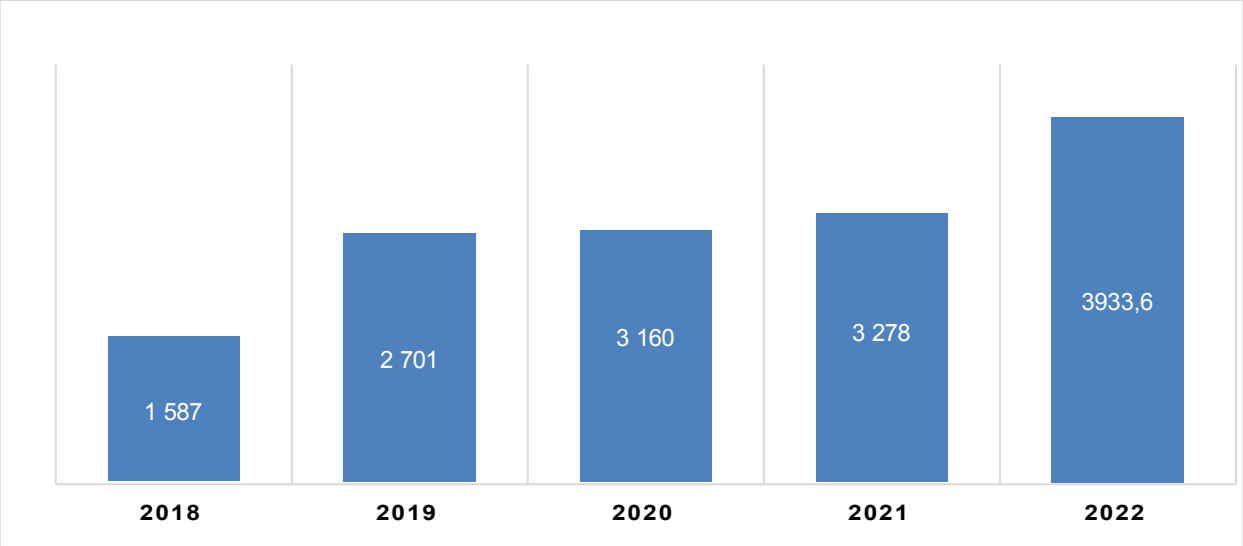
Source: Global Innovation Trade

Yogurt imports in 2022 were 2,400 tons, 408 tons more than in 2021.

Imports of other sour-milk products in 2022 were 4.96 thousand tons, 827 tons more than in 2021.

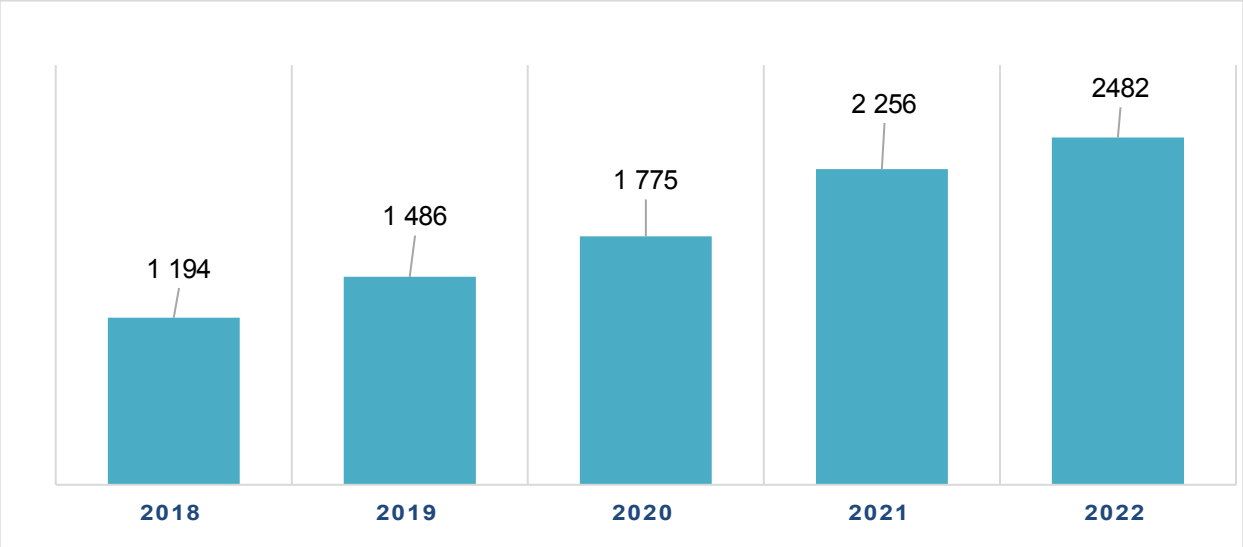
Imports of cheese and cottage cheese to Uzbekistan in 2022 was 3.76 thousand tons, 626 tons more than in 2021.

Table 9 Imports of cheese and cottage cheese to Uzbekistan *(tons)*



Source: Global Innovation Trade

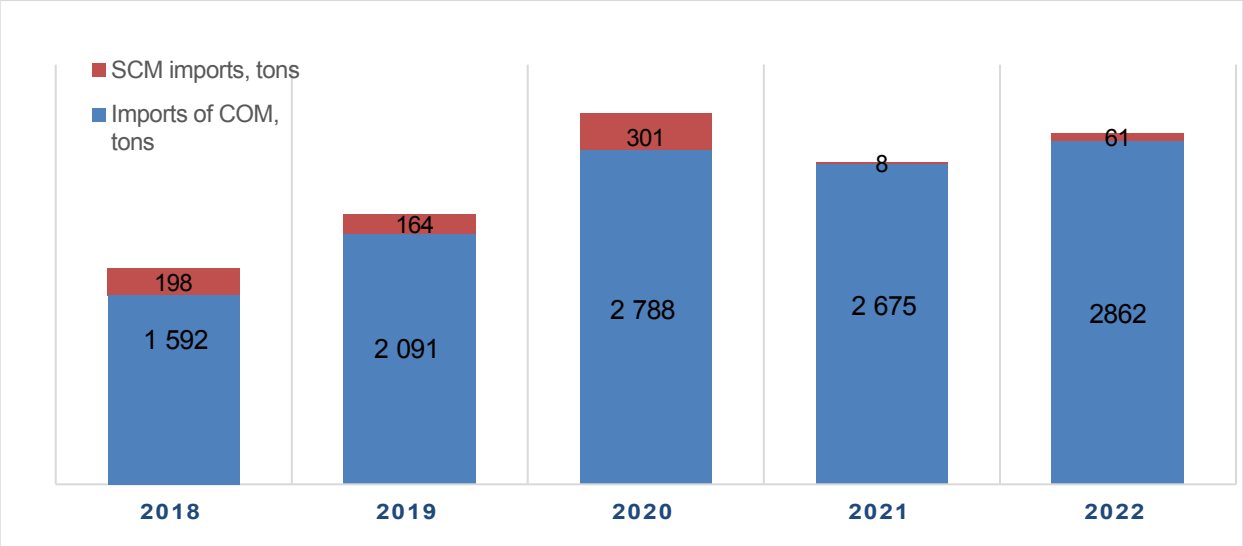
Table 10 Imports of butter to Uzbekistan *(tons)*



Source: Global Innovation Trade

Imports of COM in 2022 amounted to 2.5 thousand tons (+226 tons), imports of CCM only 61 tons (+53 tons). The largest supplier of COM is the Republic of Belarus (51%), while Iran (16%) and Kyrgyzstan (17%) also supply COM to Uzbekistan. The only supplier of SCM in 2022 was the Republic of Kyrgyzstan.

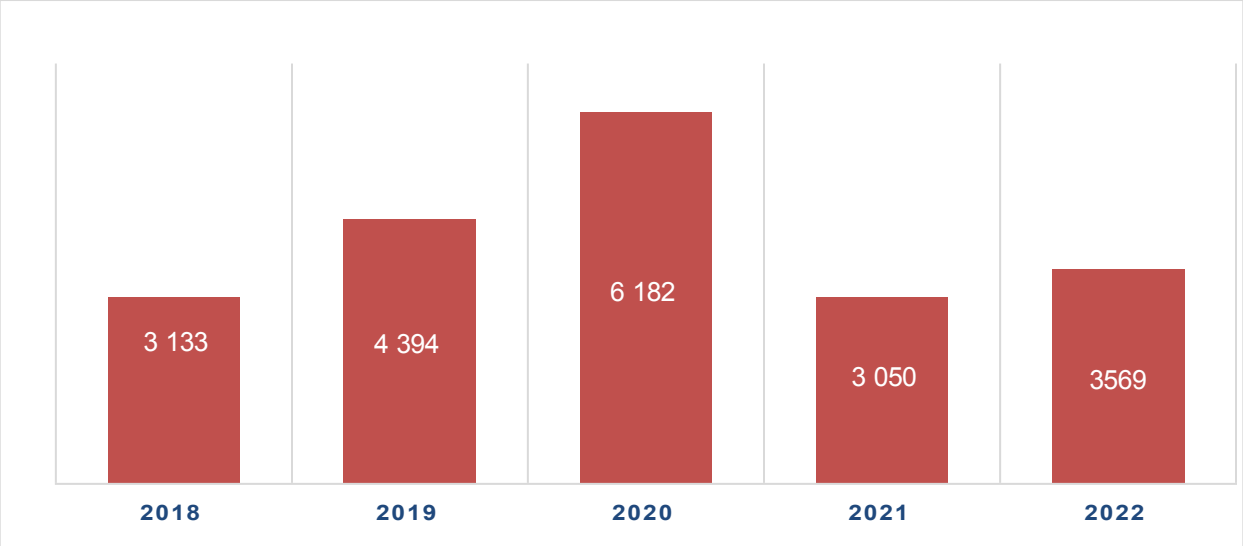
Table 11 Imports of COM and CCM in Uzbekistan *(tons)*



Source: Global Innovation Trade

Imports of dry whey in 2022 was 3.6 thousand tons, 519 tons more than in 2021. The largest supplier was the Republic of Belarus (32%).

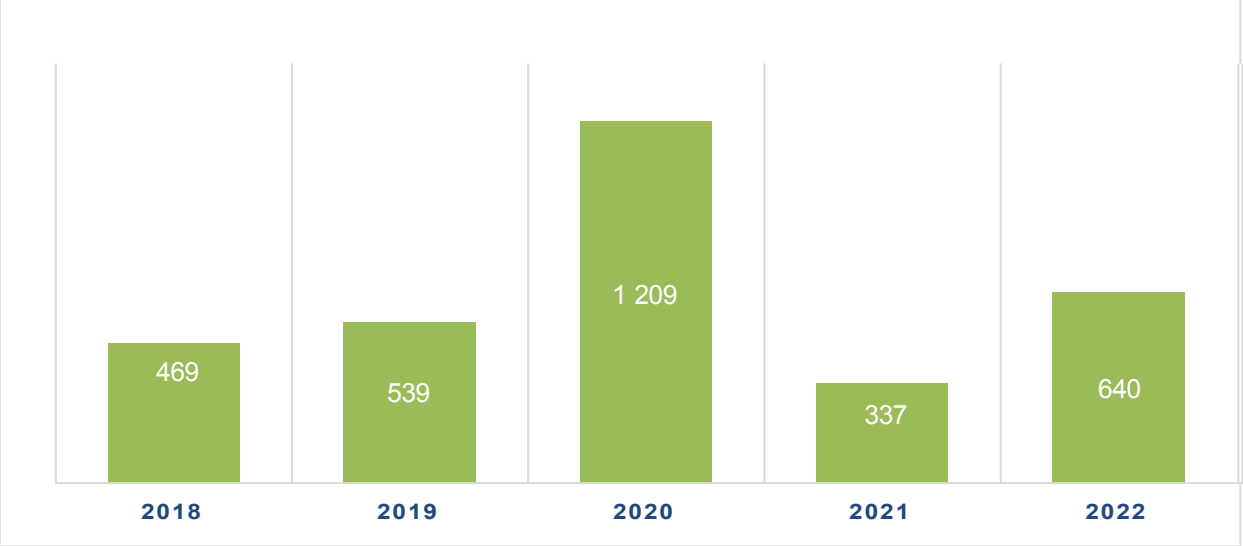
Table 12 Imports of dry whey to Uzbekistan *(tons)*



Source: Global Innovation Trade

Supplies of condensed milk to Uzbekistan in 2022 were 640 tons, 303 tons more than in 2021.

Table 13 Imports of condensed milk in Uzbekistan *(tons)*



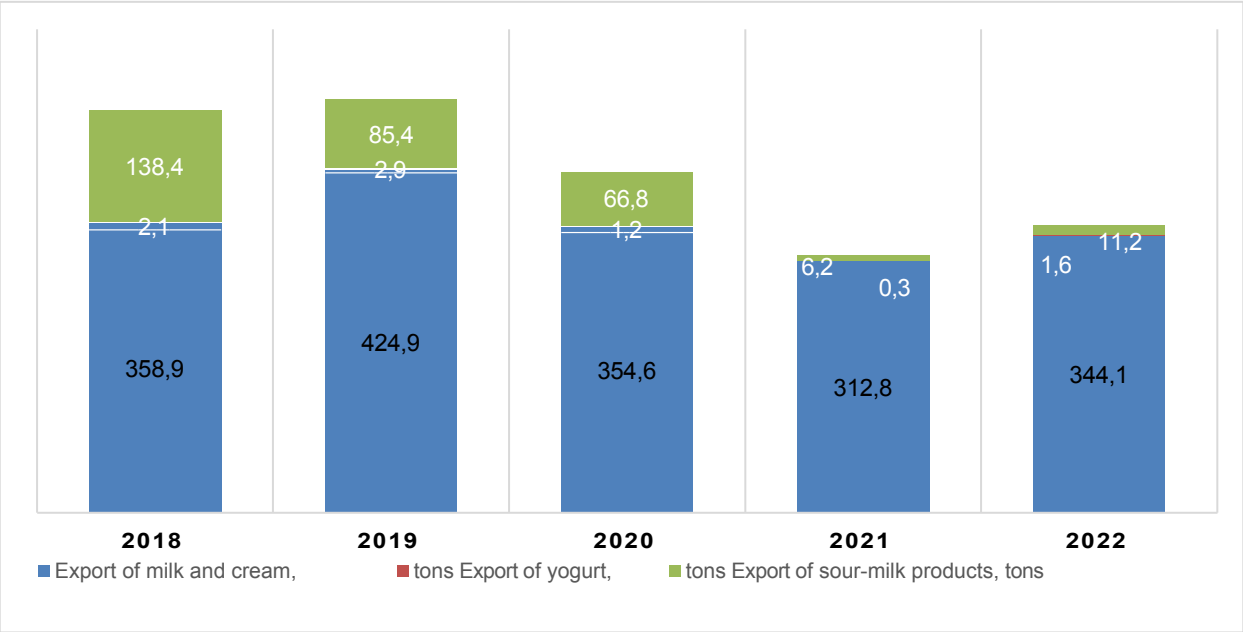
Source: Global Innovation Trade

Export of dairy products from Uzbekistan

Exports of dairy products from Uzbekistan are small at the moment, mainly small amounts of supplies go to the countries of Central Asia.

Milk and cream exports from Uzbekistan in 2022 amounted to 344.1 tons, 31.3 tons more than in 2021. 61% of milk and cream exports from Uzbekistan went to Tajikistan, 37% to Afghanistan, and 2% to Turkmenistan.

Table 14 Exports of whole-milk products from Uzbekistan

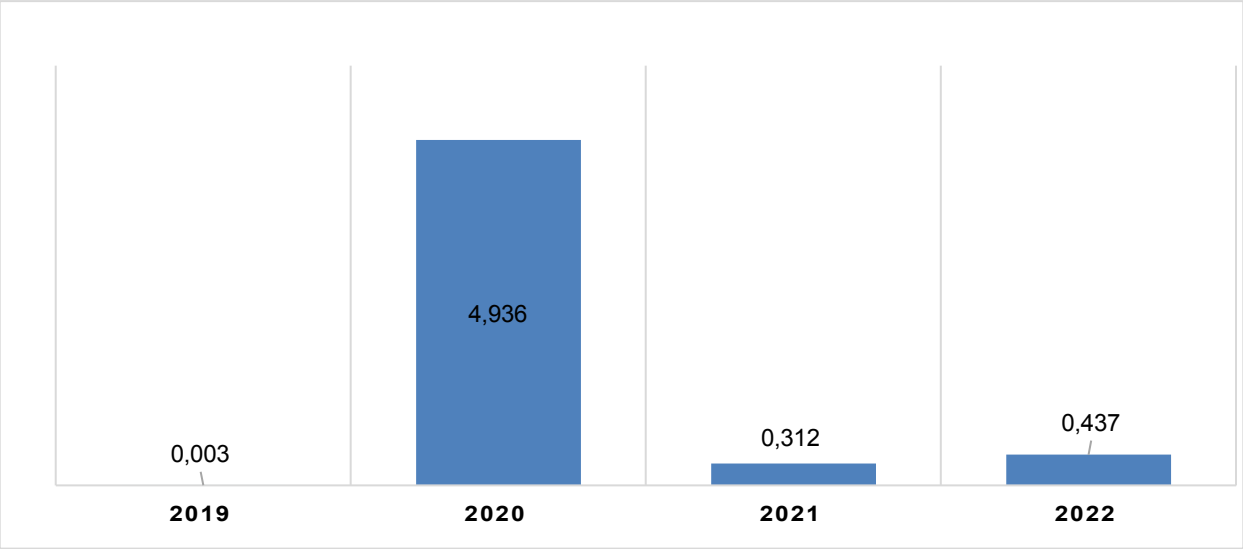


Source: Global Innovation Trade

Export of sour-milk products in 2022 was 11.2 tons, 5.0 tons more than in 2021. 65% of this volume was supplied to the U.S. market, 28% to Kazakhstan, and 7% to the Czech Republic.

Exports of cheese and cottage cheese in 2022 from Uzbekistan was only 1.6 tons, 1.3 tons more than in 2021.

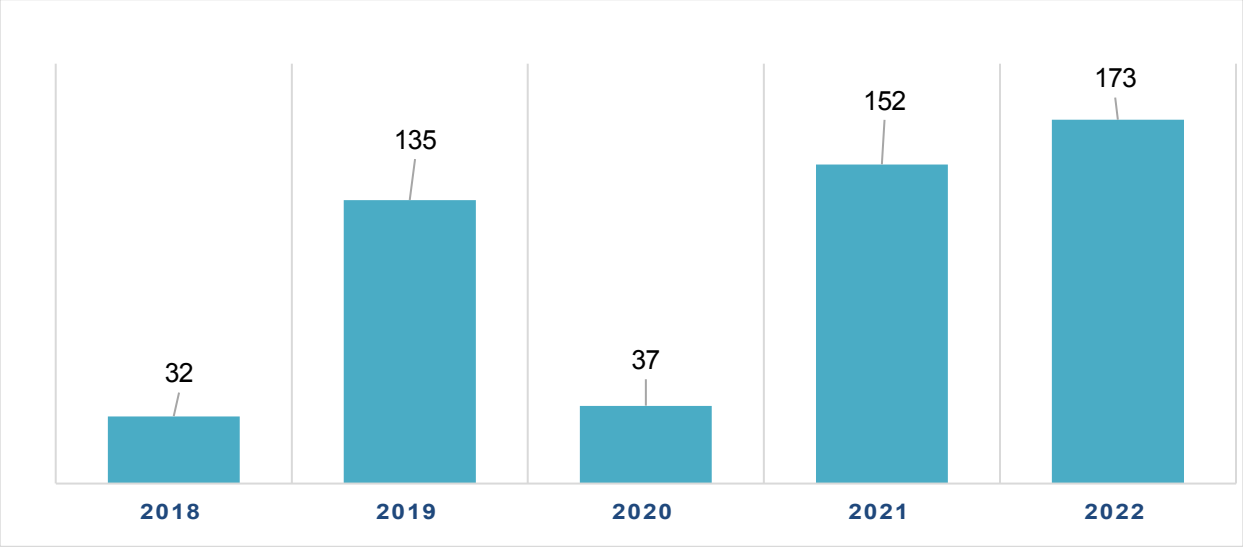
Table 15 Export of cheese and cottage cheese from Uzbekistan *(tons)*



Source: Global Innovation Trade

Export of butter in 2022 173 tons. 78% of deliveries are to Georgia, 22% - to Iraq.

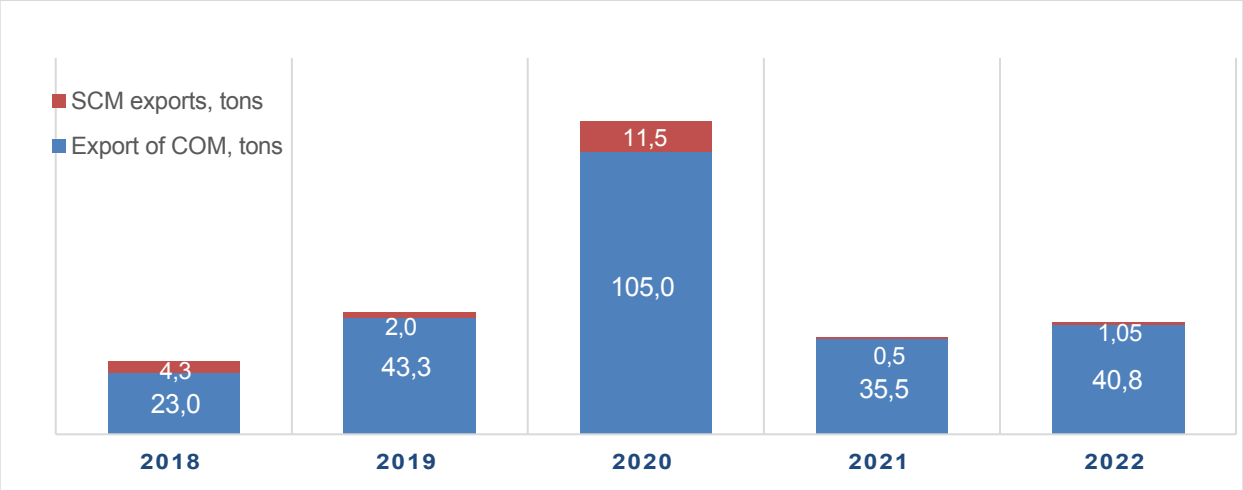
Table 16 Export of butter from Uzbekistan *(tons)*



Source: Global Innovation Trade

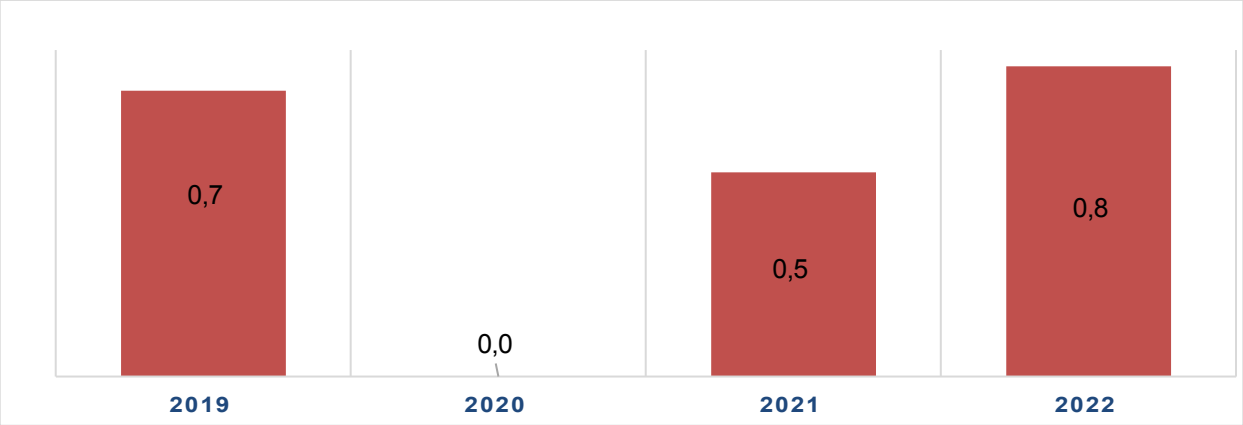
In 2022, exports of COM amounted to 40.8 thousand tons (+5.3 tons), exports of SCM only 1.05 tons (+5.05 tons). 75% of COM exports were delivered to Tajikistan, 0.3 tons of CCM were also delivered to Tajikistan, and 0.2 tons of CCM were delivered to Kyrgyzstan.

Table 17 Export of COM and CCM from Uzbekistan *(tons)*



Source: Global Innovation Trade

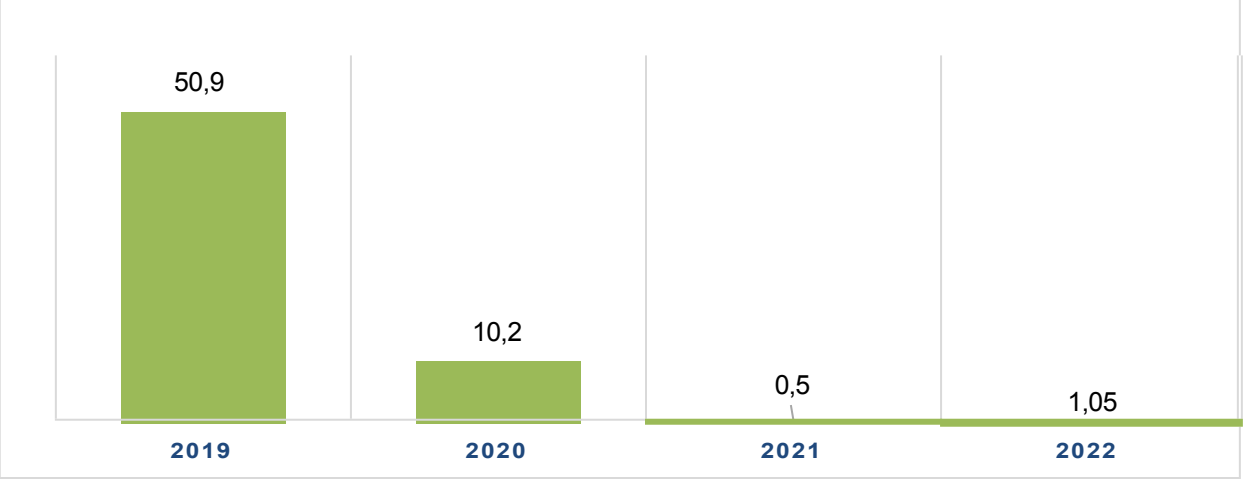
Table 18 Export of dry whey from Uzbekistan *(tons)*



Source: Global Innovation Trade

In 2022, Uzbekistan exported 0.8 tons of condensed milk to Tajikistan.

Table 19 Export of condensed milk from Uzbekistan *(tons)*



Source: Global Innovation Trade

8. WORK PLAN

8.1 Forecast of production volumes in volume and value terms

This project assumes monthly production and sales of milk, as well as related products of the dairy farm (sale of bulls and cows for slaughter). The production plan for the years of the forecast period is shown in the table:

Table 20 Production plan by year of the forecast period

Parameters	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Total cattle at the end of the period	**100,0**	**140,0**	**224,0**	**350,8**	**625,6**	**921,7**	**1 302,8**	**1 431,0**	**1 598,4**	**1 600,0**	**1 600,0**
Dairy herd at the end of the period	50,0	60,0	194,0	278,8	509,2	718,4	997,3	1 000,0	1 000,0	1 000,0	1 000,0
Reproductive herd	50,0	80,0	30,0	72,0	116,4	203,3	305,5	431,0	598,4	600,0	600,0
Total income	**150,0**	**50,0**	**180,0**	**194,0**	**398,8**	**509,2**	**718,4**	**997,3**	**1 000,0**	**1 000,0**	**1 000,0**
We bought the livestock.	*100,0*		*120,0*		*120,0*						
Litter	*50,0*	*50,0*	*120,0*	*194,0*	*338,8*	*509,2*	*718,4*	*997,3*	*1 000,0*	*1 000,0*	*1 000,0*
Dairy herd to repair (60% of the litter)	*30,0*	*30,0*	*72,0*	*116,4*	*203,3*	*305,5*	*431,0*	*598,4*	*600,0*	*600,0*	*600,0*
Consumption total	**5,0**	**40,0**	**46,0**	**109,2**	**168,4**	**299,9**	**439,5**	**994,6**	**1 000,0**	**1 000,0**	**1 000,0**
Mortality 10%	5,0	10,0	14,0	22,4	35,1	62,6	92,2	130,3	143,1	159,8	160,0
Sale of steers (40% of the litter)		20,0	20,0	48,0	77,6	135,5	203,7	287,4	398,9	400,0	400,0
Heifers for sale								377,5	258,0	240,2	240,0
Culling cows 20%		10,0	12,0	38,8	55,8	101,8	143,7	199,5	200,0	200,0	200,0
Milk for sale (at 30 kg of milk per day, lactation period - 300 days per year), tons	**450,0**	**450,0**	**540,0**	**1 746,0**	**2 509,2**	**4 582,4**	**6 465,7**	**8 975,8**	**9 000,0**	**9 000,0**	**9 000,0**

Parameters	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Sale of bulls (age - 12 months, weight 1000 kg), kg		20 000,0	20 000,0	48 000,0	77 600,0	135 520,0	203 664,0	287 364,8	398 923,4	400 000,0	400 000,0
Cows for slaughter (average weight - 600 kg), kg		6 000,0	7 200,0	23 280,0	33 456,0	61 099,2	86 209,4	119 677,0	120 000,0	120 000,0	120 000,0
Sales of heifers (average weight - 600 kg), kg								226 505,9	154 783,2	144 096,9	144 000,0
Total for the sale of cows / bulls, kg		**26 000,0**	**27 200,0**	**71 280,0**	**111 056,0**	**196 619,2**	**289 873,4**	**633 547,7**	**673 706,5**	**664 096,9**	**664 000,0**

Continued

Parameters	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Total cattle at the end of the period	**1 600,0**	**1 600,0**	**1 600,0**	**1 600,0**	**1 600,0**	**1 600,0**	**1 600,0**	**1 600,0**	**1 600,0**	**1 600,0**	**1 600,0**
Dairy herd at the end of the period	1 000,0	1 000,0	1 000,0	1 000,0	1 000,0	1 000,0	1 000,0	1 000,0	1 000,0	1 000,0	1 000,0
Reproductive herd	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0	600,0
Total income	**1 000,0**	**1 000,0**	**1 000,0**	**1 000,0**	**1 000,0**	**1 000,0**	**1 000,0**	**1 000,0**	**1 000,0**	**1 000,0**	**1 000,0**
We bought the livestock.											
Litter	*1 000,0*	*1 000,0*	*1 000,0*	*1 000,0*	*1 000,0*	*1 000,0*	*1 000,0*	*1 000,0*	*1 000,0*	*1 000,0*	*1 000,0*
Dairy herd to repair (60% of the litter)	*600,0*	*600,0*	*600,0*	*600,0*	*600,0*	*600,0*	*600,0*	*600,0*	*600,0*	*600,0*	*600,0*
Consumption total	**1 000,0**	**1 000,0**	**1 000,0**	**1 000,0**	**1 000,0**	**1 000,0**	**1 000,0**	**1 000,0**	**1 000,0**	**1 000,0**	**1 000,0**
Mortality 10%	160,0	160,0	160,0	160,0	160,0	160,0	160,0	160,0	160,0	160,0	160,0
Sale of steers (40% of the litter)	400,0	400,0	400,0	400,0	400,0	400,0	400,0	400,0	400,0	400,0	400,0

Parameters	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Heifers for sale	240,0	240,0	240,0	240,0	240,0	240,0	240,0	240,0	240,0	240,0	240,0
Culling cows 20%	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0	200,0
Milk for sale (at 30 kg of milk per day, lactation period - 300 days per year), tons	**9 000,0**	**9 000,0**	**9 000,0**	**9 000,0**	**9 000,0**	**9 000,0**	**9 000,0**	**9 000,0**	**9 000,0**	**9 000,0**	**9 000,0**
Sale of bulls (age - 12 months, weight 1000 kg), kg	400 000,0	400 000,0	400 000,0	400 000,0	400 000,0	400 000,0	400 000,0	400 000,0	400 000,0	400 000,0	400 000,0
Cows for slaughter (average weight - 600 kg), kg	120 000,0	120 000,0	120 000,0	120 000,0	120 000,0	120 000,0	120 000,0	120 000,0	120 000,0	120 000,0	120 000,0
Sales of heifers (average weight - 600 kg), kg	144 000,0	144 000,0	144 000,0	144 000,0	144 000,0	144 000,0	144 000,0	144 000,0	144 000,0	144 000,0	144 000,0
Total for the sale of cows / bulls, kg	**664 000,0**	**664 000,0**	**664 000,0**	**664 000,0**	**664 000,0**	**664 000,0**	**664 000,0**	**664 000,0**	**664 000,0**	**664 000,0**	**664 000,0**

Source: Global Innovation Trade analysis and calculations

Thus, reaching the maximum planned capacity for milk production (9,000 tons/year) is planned for 2035. The table below shows the forecast of production volumes in value terms.

Table 21 Forecast of production volumes in value terms, thousand dollars

Product name	Unit.	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Milk	thousand dollars	185,1	185,1	222,1	718,1	1 031,9	1 884,6	2 659,1	3 691,4	3 701,4	3 701,4	3 701,4
Sales of cattle (heifers, bulls)	thousand dollars	0,0	62,4	65,3	171,1	266,5	471,9	695,7	1 520,5	1 616,9	1 593,8	1 593,6
Total	**thousand dollars**	**185,1**	**247,5**	**287,4**	**889,1**	**1 298,5**	**2 356,5**	**3 354,8**	**5 211,9**	**5 318,3**	**5 295,2**	**5 295,0**

Continued

Product name	Unit.	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Milk	thousand dollars	3 701,4	3 701,4	3 701,4	3 701,4	3 701,4	3 701,4	3 701,4	3 701,4	3 701,4	3 701,4	3 701,4
Sales of cattle (heifers, bulls)	thousand dollars	1 593,6	1 593,6	1 593,6	1 593,6	1 593,6	1 593,6	1 593,6	1 593,6	1 593,6	1 593,6	1 593,6
Total	**thousand dollars**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**

Source: Global Innovation Trade analysis and calculations

8.2 Description necessary buildings and facilities *(location of the farm facilities)*

The livestock complex includes the construction of buildings and structures shown in the table below.

Table 22 Description of the premises of the projected complex

Name of the object	Destination	The area of one object, sq.m.	NO	The cost of construction, thousands of dollars.
Cowsheds	Premises for cattle housing: both milking cows and repair herd. The barns will also include milking rooms.	772,8	10	649,2
Calves	Facilities for keeping youngsters	772,8	8	519,3
Maternity branch	Cattle training room in labor	316,8	1	26,6
Silos and haystacks trenches	Premises for long-term storage of fodder	360	3	90,7
Sanctuary	Premises for long-term hay storage	360	1	30,2
Storage for the current stock of feed	Room for storage of fodder for the first phase of construction of the barn per 100 milking cows	143	1	12,0
Warehouse for manure management	Disposal rooms manure	200	1	16,8
Weighing	Rooms for weighing Cattle and raw milk	28,6	1	2,4
Main manure storage	Manure storage room before its subsequent implementation	476,2	1	40,0
Transformer substation	The room for transformer substation	23	1	1,0
Diesel substation	The room for the diesel substations	23	1	1,0

Name of the object	Destination	The area of one object, sq.m.	NUMBER	The cost of construction, thousands of dollars.
Canopy for equipment	Storage facility of machinery and other equipment	90	1	6,5
Sanctuary	The room intended for for changing clothes, shoes, sanitizing personnel	180	1	15,1
Desbarrier	The room intended for to sanitize equipment and machinery	21,6	1	1,8
Administration building + veterinary station	Room for administrative staff. Vet room - room for storage of medical of preparations for cattle.	57,2	1	4,8

Source: data of the Project Initiator, data of construction organizations, Global Innovation Trade assessment

Thus, the cost of building cow housing will be
1.4 million dollars.

The cowsheds are equipped in such a way that the animals can be kept there all year round, ensuring a long and healthy life, and reducing the costs of feed distribution and cleaning the building from manure. The barn has one feeding table with a total aisle width of 5 meters. Cow resting sections in barns are arranged in 2 rows longitudinally. The benches in the sections are covered with rubber mats. Production groups of cows in barns are placed in sections of 60 stalls. Manure removal from the barn is organized by means of a scraper around the clock. The cowshed buildings are naturally and forcedly ventilated through the side openings and the top hole in the roof ridge. Dairy cows are transferred to the drying section (with maternity section) two months before calving. Calving takes place in a separate section, immediately after calving the cows are milked in a robot with automatic return to the maternity section.

8.3 Description of equipment and techniques

For the organization of milk production it is planned to purchase a number of equipment produced by "DeLaval", the list of which is presented in the table below.

Table 23 List of equipment purchased from DeLaval

Name	Price, thous. dollars.	Quantity	Cost, thousand dollars.
Milking and feeding equipment from per 100 head, including VAT	23989,6	10	2878,8
Barn equipment, including VAT	10227,4	10	1227,3
Equipment of the maternity ward, taking into account VAT	1543,4	1	18,5
Equipment of the room for the youngsters, with including VAT	5070,4	8	486,8
Equipment of the room for calves from 0-3 months, including VAT	433,8	8	41,6
Equipment of the room for calves from 3-6 months, including VAT	277,8	8	26,7
Predlaguna, including VAT	950,6	10	114,1
Total			**4793,7**

In addition to the equipment listed in the table above, it is also planned to purchase additional equipment. Additional equipment is shown in the table below.

Table 24 List of optional equipment

Name	Price, thous. dollars.	Quantity	Cost, thousand. dollars.
Equipment for artificial insemination	2,18	1	2,18
Cremator KR-400 (diesel)	0,21	4	0,84
Total			**3,01**

Thus, it is planned to allocate about 45.6 thousand dollars for the purchase of equipment.

8.4 Description of the technology of growing (keeping) livestock

The farm will raise cattle of Holstein-Friesian breed. The Holstein-Friesian breed of cattle was bred in 1861. The live weight of Holstein-Friesian cows varies on average from 600 to 700 kg, bulls - from 960 to 1,200 kg. The maximum live weight of the cows is 1000 kg, the bulls 1250 kg. Bulls at birth weigh 44-47 kg, heifers 38-42 kg.

The picture below shows a Holstein-Friesian cow.

Figure 5 View of the Holstein-Friesian cattle breed

Source : http://images.yandex.ru

The project provides for loose housing of dairy cattle. Such keeping provides favorable conditions for individual feeding and maintenance of each cow in accordance with its productivity and physiological characteristics. The farm provides feeding of the animals with full-fodder mixture throughout the year in the premises on the feeding table. The keeping conditions are as close as possible to optimum, which is the basis for obtaining high productivity of animals.

Figure 6 Example of loose housing of cattle

Source : http://images.yandex.ru

The level of concentration of livestock has a direct impact on the organization of labor production. The capacity of the premises is determined by the scientifically justified value of technological groups of animals. In this case, a comprehensive solution of mechanization of the main production processes is implemented. Non-tethered way of keeping is accepted in the variant with division of feeding and resting zones of animals.

Milking

The capabilities of robotic milking systems offer milk producers a number of advantages and benefits over traditional milking systems.

Robotic milking machines give freedom from being tied to a rigid milking schedule and the organization of all processes on the farm, which means more freedom to schedule time as you see fit. The system also reduces the physical stress and risk of injury, allowing more time to work on managing milk production processes, tracking results and planning, and therefore increasing profits.

Figure 7 DeLaval equipment

Source : http://images.yandex.ru

Three times a day the feed is distributed by a feeder. The voluntary milking system VMS reduces the influence of the "human factor" and provides care for the animals. One robot milker serves 60 cows and eight robots milk 480 cows. The animal is recognized by a chip on the ear or neck by the computer. The hydraulic manipulator searches for teats, connects flushing and milking cups, aligns hoses during milking and treats udder teats after milking. The robot arm of the VMS milking robot works precisely, quickly and silently. Made from heavy duty steel it resists rough handling. Arm movement is modeled on the human hand principle which allows the unit to handle a wide variety of cows, reducing udder requirements. The small size of the lower part of the arm makes the cows calm during milking.

Several times a day, cows are milked from the maternity ward and heifers are domesticated. The milking robots are equipped with "selection gates". Milked cows pass through the selection gates before returning to their section. During milking the system defines physiological state of each animal (hunting period, udder diseased, etc.) and according to the event the cow goes to her section or is left in "selection zone" for waiting and undertaking necessary actions. At the same time, cows have access to the feed table and they have free access to drinkers in order to avoid loss of productivity. After these measures, they are returned to their section. After each milking, the milking system is rinsed or rinsed and washed.

For receiving, cooling and short-term storage of milk, the dairy unit is equipped with a set of necessary equipment. The milk is pumped from the robot through the milk pipelines to the milk cooling tank for temporary storage of milk. Then, using the centrifugal pump, the milk is pumped into the milk tank and sent for sale. Milking of milking cows is also carried out in the milking robot. Washing of milking robot and milk pipelines is performed by automatic heated washing machine, which is a part of milking robot. Rinsing of milk cooling tanks is performed by automatic rinsing machine, included in the set of equipment.

Feeding

Watering of cows on the farm is provided from thermal drinkers, which are installed in each section of the barn, milking cows area, maternity ward, technological section.

Organization of animal feeding

Feeding is provided from the feeding table. Access to the table is free. Distribution of feed in the form of complete feed mixtures is made three times a day on the feeding table. Type of feeding - hay and silage concentrates. The fodder must be of class 1 or higher. The concentrate part of the cows' rations is provided by special mixed fodders which balance the ration in accordance with the animals' needs in nutrients and energy. Feeding animals with mixed fodder is organized in a robot milking cows, differentiated taking into account the stage of lactation, the value of daily milk yield, physiological condition of the animal.

Waste management

The manure from the barn goes to the manure receiver and is transported to the storehouse for disposal of manure.

Organization of herd reproduction

The essence of this process is the annual production of a calf from each cow. The level of reproduction, which characterizes the indicator of healthy calf yield (ratio of the number of weaned young calves to the number of cows in the herd), depends on the intensity of livestock use, which determines the factors:

- The state of the fodder base in the farm, the level of rearing of young cattle and feeding cows. Fertility, productivity and viability of animals depend on it.
- Timing of insemination of heifers and their introduction into the main herd. It is better to perform artificial insemination of heifers at an earlier age: at 17-18 months and to introduce them to the main herd at 26-27 months. In this case, the efficiency of insemination is less affected by age than by their live weight, which should not be lower than the breed standard.

- The chosen method of inseminating cows is artificial insemination.
- Intensity of culling and duration of productive use of cows. The cost of raising a first heifer is higher than the cost per cow per year. The optimal volume of introducing heifers into the herd is about 20 per 100 cows per year, provided that 20-25% of them will be culled during the first lactation.
- Preventing infertility. The fight against calving is one of the decisive factors that contributes to lower production costs and ensures stable profits.
- Conservation of calves. To this end, develop and implement measures to prevent abortions, morbidity and mortality of animals. Veterinary service must annually develop a plan of anti-epizootic and zoohygienic measures; control the quality of feed, feeding and housing. Implementation of preventive measures is much cheaper and more effective than treatment of sick animals.
- Organization of production. An important prerequisite for intensive purposeful reproduction is reliable accounting, skillful organization of production, professional attitude to their work of all specialists and workers of the farm and the farm, whose labor should be stimulated.

Assumed 750 head of calves in case of 100% project implementation. The total herd will be 1,800 head of cattle.

The need for farmland to create sufficient fodder for 1,800 head of cattle, including 1,000 cows is 4,400 hectares.

8.5 Other technological issues

Electricity consumption for cattle housing and milking process is calculated in accordance with the following consumption rates:

The process	Consumption rate, kWh/head/year
Contents	
Manure removal	4
Fodder preparation	4
Feed distribution	1,2
Water supply	4
Heating water	24
Ventilation	20
Lighting	4

The process	Consumption rate, kWh/head/year
Air heating	70
Milking	
Milk processing	95
Milking cows	145

Thus, the rate of consumption for the maintenance of 1 head of cattle is 131.2 kWh per year. Consumption rate for milking 1 cow is 240 kWh per year.

8.6 Raw materials and components

Organization of a good fodder base is one of the most important parts of the functioning of the dairy complex. The main part of the fodder is planned to produce independently on the lands of the Kamashi municipal district, located in the immediate vicinity of the complex (up to 20 km). Since the lands in the Kamashi Municipal District by their qualitative characteristics are swampy areas, the preparation of project documentation will be provided:

- land management project;
- reclamation activities;
- clearing of reclaimed land from tree and shrub vegetation;
- construction of drainage systems;
- construction of technological (field) roads;
- hydromelioration;
- agromelioration.

This project does not calculate the creation of a fodder base, so the cost of 1 kg of raw feed is taken at prices 30% lower than the average market prices in the Kashkadarya region.

9. ORGANIZATIONAL PLAN

9.1 Personnel plan

In forming the staffing of the company focused on the concept of the project, the amount of basic production and auxiliary operations.

The following structural subdivisions were formed in the staffing table:

- Administrative and managerial staff;
- Production personnel;
- Service personnel.

In the calculation part of the business plan was formed by the plan FTE based on the condition of the departments belonging to the above-mentioned structural units.

Table 25 Draft staff schedule of the dairy complex

№	Job title	Number of employees	Salary of one employee, thousand dollars/month. (PIT)	Total payroll, thous. (PIT)
1	**Administrative management personnel**	**7**		**4,86**
1.1	CEO	1	1,56	1,56
1.2	Chief Accountant	1	0,60	0,60
1.3	Commercial Director	1	0,96	0,96
1.4	Sales Manager	1	0,42	0,42
1.5	Zootechnician	1	0,54	0,54
1.6	Logistics Manager	1	0,42	0,42
1.7	Housekeeping	1	0,36	0,36
2	**Production personnel**	**9**		**2,66**
2.1	Veterinarian	1	0,48	0,48
2.2	Workers on the maintenance of cattle	4	0,26	1,06
2.3	Maternity Ward Staff	1	0,26	0,26
2.4	Tractor Driver	1	0,26	0,26
2.5	The Mechanic	1	0,30	0,30
2.6	Locksmith	1	0,30	0,30
3	**Attendants**	**9**		**13,16**
3.1	Cleaner	4	0,22	0,86
3.2	Security Guard	5	2,46	12,30

	Total	**25**		**20,69**

Source: Global Innovation Trade analysis and calculations

Thus, the total number of staff of the dairy complex will be 25 people, of which 18 people - production personnel.

9.2 Sources, forms and conditions of financing

The project is planned to use 100% borrowed funds. Replacement funds represent 100% attraction of funds of the Investor.

9.3 Work schedule for the project

The stages of project implementation are shown in the table below.

Table 26 Project implementation schedule

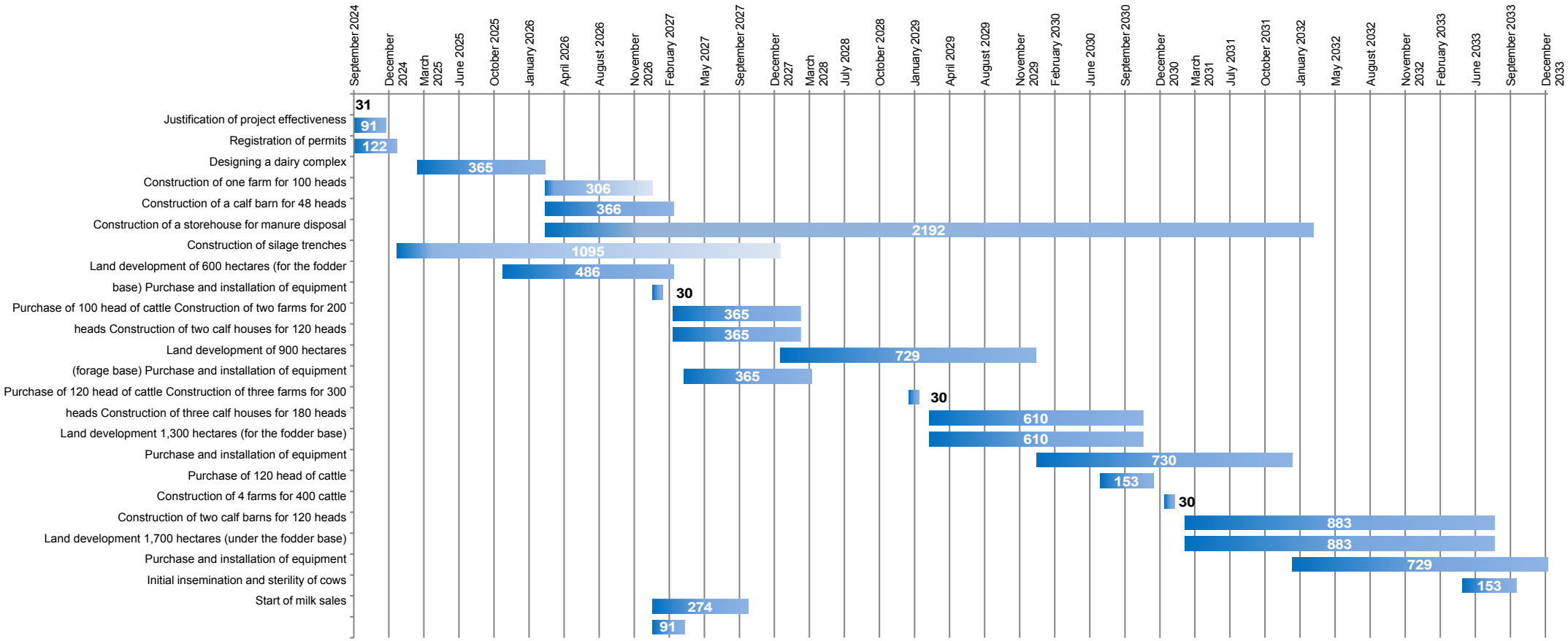
Project Stage	Beginning of work	Duration, days	End of job
Rationale for the effectiveness of the project	01.08.2024	31	01.09.2024
Permit registration documents	01.09.2024	91	01.12.2024
Designing a dairy complex	01.09.2024	122	01.01.2025
Construction of 1 farm for 100 cows	01.03.2025	365	01.03.2026
Construction of a calf barn for 48 cows	01.03.2026	306	01.01.2027
Construction of a storage facility for manure management	01.03.2026	366	01.03.2027
Construction of silage trenches	01.03.2026	2192	01.03.2032
Land development of 600 hectares (under feed base)	01.01.2025	1095	31.12.2027
Purchase and installation of equipment	01.11.2025	486	01.03.2027
Purchase of 100 head of cattle	01.01.2027	30	31.01.2027
Construction of two farms for 200 cows	01.03.2027	365	01.03.2028
Construction of 2 calf houses for 120 heads	01.03.2027	365	01.03.2028
Land development of 900 hectares (under feed base)	01.01.2028	729	31.12.2029
Purchase and installation of equipment	01.04.2027	365	01.04.2028
Purchase of 120 head of cattle	01.01.2029	30	31.01.2029

Project Stage	Beginning of work	Duration, days	End of job
Construction of 3 farms for 300 cows	01.03.2029	610	01.11.2030
Construction of 3 calves at 180 heads	01.03.2029	610	01.11.2030
Land development of 1,300 hectares (under feed base)	01.01.2030	730	31.12.2031
Purchase and installation of equipment	01.07.2030	153	01.12.2030
Purchase of 120 head of cattle	01.01.2031	30	31.01.2031
Construction of 4 farms for 400 cows	01.03.2031	883	01.08.2033
Construction of 2 calf houses for 120 heads	01.03.2031	883	01.08.2033
Land development of 1,700 hectares (under feed base)	01.01.2032	729	31.12.2033
Purchase and installation of equipment	01.05.2033	153	01.10.2033
Initial insemination and calf maturity	01.01.2027	274	01.10.2027
Beginning of milk sales	01.01.2027	91	01.04.2027

Source: Global Innovation Trade analysis and calculations

The project implementation schedule in graphical form is shown in the figure:

Figure 8 Project implementation schedule



Source: Project Initiator data, Global Innovation Trade calculations

Thus, the beginning of milk sales is planned for January 2027.

10. PROJECT ENVIRONMENT

10.1 The social aspect of the project

10.1.1 Impact of jobs created on the unemployment rate

The implementation of this investment project will increase the number of jobs for the rural settlement. Taking into account that after the project implementation the deficit of raw materials (raw milk) for the production of dairy products in the Kamashi area will be reduced, the related sub-industries of agribusiness (cheese, cottage cheese, dairy products, feed production, etc.) will begin to develop, respectively the jobs will also increase.

As a result of this project (together with the production of fodder production), the total number of jobs to be employed to ensure the operation of the entire complex is 250 people (including seasonal work for the harvesting of fodder and land development).

10.1.2 Project impact on the infrastructure development of the region

As a result of the implementation of this investment project, the Kamashi district infrastructure will be improved by constructing a road from the settlement to the dairy complex and constructing bus stops. In addition, the conditions for the development of the district will be improved by launching additional vehicles (after the project implementation it is planned to launch a number of free buses through the settlement to the dairy complex).

11. FINANCIAL PLAN

11.1 The assumptions made in the project are described below. **Product assumptions**

The main product of this project is raw milk. A more detailed nomenclature of the output products is presented in section 7.2 "Nomenclature and prices" of this business plan.

Assumptions about price

In the project, the average cost of selling raw milk is $0.42/kg.

Assumption about production volume

The average level of raw milk production per month at 100% utilization is 45,000 tons/year and is driven by equipment capacity and market demand.

Assumptions about investment costs

Investment costs are divided into 5 categories:

- Preparatory work;
- Construction work;
- Production equipment;
- Additional costs;
- Current assets.

Assumptions about the initial working capital requirements

The initial working capital requirement is $224.9 thousand.

Assumption about the discount rate

The project adopted a discount rate of 14.61% per year. Below is the rationale for calculating this rate.

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 best of all types 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:

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

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 27. Determining the cost of equity

Constituents	%
The size of the risk-free rate*	9,04%
Amount of country risk adjustment	2,00%
Amount of industry risk adjustment	3,00%
Amount of other risk adjustment	1,50%
Cost of equity	**15,54%**

Source: Global Innovation Trade analysis and calculations

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

Table 28. Determination of the discount rate

Constituents	%
Equity share	0%
Share of borrowed capital	100%
Tax	6,00%
Cost of equity	15,54%
Cost of borrowed capital	15,54%
Total discount rate	**14,61%**

Source: Global Innovation Trade analysis and calculations

Thus, the expert calculation of the discount rate was 14.61% 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.

11.2 Nomenclature and prices

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

Table 29 Nomenclature and prices

Income items	Unit measurements	Price, $/kg
Milk	thousand dollars/t.	0,43
Sales of cattle (heifers, bulls)	thousand dollars/t.	2,4

Source: Global Innovation Trade analysis and calculations

The costs listed in the table are averaged over the year after the start of sales.

11.3 Investment costs

Investment costs that would be required to build a dairy complex for 1,000 of milking cows are shown in the table below.

Table 30 Investment costs of the project, thousand dollars.

№	Capital expenditures	Price, thousand dollars.	Quantity	Cost, thousand dollars.
1	**Preparatory work**			**15 217,39**
1.1	Development of a business plan for the project			0,42
1.2	Land lease ($0.6 per hectare/year)	15,55	3	46,66
1.3	Registration of permits			4,80
1.4	Development of design and estimate documentation (20% of the cost of construction and assembly work)			285,52
1.5	Land development (4,500 ha)			14 880,00
2	**Construction**			**1 427,59**
2.1	Well construction			1,20
2.2	Bringing in electricity			7,20
2.3	Construction of a barn (32.2x120x4.2)	64,92	10	649,15
2.4	Construction of a calf house (32.2x120x4.2)	64,92	8	519,32
2.5	Construction of a maternity ward (13,2x4,8)	26,61	1	26,61
2.6	Construction of silage trenches (360 sq. m.)	30,24	3	90,72
2.7	Construction of a hay storage facility (360 sq. m.)	30,24	1	30,24
2.8	Construction of a storage facility for current feed stock (143 sq. m)	12,01	1	12,01
2.9	Construction of a manure storage facility (200 sq. m.)	16,80	1	16,80
2.10	Construction of a weighbridge	2,40	1	2,40
2.11	Construction administrative building and a veterinary station	4,80	1	4,80
2.12	Construction main manure storage facility (476.2 sq. m)	40,00	1	40,00
2.13	Construction transformer and diesel substations	1,92	1	1,92
2.14	Construction of a canopy for equipment	6,48	1	6,48
2.15	Construction of a sanitary pass	15,12	1	15,12

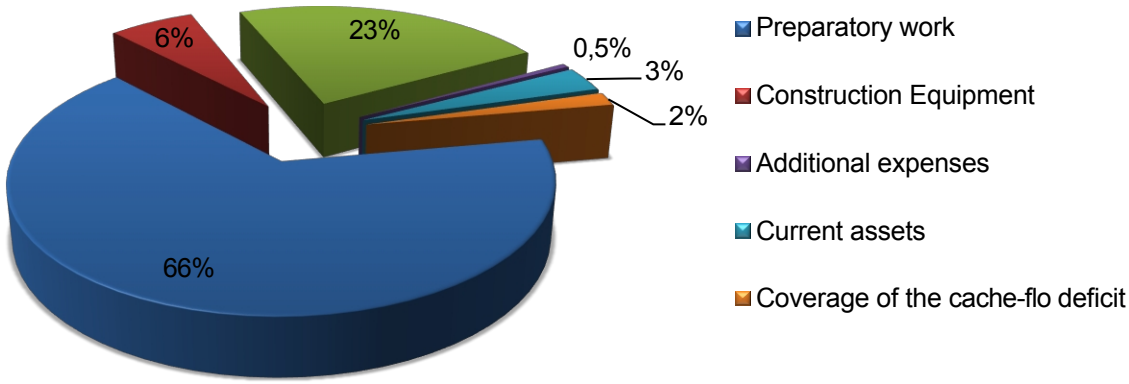
2.16	Construction of a barrier (21.6 sq. m)	1,81	1	1,81

№	Capital expenditures	Price, thousand dollars.	Quantity	Cost, thousand dollars.
2.17	Land Improvement			1,80
3	**Equipment**			**5 282,63**
3.1	Equipment for milking and feeding per 100 cows, including VAT	287,88	10	2 878,76
3.2	Barn equipment, including VAT	122,73	10	1 227,29
3.3	Equipment of the maternity ward, including VAT	18,52	1	18,52
3.4	Equipment of the room for young animals, including VAT	60,85	8	486,77
3.5	Equipment of the room for calves from 0-3 months, including VAT	5,21	8	41,64
3.6	Equipment of the room for calves from 3-6 months, including VAT	3,33	8	26,68
3.7	Predlaguna, including VAT	11,41	10	114,07
3.8	Equipping silage trenches, feed storage and manure storages			1,20
3.9	Equipping the sanitary pass, diesel and transformer substations			2,88
3.10	Equipment of the barrier			2,40
3.11	Cremator KR-400 (diesel)	2,18	1	2,18
3.12	Equipment installation (10%)		10%	480,24
4	**Additional expenses**			**112,88**
4.1	Equipment for artificial insemination	0,21	4	0,83
4.2	Marketing campaign, advertising before the launch of the project			2,40
4.3	Unforeseen expenses (0.5%)	-	0,5%	109,65
5	**Current assets**			**743,31**
5.1	Purchase of cattle (breeding stock)	2,16	340	734,40
5.2	Purchase of feed for the initial period	See the "Variables. costs)	-	8,91
Total investment costs				**22 783,81**
Coverage of the cache-flo deficit		-		**398,88**
Total investment in the project				**23 182,69**

* Data is subject to change during the design and material procurement process.

The figure shows the structure of investment categories for the project:

Figure 9 Structure of investments in the project, %



Source: Global Innovation Trade analysis and calculations

As can be seen from the chart, most of the investment of the project is the cost of preparatory work - 66%, namely for the development of land.

11.4 Initial working capital requirement

The initial working capital requirement is $224.92 thousand. These investments are needed to start the production of raw milk.

11.5 Tax deductions

This production, being an agricultural enterprise, will be an agricultural tax payer, and will also make mandatory payments to social funds.

Organizations accruing unified agricultural tax are exempt from income tax and property tax. In addition, they do not pay value added tax (except for VAT on imports).

The tax base is calculated cumulatively from the beginning of the tax period, which is one calendar year. Table 31 Tax deductions in 2026-2048, thousand dollars

Taxes	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
CAP		0,37						33,94	129,41	115,62	114,04	114,03
Insurance premiums	0,09	12,04	12,04	12,42	12,42	13,75	13,75	13,75	19,89	19,89	19,89	19,89
Taxes	**0,09**	**12,41**	**12,04**	**12,08**	**12,42**	**13,75**	**13,75**	**47,69**	**149,30**	**135,51**	**135,38**	**135,25**

Continued

Taxes	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
CAP	114,03	114,03	114,03	114,03	114,03	114,03	114,03	114,03	114,03	114,03	114,03
Insurance premiums	19,89	19,89	19,89	19,89	19,89	19,89	19,89	19,89	19,89	19,89	19,89
Taxes	**135,11**	**134,98**	**134,85**	**134,72**	**134,59**	**134,46**	**134,33**	**134,19**	**134,06**	**133,93**	**133,93**

Source: Global Innovation Trade analytics

11.6 Operating costs (fixed and variable)

Fixed project costs are project costs that are independent of changes in sales and service delivery. They include, as a rule, maintenance and management costs. The main fixed costs are presented in the table:

Table 32 Fixed costs, thousand dollars.

№	Indicator	Consumption	Value, thousand dollars per months.
1	Communication and Internet	0.059 thousand dollars per months.	0,059
2	Commercial and managerial expenses	0.294 thousand dollars in months.	0,294
3	Waste disposal costs	0.294 thousand dollars in months.	0,294
4	Lease of a land plot (from Jan. 2027 years)	$3,175,000 in months.	3,175
5	Marketing, advertising	0.588 thousand dollars in months.	0,588
6	Salary of administrative and managerial staff + service personnel	Personnel sheet	8,12
	TOTAL		**12,53**

Source: analysis and calculationsGlobal Innovation Trade

Project variable costs are costs that directly depend on the volume of services provided:

Table 33 Variable costs, thousand dollars.

№	Name of costs	Calculation of costs per month	Consu mption	Price, dollars.	Average costs per year (for 2035), thousand dollars.
1	Combined fodder (own production)	Price - $0.016/kg. Requirement of 1 cattle 2100 kg/month on average	2 100	0,016	269,87
2	Hay (own production)	250 kg/goal, $0.021/kg	250	0,021	42,08
3	Insemination costs	0.696 USD/service; once a year for 1 cow	see tab. Production plan	0,696	3,48
4	Electricity costs (maintenance)	Calculation based on equipment consumption at a price of $0.014 per kW; 55 kWh per head per month	55	0,014	6,11
5	Electricity costs (milking)	Calculation based on equipment consumption at a price of $0.005 per kW; 100 kWh per head per month	100	0,005	2,73
6	Medication costs	$0.22/goal.	see tab. Production plan	0,220	1,76
7	Production personnel	See Personnel sheet			3,29
	Total				**329,32**

Source: Global Innovation Trade analysis and calculations

Variable costs are indexed according to the dynamics of production volumes.

11.7 Sales Plan

This project assumes monthly production and sales of raw milk and cattle (bulls, heifers). The sales plan for the years of the forecast period is shown in the table:

Table 34 Sales plan by year, tons

Product name	Unit.	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Milk	ton	450,0	450,0	540,0	1 746,0	2 509,2	4 582,4	6 465,7	8 975,8	9 000,0	9 000,0	9 000,0
Sales of cattle (heifers, bulls)	ton	0,0	26,0	27,2	71,3	111,1	196,6	289,9	633,5	673,7	664,1	664,0
Total	**ton**	**450,0**	**476,0**	**567,2**	**1 817,3**	**2 620,3**	**4 779,1**	**6 755,6**	**9 609,3**	**9 673,7**	**9 664,1**	**9 664,0**

continued

Product name	Unit.	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Milk	ton	9 000,0	9 000,0	9 000,0	9 000,0	9 000,0	9 000,0	9 000,0	9 000,0	9 000,0	9 000,0	9 000,0
Sales of cattle (heifers, bulls)	ton	664,0	664,0	664,0	664,0	664,0	664,0	664,0	664,0	664,0	664,0	664,0
Total	**ton**	**9 664,0**	**9 664,0**	**9 664,0**	**9 664,0**	**9 664,0**	**9 664,0**	**9 664,0**	**9 664,0**	**9 664,0**	**9 664,0**	**9 664,0**

Source: Global Innovation Trade analysis and calculations

In the future, the volume of sales is assumed to be at the level of 2041.

11.8 Revenue Calculation

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

Table 35 Revenue plan by year, thousand dollars.

Product name	Unit.	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Milk	thousand dollars.	185,1	185,1	222,1	718,1	1 031,9	1 884,6	2 659,1	3 691,4	3 701,4	3 701,4	3 701,4
Sales of cattle (heifers, bulls)	thousand dollars.	0,0	62,4	65,3	171,1	266,5	471,9	695,7	1 520,5	1 616,9	1 593,8	1 593,6
Total	**thousand dollars.**	**185,1**	**247,5**	**287,4**	**889,1**	**1 298,5**	**2 356,5**	**3 354,8**	**5 211,9**	**5 318,3**	**5 295,2**	**5 295,0**

continued

Product name	Unit.	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Milk	thousand dollars.	3 701,4	3 701,4	3 701,4	3 701,4	3 701,4	3 701,4	3 701,4	3 701,4	3 701,4	3 701,4	3 701,4
Sales of cattle (heifers, bulls)	thousand dollars.	1 593,6	1 593,6	1 593,6	1 593,6	1 593,6	1 593,6	1 593,6	1 593,6	1 593,6	1 593,6	1 593,6
Total	**thousand dollars.**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**

Source: Global Innovation Trade analysis and calculations

Further revenue from product sales is assumed to be at the level of 2041.

11.9 Forecast of profits and losses

The profit and loss statement by year is shown in the table:

Table 36 Profit and loss statement, thous.

Income / expense item	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Revenue from sales		185,1	247,5	287,4	889,1	1 298,5	2 356,5	3 354,8	5 211,9	5 318,3	5 295,2	5 295,0
Variable costs		48,4	77,9	121,5	183,6	323,4	468,8	655,9	725,2	805,5	806,3	806,3
Gross profit		136,7	169,6	165,9	705,5	975,0	1 887,7	2 698,9	4 486,8	4 512,8	4 488,9	4 488,7
Fixed costs	0,3	33,4	41,0	41,0	41,0	41,0	41,0	41,0	53,8	53,8	53,8	53,8
Taxes (Insurance premiums)	0,1	12,0	12,0	12,4	12,4	13,8	13,8	13,8	19,9	19,9	19,9	19,9
EBITDA	**-0,4**	**91,3**	**116,6**	**112,5**	**652,1**	**920,3**	**1 833,0**	**2 644,1**	**4 413,0**	**4 439,0**	**4 415,2**	**4 415,0**
EBIT, % (to revenue) average	0%	49%	47%	39%	73%	71%	78%	79%	85%	83%	83%	83%
Depreciation of fixed assets	35,3	44,2	111,2	112,7	213,1	213,1	214,6	335,0	335,0	335,0	335,0	335,0
EBIT	**-35,7**	**47,0**	**5,4**	**-0,2**	**439,0**	**707,2**	**1 618,4**	**2 309,1**	**4 078,0**	**4 104,0**	**4 080,2**	**4 080,0**
Payment of interest on loans and credits	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Profit (Loss) before taxation	-35,7	47,0	5,4	-0,2	439,0	707,2	1 618,4	2 309,1	4 078,0	4 104,0	4 080,2	4 080,0
CAP	0,0	0,4	0,0	0,0	0,0	0,0	0,0	33,9	129,4	115,6	114,0	114,0
Retained earnings	**-35,7**	**46,7**	**5,4**	**-0,2**	**439,0**	**707,2**	**1 618,4**	**2 275,2**	**3 948,6**	**3 988,4**	**3 966,1**	**3 965,9**
Retained earnings on an accrual basis	**-35,7**	**11,0**	**16,4**	**16,2**	**455,2**	**1 162,5**	**2 780,9**	**5 056,0**	**9 004,7**	**12 993,1**	**16 959,2**	**20 925,2**
Net income	**-35,7**	**46,7**	**5,4**	**-0,2**	**439,0**	**707,2**	**1 618,4**	**2 275,2**	**3 948,6**	**3 988,4**	**3 966,1**	**3 965,9**
Net profit on an accrual basis	**-35,7**	**11,0**	**16,4**	**16,2**	**455,2**	**1 162,5**	**2 780,9**	**5 056,0**	**9 004,7**	**12 993,1**	**16 959,2**	**20 925,2**
Return on sales	0%	25%	2%	0%	49%	54%	69%	68%	76%	75%	75%	75%

Continued

Income / expense item	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048
Revenue from sales	5 295,0	5 295,0	5 295,0	5 295,0	5 295,0	5 295,0	5 295,0	5 295,0	5 295,0	5 295,0	5 295,0
Variable costs	806,3	806,3	806,3	806,3	806,3	806,3	806,3	806,3	806,3	806,3	806,3
Gross profit	4 488,7	4 488,7	4 488,7	4 488,7	4 488,7	4 488,7	4 488,7	4 488,7	4 488,7	4 488,7	4 488,7
Fixed costs	53,8	53,8	53,8	53,8	53,8	53,8	53,8	53,8	53,8	53,8	53,8
Taxes (Insurance premiums)	19,9	19,9	19,9	19,9	19,9	19,9	19,9	19,9	19,9	19,9	19,9
EBITDA	**4 415,0**	**4 415,0**	**4 415,0**	**4 415,0**	**4 415,0**	**4 415,0**	**4 415,0**	**4 415,0**	**4 415,0**	**4 415,0**	**4 415,0**
EBIT, % (to revenue) average	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%	83%
Depreciation of fixed assets	335,0	335,0	335,0	335,0	335,0	335,0	335,0	335,0	299,7	290,8	223,8
EBIT	**4 080,0**	**4 080,0**	**4 080,0**	**4 080,0**	**4 080,0**	**4 080,0**	**4 080,0**	**4 080,0**	**4 115,2**	**4 124,2**	**4 191,1**
Payment of interest on loans and credits	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Profit (Loss) before taxation	4 080,0	4 080,0	4 080,0	4 080,0	4 080,0	4 080,0	4 080,0	4 080,0	4 115,2	4 124,2	4 191,1
CAP	114,0	114,0	114,0	114,0	114,0	114,0	114,0	114,0	114,0	114,0	114,0
Retained earnings	**3 965,9**	**3 965,9**	**3 965,9**	**3 965,9**	**3 965,9**	**3 965,9**	**3 965,9**	**3 965,9**	**4 001,2**	**4 010,2**	**4 077,1**
Retained earnings on an accrual basis	**24 891,1**	**28 857,0**	**32 822,9**	**36 788,9**	**40 754,8**	**44 720,7**	**48 686,6**	**52 652,6**	**56 653,8**	**60 663,9**	**64 741,0**
Net income	**3 965,9**	**3 965,9**	**3 965,9**	**3 965,9**	**3 965,9**	**3 965,9**	**3 965,9**	**3 965,9**	**4 001,2**	**4 010,2**	**4 077,1**
Net profit on an accrual basis	**24 891,1**	**28 857,0**	**32 822,9**	**36 788,9**	**40 754,8**	**44 720,7**	**48 686,6**	**52 652,6**	**56 653,8**	**60 663,9**	**64 741,0**
Return on sales	75%	75%	75%	75%	75%	75%	75%	75%	76%	76%	77%

Source: Global Innovation Trade analysis and calculations

11.10 Cash flow forecast

Cash flow projections by year are shown in the table below. Cash flow projections by month are shown in the appendix.

Table 37 Cash flow forecast, thous.

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
INVESTMENT CASH FLOW (ICEF)	**-290,7**	**-2 284,8**	**-547,6**	**-868,8**	**-3 841,1**	**-471,6**	**-6 124,3**	**-426,9**	**-5 794,8**	**-2 133,0**				
Capital expenditures	290,7	2 284,8	547,6	868,8	3 841,1	471,6	6 124,3	426,9	5 794,8	2 133,0				
OPERATING CASH FLOW (OPF)			**-0,4**	**90,9**	**116,6**	**112,5**	**652,1**	**920,3**	**1 833,0**	**2 610,2**	**4 283,6**	**4 323,4**	**4 301,1**	**4 300,9**
Revenue total				**185,1**	**247,5**	**287,4**	**889,1**	**1 298,5**	**2 356,5**	**3 354,8**	**5 211,9**	**5 318,3**	**5 295,2**	**5 295,0**
Expenses total			0,3	81,7	118,9	162,5	224,6	364,4	509,8	696,9	779,0	859,4	860,1	860,1
Variable costs				*48,4*	*77,9*	*121,5*	*183,6*	*323,4*	*468,8*	*655,9*	*725,2*	*805,5*	*806,3*	*806,3*
Fixed costs			*0,3*	*33,4*	*41,0*	*41,0*	*41,0*	*41,0*	*41,0*	*41,0*	*53,8*	*53,8*	*53,8*	*53,8*
Accrued taxes and payments			*0,1*	*12,4*	*12,0*	*12,4*	*12,4*	*13,8*	*13,8*	*47,7*	*149,3*	*135,5*	*133,9*	*133,9*
FINANCIAL CASH FLOW (FDP)	**290,7**	**2 284,8**	**548,1**	**924,0**	**3 934,7**	**721,2**	**6 124,3**	**426,9**	**5 794,8**	**2 133,0**				
Own funds														
Borrowed funds	290,7	2 284,8	548,1	924,0	3 934,7	721,2	6 124,3	426,9	5 794,8	2 133,0				
Net cash flow (NFC)	**-290,7**	**-2 284,8**	**-548,0**	**-777,9**	**-3 724,6**	**-359,2**	**-5 472,2**	**493,4**	**-3 961,8**	**477,2**	**4 283,6**	**4 323,4**	**4 301,1**	**4 300,9**
Cumulative NPD	**-290,7**	**-2 575,6**	**-3 123,6**	**-3 901,5**	**-7 626,0**	**-7 985,2**	**-12 799,7**	**-12 347,4**	**-15 958,4**	**-15 527,6**	**-11 723,9**	**-8 201,9**	**-3 540,5**	**760,4**

Continued

	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	Total
INVESTMENT CASH FLOW (ICEF)												**-22 783,8**
Capital expenditures												**22 783,8**
OPERATING CASH FLOW (OPF)	**4 300,9**	**4 300,9**	**4 300,9**	**4 300,9**	**4 300,9**	**4 300,9**	**4 300,9**	**4 300,9**	**4 300,9**	**4 300,9**	**4 300,9**	**70 854,4**
Revenue total	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**5 295,0**	**87 983,9**
Expenses total	860,1	860,1	860,1	860,1	860,1	860,1	860,1	860,1	860,1	860,1	860,1	**14 979,1**
Variable costs	*806,3*	*806,3*	*806,3*	*806,3*	*806,3*	*806,3*	*806,3*	*806,3*	*806,3*	*806,3*	*806,3*	**13 891,9**
Fixed costs	*53,8*	*53,8*	*53,8*	*53,8*	*53,8*	*53,8*	*53,8*	*53,8*	*53,8*	*53,8*	*53,8*	**1 087,3**
Accrued taxes and payments	*133,9*	*133,9*	*133,9*	*133,9*	*133,9*	*133,9*	*133,9*	*133,9*	*133,9*	*133,9*	*133,9*	**2 150,3**
FINANCIAL CASH FLOW (FDP)												**23 182,7**
Own funds												
Borrowed funds												**23 182,7**
Net cash flow (NFC)	**4 300,9**	**4 300,9**	**4 300,9**	**4 300,9**	**4 300,9**	**4 300,9**	**4 300,9**	**4 300,9**	**4 300,9**	**4 300,9**	**4 300,9**	**48 070,6**
Cumulative NPD	**5 061,4**	**9 362,3**	**13 663,2**	**14 021,6**	**14 380,0**	**14 738,4**	**15 096,9**	**15 455,3**	**15 813,7**	**16 172,1**	**16 530,5**	**45 453,8**

Source: Global Innovation Trade analysis and calculations

11.11 Project efficiency analysis

1.1.1. 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

1.1.2. 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.

The main financial indicators are shown in the table below.

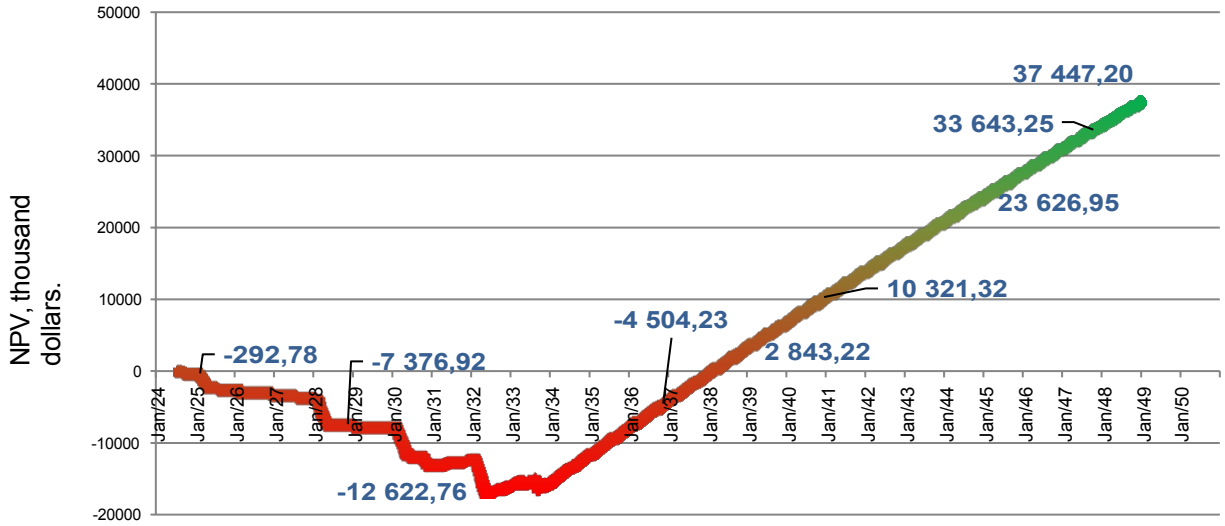
Table 38 Indicators of investment efficiency

Indicator	Value
Calculation period (planning horizon), months.	300
Net income (NV), thousand dollars.	270,0
Net discounted income (NPV), thousand dollars.	37 447,2
Internal rate of return (IRR), % per year	13%
Profitability index (PI), units.	2,62
Payback period (PB), months.	158,9
Discounted payback period (DPB), months.	162,6
Investments in the project, thousand dollars.	23 182,7
Average return on sales for the project, %	61%
Net income (cumulative), thousand dollars.	64 741,0
Discount rate, %	14,61%
Return on investment (ROI), %	279,26%

Source: Global Innovation Trade analysis and calculations

According to the study, it is clear that the project will pay for itself in 13 years and 2 months. Payback period, taking into account discounting will be 13 years 6 months. The net profit of the project after payback will be 323,705.0 thousand dollars. The figure below shows the NPV of the project:

Figure 10 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 $37,447.20 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 13%, which is significantly lower than the discount rate (14,61%).

PI indicator equal to 2.62 units means that at the end of 2041 for each dollar invested, the investor will receive 2.62 dollars (taking into account discounting).

1.1.3. 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.

$$NPV = \sum_{t=0}^{T} \frac{CFt}{(1+i)^t} 1)$$

Wherei 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.

1.1.4. 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:

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

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

IF, - cash inflow in the N-th period;

y-cost of the source of funding for this project; n- duration of the project.

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

1.1.5. 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.

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

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.

1.1.6. 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).

1.1.7. Discounted Payback Period (DPBP)

Discounted Payback Period (DPBP) - payback period (see above), but taking into account discounting.

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

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

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

1.1.8. Return on investment (ROI)

Return on Investment (ROI) is a financial indicator that characterizes the profitability of investments. This indicator demonstrates the profitability (with a value greater than 100%) or unprofitability (with a value less than 100%) of the investment.

The return on investment ratio is calculated using the formula:

$$ROI = \frac{\text{Total Income-Cost}}{\text{Amount of investment}} * 100\%$$

1.1.9. Other indicators

The discount rate is the interest rate used to convert future income streams into a single present value. The discount rate is used in calculating the discounted value of future NPV cash flows.

The discount rate is calculated according to the formula:

$$NPV = \sum_{t=0}^{N} \frac{CF_t}{(1+i)^t} = -IC + \sum_{t=1}^{N} \frac{CF_t}{(1+i)^t}$$

Where i is the discount rate - a variable that depends on a number of factors:

- factors affecting future cash flows, which are determined individually for each investment project;
- the cost of an alternative investment for a given period, whether it be the bank interest rate on deposits, the refinancing rate, the average return on an existing business, etc;
- an estimate of the inflation rate for the selected period, as an estimate of the value of the risk of depreciation of funds over the period.

12. PROJECT RISK ANALYSIS

12.1 Quantitative risk analysis

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

Table 39 Sensitivity analysis

Indicator	NPV		IRR	
Base value	37 447,2		13%	
Deviations	Δ	%	Δ	%
Reduction of selling prices by 5%	-2 016,9	-105,4%	0,3%	-97,9%
Decrease in sales volumes by 5%	-2 016,9	-105,4%	0,3%	-97,9%
Increase in variable costs by 5%	1 423,8	-96,2%	0,8%	-93,7%
Increase in fixed costs by 5%	1 362,4	-96,4%	1,7%	-86,4%

Continued

Indicator	PI		PB	
Base value	2,62		158,9	
Deviations	Δ	%	Δ	%
5% decrease in selling prices	0,91	-65,1%	287,7	-81,1%
Decrease in sales volumes by 5%	0,91	-65,1%	287,7	-81,1%
Increase in variable costs by 5%	0,96	-63,1%	277,2	-74,5%
Increase in fixed costs by 5%	1,06	-59,5%	261,0	-64,3%

Source: Financial model calculations

* A description of the indicators in question is given in section 7.12 of this business plan.

According to the results of the analysis, there is the greatest dependence of the project on the selling price and the volume of production.

12.2 Qualitative analysis of risks (the reaction of competitors, weaknesses of personnel (involved in marketing, production or management), modern advances in technology that could lead to the viability of the project)

The main possible technological risks, the probability of their realization, the degree of danger and ways to reduce them are shown in the table:

Table 40 Main risks of the project

Risk	Probability and degree of danger. Manifestations of Negative Influence	Leveling tools risks
Political risks		
Denial / delay in obtaining permits for construction, etc.	Probability: medium Danger level: high Impact: disruptions of deadlines with equipment suppliers	Support of the enterprise by local authorities, government
Financial crisis in the country	Probability: medium Degree of danger: medium Impact: reduced demand for products	Reducing product prices, conducting promotions and providing discounts
Environmental risks		
Environmental contamination of the area, epidemics	Probability: low Degree of danger: high Influence: possible blockage product sales	Monitoring of the situation in the region. Development of an anti-crisis plan.
Production and commercial risks		
Delays in equipment delivery	Probability: low Degree of danger: medium Impact: delaying the production process	Formation of a contract with clear points of interaction. Selection of suppliers with extensive experience work.
Construction delays	Probability: low Degree of danger: high Impact: disruption of the entire project	Forming a contract with clear points of interaction. Selection of contractors with extensive experience works
Failure of deadlines in the supply of components, medicines, etc.	Probability: low Degree of danger: high Impact: change in growing program, loss of profit	Forming a contract with clear points of interaction. Selection of contractors with extensive experience work.
Delayed payment goods from	Probability: medium Hazard level: medium	Conclusion of competent contracts, factoring

Risk	Probability and degree of danger. Manifestations of Negative Influence	Leveling tools risks
consumers	Impact: decrease in working capital capital	
Market risks		
Price dumping by manufacturers	Probability: medium Degree of danger: high Impact: decrease in profit companies	Reduced costs, slight decrease in prices
Decline in consumer demand	Probability: low Meat products are a basic necessity Hazard level: High Impact: decrease in company profits	Increase in the number of advertising campaigns and promotions

Source: Global Innovation Trade analysis

12.3 Project break-even point

The break-even point determines what the volume of sales should be in order for the company to work break-even, could cover all its costs without making a profit.

To calculate the breakeven point, you must divide the costs into three 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;
- Loan payments;
- Tax payments.

The calculation of the break-even point is shown in the table:

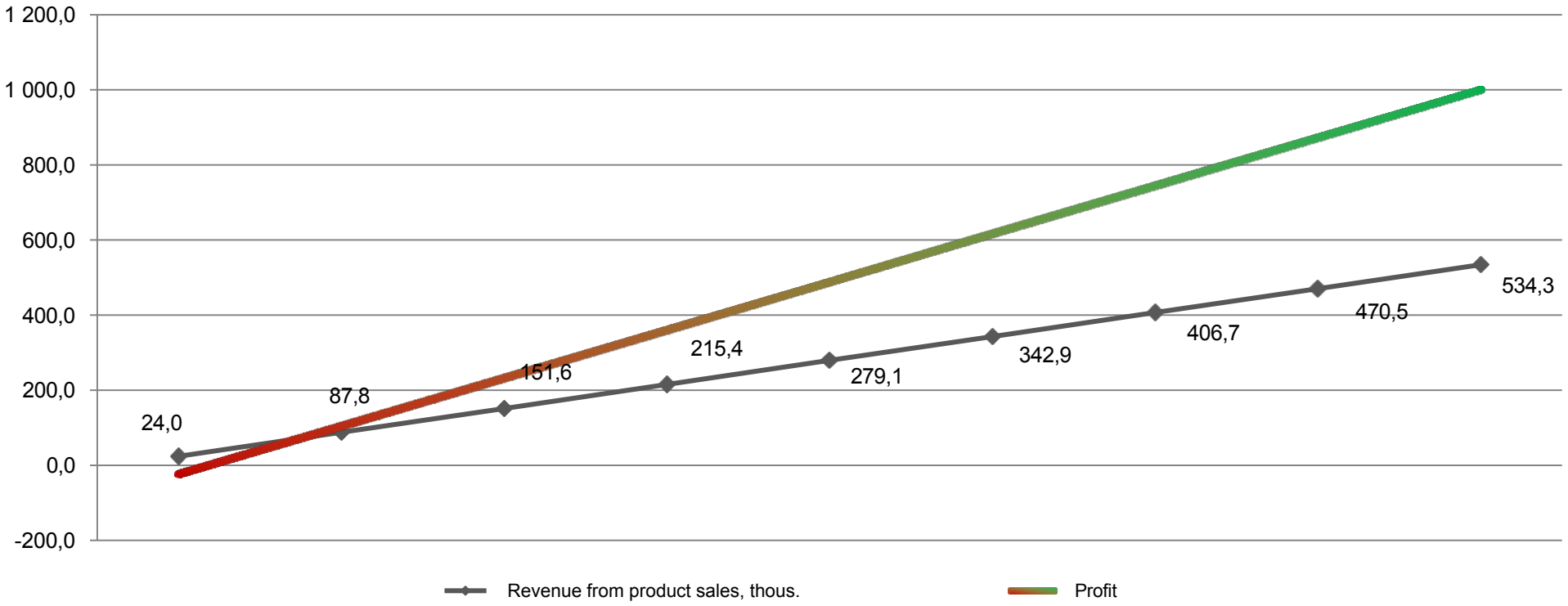
Table 41. Calculation of breakeven point, thousand dollars.

Proceeds from product sales, thous.	24,0	87,8	151,6	215,4	279,1	342,9	406,7	470,5	534,3
Variable costs	65,2	65,2	65,2	65,2	65,2	65,2	65,2	65,2	65,2
Fixed costs	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5
Loan payments	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Total expenses	70,7	70,7	70,7	70,7	70,7	70,7	70,7	70,7	70,7
Profit	-46,7	17,1	80,8	144,6	208,4	272,2	336,0	399,8	463,6

Source: Global Innovation Trade analysis and calculations

For this company the break-even point chart will look like this:

Figure 11 Break-even point chart



Source: Global Innovation Trade analysis and calculations

The break-even point is of great importance for the viability of a company and its solvency. Thus, the degree to which sales volumes exceed the break-even point determines the company's financial strength (margin of safety).

The break-even point chart shows that the company must sell at least **$87,800** worth of products **per month in** order to make a profit from its operations.

13. APPLICATIONS

13.1 Cash flow statement (by month)

	2024											
	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)								**-0,420**	**-72,980**	**-72,980**	**-72,980**	**-71,380**
Capital expenditures								0,420	72,980	72,980	72,980	71,380
OPERATING CASH FLOW (OPF)												
Revenue total												
Expenses total												
Variable costs												
Fixed costs												
Accrued taxes and payments												
FINANCIAL CASH FLOW (FDP)								**0,420**	**72,980**	**72,980**	**72,980**	**71,380**
Own funds												
Borrowed funds								0,420	72,980	72,980	72,980	71,380
Net cash flow (NFC)								**-0,420**	**-72,980**	**-72,980**	**-72,980**	**-71,380**
Cumulative NPD								**-0,420**	**-73,400**	**-146,379**	**-219,359**	**-290,738**
Cash balance at the beginning of the period												
Cash balance at the end of the period												
Net discounted income (NPV)								**-0,417**	**-72,429**	**-72,360**	**-72,292**	**-70,640**
NPV on an accrual basis								**-0,42**	**-72,85**	**-145,21**	**-217,50**	**-288,14**

	2025											
	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)	**-2,350**	**-2,350**	**-676,084**	**-676,484**	**-676,484**	**-15,151**	**-14,751**	**-14,751**	**-14,751**	**-14,751**	**-162,171**	**-14,751**
Capital expenditures	2,350	2,350	676,084	676,484	676,484	15,151	14,751	14,751	14,751	14,751	162,171	14,751
OPERATING CASH FLOW (OPF)												
Revenue total												
Expenses total												
Variable costs												
Fixed costs												
Accrued taxes and payments												
FINANCIAL CASH FLOW (FDP)	**2,350**	**2,350**	**676,084**	**676,484**	**676,484**	**15,151**	**14,751**	**14,751**	**14,751**	**14,751**	**162,171**	**14,751**
Own funds												
Borrowed funds	2,350	2,350	676,084	676,484	676,484	15,151	14,751	14,751	14,751	14,751	162,171	14,751
Net cash flow (NFC)	**-2,350**	**-2,350**	**-676,084**	**-676,484**	**-676,484**	**-15,151**	**-14,751**	**-14,751**	**-14,751**	**-14,751**	**-162,171**	**-14,751**
Cumulative NPD	**-293,089**	**-295,439**	**-971,524**	**-1 648,008**	**-2 324,492**	**-2 339,644**	**-2 354,395**	**-2 369,146**	**-2 383,897**	**-2 398,648**	**-2 560,819**	**-2 575,570**
Cash balance at the beginning of the period												
Cash balance at the end of the period												
Net discounted income (NPV)	**-2,324**	**-2,322**	**-667,182**	**-666,945**	**-666,313**	**-14,909**	**-14,502**	**-14,488**	**-14,474**	**-14,461**	**-158,827**	**-14,433**
NPV on an accrual basis	**-290,46**	**-292,78**	**-959,97**	**-1 626,91**	**-2 293,22**	**-2 308,13**	**-2 322,63**	**-2 337,12**	**-2 351,60**	**-2 366,06**	**-2 524,89**	**-2 539,32**

	2026											
	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)	**-14,751**	**-14,751**	**-359,315**	**-17,736**	**-17,736**	**-17,736**	**-15,336**	**-15,336**	**-15,336**	**-15,936**	**-18,783**	**-24,846**
Capital expenditures	14,751	14,751	359,315	17,736	17,736	17,736	15,336	15,336	15,336	15,936	18,783	24,846
OPERATING CASH FLOW (OPF)												**-0,406**
Revenue total												
Expenses total												0,312
Variable costs												
Fixed costs												*0,312*
Accrued taxes and payments												0,094
FINANCIAL CASH FLOW (FDP)	**14,751**	**14,751**	**359,315**	**17,736**	**17,736**	**17,736**	**15,336**	**15,336**	**15,336**	**15,936**	**18,783**	**25,326**
Own funds												
Borrowed funds	14,751	14,751	359,315	17,736	17,736	17,736	15,336	15,336	15,336	15,936	18,783	25,326
Net cash flow (NFC)	**-14,751**	**-14,751**	**-359,315**	**-17,736**	**-17,736**	**-17,736**	**-15,336**	**-15,336**	**-15,336**	**-15,936**	**-18,783**	**-25,252**
Cumulative NPD	**-2 590,321**	**-2 605,072**	**-2 964,387**	**-2 982,123**	**-2 999,859**	**-3 017,596**	**-3 032,932**	**-3 048,268**	**-3 063,604**	**-3 079,541**	**-3 098,324**	**-3 123,576**
Cash balance at the beginning of the period												
Cash balance at the end of the period												0,074
Net discounted income (NPV)	**-14,420**	**-14,406**	**-350,577**	**-17,289**	**-17,272**	**-17,256**	**-14,907**	**-14,893**	**-14,879**	**-15,446**	**-18,188**	**-24,429**
NPV on an accrual basis	**-2 553,74**	**-2 568,14**	**-2 918,72**	**-2 936,01**	**-2 953,28**	**-2 970,54**	**-2 985,45**	**-3 000,34**	**-3 015,22**	**-3 030,66**	**-3 048,85**	**-3 073,28**

	2027											
	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)	**-225,445**	**-63,511**	**-28,424**	**-33,980**	**-28,424**	**-28,424**	**-28,424**	**-41,389**	**-23,989**	**-23,989**	**-318,828**	**-23,989**
Capital expenditures	225,445	63,511	28,424	33,980	28,424	28,424	28,424	41,389	23,989	23,989	318,828	23,989
OPERATING CASH FLOW (OPF)	**8,410**	**8,386**	**8,386**	**8,386**	**8,386**	**8,386**	**6,762**	**6,762**	**6,762**	**6,762**	**6,762**	**6,762**
Revenue total	15,422	15,422	15,422	15,422	15,422	15,422	15,422	15,422	15,422	15,422	15,422	15,422
Expenses total	5,968	5,968	5,968	5,968	5,968	5,968	7,656	7,656	7,656	7,656	7,656	7,656
Variable costs	*3,187*	*3,187*	*3,187*	*3,187*	*3,187*	*3,187*	*4,875*	*4,875*	*4,875*	*4,875*	*4,875*	*4,875*
Fixed costs	*2,781*	*2,781*	*2,781*	*2,781*	*2,781*	*2,781*	*2,781*	*2,781*	*2,781*	*2,781*	*2,781*	*2,781*
Accrued taxes and payments	1,044	1,069	1,069	1,069	1,069	1,069	1,004	1,004	1,004	1,004	1,004	1,004
FINANCIAL CASH FLOW (FDP)	**225,445**	**63,511**	**28,424**	**33,980**	**28,424**	**28,424**	**30,824**	**46,189**	**35,989**	**35,989**	**330,828**	**35,989**
Own funds												
Borrowed funds	225,445	63,511	28,424	33,980	28,424	28,424	30,824	46,189	35,989	35,989	330,828	35,989
Net cash flow (NFC)	**-217,035**	**-55,126**	**-20,038**	**-25,595**	**-20,038**	**-20,038**	**-21,662**	**-34,626**	**-17,226**	**-17,226**	**-312,065**	**-17,226**
Cumulative NPD	**-3 340,611**	**-3 395,736**	**-3 415,775**	**-3 441,370**	**-3 461,408**	**-3 481,446**	**-3 503,108**	**-3 537,734**	**-3 554,961**	**-3 572,187**	**-3 884,253**	**-3 901,479**
Cash balance at the beginning of the period	0,074	8,484	16,870	25,255	33,641	42,026	50,412	59,574	71,136	89,899	108,661	127,423
Cash balance at the end of the period	8,484	16,870	25,255	33,641	42,026	50,412	59,574	71,136	89,899	108,661	127,423	146,185
Net discounted income (NPV)	**-209,762**	**-53,228**	**-19,330**	**-24,667**	**-19,294**	**-19,275**	**-20,817**	**-33,245**	**-16,524**	**-16,508**	**-298,765**	**-16,477**
NPV on an accrual basis	**-3 283,04**	**-3 336,27**	**-3 355,60**	**-3 380,27**	**-3 399,56**	**-3 418,84**	**-3 439,65**	**-3 472,90**	**-3 489,42**	**-3 505,93**	**-3 804,69**	**-3 821,17**

	2028											
	Jan.28	**fev.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)	**-22,693**	**-22,693**	**-1 779,580**	**-995,574**	**-995,574**	**-3,574**	**-3,574**	**-3,574**	**-3,574**	**-3,574**	**-3,574**	**-3,574**
Capital expenditures	22,693	22,693	1 779,580	995,574	995,574	3,574	3,574	3,574	3,574	3,574	3,574	3,574
OPERATING CASH FLOW (OPF)	**9,714**	**9,714**	**9,714**	**9,714**	**9,714**	**9,714**	**9,714**	**9,714**	**9,714**	**9,714**	**9,714**	**9,714**
Revenue total	20,622	20,622	20,622	20,622	20,622	20,622	20,622	20,622	20,622	20,622	20,622	20,622
Expenses total	9,905	9,905	9,905	9,905	9,905	9,905	9,905	9,905	9,905	9,905	9,905	9,905
Variable costs	*6,488*	*6,488*	*6,488*	*6,488*	*6,488*	*6,488*	*6,488*	*6,488*	*6,488*	*6,488*	*6,488*	*6,488*
Fixed costs	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*
Accrued taxes and payments	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004
FINANCIAL CASH FLOW (FDP)	**25,093**	**25,093**	**1 781,980**	**1 005,174**	**1 005,174**	**13,174**	**13,174**	**13,174**	**13,174**	**13,174**	**13,174**	**13,174**
Own funds												
Borrowed funds	25,093	25,093	1 781,980	1 005,174	1 005,174	13,174	13,174	13,174	13,174	13,174	13,174	13,174
Net cash flow (NFC)	**-12,979**	**-12,979**	**-1 769,866**	**-985,860**	**-985,860**	**6,140**	**6,140**	**6,140**	**6,140**	**6,140**	**6,140**	**6,140**
Cumulative NPD	**-3 914,458**	**-3 927,436**	**-5 697,302**	**-6 683,162**	**-7 669,023**	**-7 662,883**	**-7 656,743**	**-7 650,603**	**-7 644,464**	**-7 638,324**	**-7 632,184**	**-7 626,044**
Cash balance at the beginning of the period	146,185	158,299	170,414	182,528	201,842	221,156	240,470	259,784	279,098	298,412	317,726	337,040
Cash balance at the end of the period	158,299	170,414	182,528	201,842	221,156	240,470	259,784	279,098	298,412	317,726	337,040	356,354
Net discounted income (NPV)	**-12,402**	**-12,390**	**-1 688,030**	**-939,386**	**-938,497**	**5,839**	**5,834**	**5,828**	**5,823**	**5,817**	**5,812**	**5,806**
NPV on an accrual basis	**-3 833,57**	**-3 845,96**	**-5 533,99**	**-6 473,38**	**-7 411,87**	**-7 406,04**	**-7 400,20**	**-7 394,37**	**-7 388,55**	**-7 382,73**	**-7 376,92**	**-7 371,12**

	2029											
	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)	**-262,774**	**-3,574**	**-20,529**	**-20,529**	**-20,529**	**-20,529**	**-20,529**	**-20,529**	**-20,529**	**-20,529**	**-20,529**	**-20,529**
Capital expenditures	262,774	3,574	20,529	20,529	20,529	20,529	20,529	20,529	20,529	20,529	20,529	20,529
OPERATING CASH FLOW (OPF)	**9,373**	**9,373**	**9,373**	**9,373**	**9,373**	**9,373**	**9,373**	**9,373**	**9,373**	**9,373**	**9,373**	**9,373**
Revenue total	23,947	23,947	23,947	23,947	23,947	23,947	23,947	23,947	23,947	23,947	23,947	23,947
Expenses total	13,538	13,538	13,538	13,538	13,538	13,538	13,538	13,538	13,538	13,538	13,538	13,538
Variable costs	*10,122*	*10,122*	*10,122*	*10,122*	*10,122*	*10,122*	*10,122*	*10,122*	*10,122*	*10,122*	*10,122*	*10,122*
Fixed costs	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*
Accrued taxes and payments	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035
FINANCIAL CASH FLOW (FDP)	**279,574**	**27,574**	**44,529**	**44,529**	**44,529**	**44,529**	**44,529**	**44,529**	**44,529**	**44,529**	**32,529**	**25,329**
Own funds												
Borrowed funds	279,574	27,574	44,529	44,529	44,529	44,529	44,529	44,529	44,529	44,529	32,529	25,329
Net cash flow (NFC)	**-253,401**	**5,799**	**-11,156**	**-11,156**	**-11,156**	**-11,156**	**-11,156**	**-11,156**	**-11,156**	**-11,156**	**-11,156**	**-11,156**
Cumulative NPD	**-7 879,445**	**-7 873,646**	**-7 884,802**	**-7 895,957**	**-7 907,113**	**-7 918,268**	**-7 929,424**	**-7 940,579**	**-7 951,735**	**-7 962,891**	**-7 974,046**	**-7 985,202**
Cash balance at the beginning of the period	356,354	382,528	415,901	449,274	482,648	516,021	549,394	582,768	616,141	649,514	682,888	704,261
Cash balance at the end of the period	382,528	415,901	449,274	482,648	516,021	549,394	582,768	616,141	649,514	682,888	704,261	718,435
Net discounted income (NPV)	**-239,407**	**5,474**	**-10,520**	**-10,510**	**-10,500**	**-10,490**	**-10,480**	**-10,470**	**-10,460**	**-10,450**	**-10,440**	**-10,430**
NPV on an accrual basis	**-7 610,52**	**-7 605,05**	**-7 615,57**	**-7 626,08**	**-7 636,58**	**-7 647,07**	**-7 657,55**	**-7 668,02**	**-7 678,48**	**-7 688,93**	**-7 699,37**	**-7 709,80**

	2030											
	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)	**-20,529**	**-20,529**	**-1 453,418**	**-1 453,418**	**-1 453,418**	**-20,529**	**-462,787**	**-20,529**	**-20,529**	**-20,529**	**-1 177,062**	**-1,054**
Capital expenditures	20,529	20,529	1 453,418	1 453,418	1 453,418	20,529	462,787	20,529	20,529	20,529	1 177,062	1,054
OPERATING CASH FLOW (OPF)	**54,342**	**54,342**	**54,342**	**54,342**	**54,342**	**54,342**	**54,342**	**54,342**	**54,342**	**54,342**	**54,342**	**54,342**
Revenue total	74,095	74,095	74,095	74,095	74,095	74,095	74,095	74,095	74,095	74,095	74,095	74,095
Expenses total	18,718	18,718	18,718	18,718	18,718	18,718	18,718	18,718	18,718	18,718	18,718	18,718
Variable costs	*15,301*	*15,301*	*15,301*	*15,301*	*15,301*	*15,301*	*15,301*	*15,301*	*15,301*	*15,301*	*15,301*	*15,301*
Fixed costs	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*
Accrued taxes and payments	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035	1,035
FINANCIAL CASH FLOW (FDP)	**20,529**	**20,529**	**1 453,418**	**1 453,418**	**1 453,418**	**20,529**	**462,787**	**20,529**	**20,529**	**20,529**	**1 177,062**	**1,054**
Own funds												
Borrowed funds	20,529	20,529	1 453,418	1 453,418	1 453,418	20,529	462,787	20,529	20,529	20,529	1 177,062	1,054
Net cash flow (NFC)	**33,813**	**33,813**	**-1 399,076**	**-1 399,076**	**-1 399,076**	**33,813**	**-408,445**	**33,813**	**33,813**	**33,813**	**-1 122,720**	**53,287**
Cumulative NPD	**-7 951,389**	**-7 917,576**	**-9 316,652**	**-10 715,728**	**-12 114,804**	**-12 080,991**	**-12 489,436**	**-12 455,623**	**-12 421,810**	**-12 387,998**	**-13 510,718**	**-13 457,431**
Cash balance at the beginning of the period	718,435	772,776	827,118	881,460	935,802	990,143	1 044,485	1 098,827	1 153,169	1 207,511	1 261,852	1 316,194
Cash balance at the end of the period	772,776	827,118	881,460	935,802	990,143	1 044,485	1 098,827	1 153,169	1 207,511	1 261,852	1 316,194	1 370,536
Net discounted income (NPV)	**31,585**	**31,555**	**-1 304,404**	**-1 303,170**	**-1 301,936**	**31,435**	**-379,367**	**31,376**	**31,346**	**31,317**	**-1 038,850**	**49,260**
NPV on an accrual basis	**-7 678,21**	**-7 646,66**	**-8 951,06**	**-10 254,23**	**-11 556,17**	**-11 524,73**	**-11 904,10**	**-11 872,72**	**-11 841,38**	**-11 810,06**	**-12 848,91**	**-12 799,65**

	2031											
	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)	**-260,254**	**-1,054**	**-16,557**	**-16,557**	**-16,557**	**-16,557**	**-16,557**	**-16,557**	**-16,557**	**-16,557**	**-16,557**	**-16,557**
Capital expenditures	260,254	1,054	16,557	16,557	16,557	16,557	16,557	16,557	16,557	16,557	16,557	16,557
OPERATING CASH FLOW (OPF)	**76,691**	**76,691**	**76,691**	**76,691**	**76,691**	**76,691**	**76,691**	**76,691**	**76,691**	**76,691**	**76,691**	**76,691**
Revenue total	108,207	108,207	108,207	108,207	108,207	108,207	108,207	108,207	108,207	108,207	108,207	108,207
Expenses total	30,369	30,369	30,369	30,369	30,369	30,369	30,369	30,369	30,369	30,369	30,369	30,369
Variable costs	*26,952*	*26,952*	*26,952*	*26,952*	*26,952*	*26,952*	*26,952*	*26,952*	*26,952*	*26,952*	*26,952*	*26,952*
Fixed costs	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*
Accrued taxes and payments	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146
FINANCIAL CASH FLOW (FDP)	**260,254**	**1,054**	**16,557**	**16,557**	**16,557**	**16,557**	**16,557**	**16,557**	**16,557**	**16,557**	**16,557**	**16,557**
Own funds												
Borrowed funds	260,254	1,054	16,557	16,557	16,557	16,557	16,557	16,557	16,557	16,557	16,557	16,557
Net cash flow (NFC)	**-183,563**	**75,637**	**60,134**	**60,134**	**60,134**	**60,134**	**60,134**	**60,134**	**60,134**	**60,134**	**60,134**	**60,134**
Cumulative NPD	**-13 640,993**	**-13 565,356**	**-13 505,222**	**-13 445,088**	**-13 384,954**	**-13 324,820**	**-13 264,686**	**-13 204,552**	**-13 144,418**	**-13 084,284**	**-13 024,150**	**-12 964,015**
Cash balance at the beginning of the period	1 370,536	1 447,227	1 523,919	1 600,610	1 677,302	1 753,993	1 830,685	1 907,376	1 984,068	2 060,759	2 137,451	2 214,142
Cash balance at the end of the period	1 447,227	1 523,919	1 600,610	1 677,302	1 753,993	1 830,685	1 907,376	1 984,068	2 060,759	2 137,451	2 214,142	2 290,833
Net discounted income (NPV)	**-169,529**	**69,788**	**55,432**	**55,379**	**55,327**	**55,274**	**55,222**	**55,170**	**55,118**	**55,065**	**55,013**	**54,961**
NPV on an accrual basis	**-12 969,18**	**-12 899,39**	**-12 843,96**	**-12 788,58**	**-12 733,25**	**-12 677,98**	**-12 622,76**	**-12 567,59**	**-12 512,47**	**-12 457,41**	**-12 402,39**	**-12 347,43**

	2032											
	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)	**-16,557**	**-16,557**	**-1 887,815**	**-1 887,815**	**-1 887,815**	**-14,037**	**-14,037**	**-14,037**	**-14,037**	**-14,037**	**-14,037**	**-14,037**
Capital expenditures	16,557	16,557	1 887,815	1 887,815	1 887,815	14,037	14,037	14,037	14,037	14,037	14,037	14,037
OPERATING CASH FLOW (OPF)	**152,748**	**152,748**	**152,748**	**152,748**	**152,748**	**152,748**	**152,748**	**152,748**	**152,748**	**152,748**	**152,748**	**152,748**
Revenue total	196,373	196,373	196,373	196,373	196,373	196,373	196,373	196,373	196,373	196,373	196,373	196,373
Expenses total	42,479	42,479	42,479	42,479	42,479	42,479	42,479	42,479	42,479	42,479	42,479	42,479
Variable costs	*39,063*	*39,063*	*39,063*	*39,063*	*39,063*	*39,063*	*39,063*	*39,063*	*39,063*	*39,063*	*39,063*	*39,063*
Fixed costs	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*
Accrued taxes and payments	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146	1,146
FINANCIAL CASH FLOW (FDP)	**16,557**	**16,557**	**1 887,815**	**1 887,815**	**1 887,815**	**14,037**	**14,037**	**14,037**	**14,037**	**14,037**	**14,037**	**14,037**
Own funds												
Borrowed funds	16,557	16,557	1 887,815	1 887,815	1 887,815	14,037	14,037	14,037	14,037	14,037	14,037	14,037
Net cash flow (NFC)	**136,190**	**136,190**	**-1 735,067**	**-1 735,067**	**-1 735,067**	**138,710**	**138,710**	**138,710**	**138,710**	**138,710**	**138,710**	**138,710**
Cumulative NPD	**-12 827,825**	**-12 691,635**	**-14 426,702**	**-16 161,770**	**-17 896,837**	**-17 758,127**	**-17 619,417**	**-17 480,706**	**-17 341,996**	**-17 203,286**	**-17 064,575**	**-16 925,865**
Cash balance at the beginning of the period	2 290,833	2 443,581	2 596,329	2 749,077	2 901,824	3 054,572	3 207,320	3 360,067	3 512,815	3 665,563	3 818,310	3 971,058
Cash balance at the end of the period	2 443,581	2 596,329	2 749,077	2 901,824	3 054,572	3 207,320	3 360,067	3 512,815	3 665,563	3 818,310	3 971,058	4 123,806
Net discounted income (NPV)	**124,357**	**124,239**	**-1 581,315**	**-1 579,818**	**-1 578,323**	**126,060**	**125,941**	**125,821**	**125,702**	**125,583**	**125,465**	**125,346**
NPV on an accrual basis	**-12 223,07**	**-12 098,83**	**-13 680,15**	**-15 259,97**	**-16 838,29**	**-16 712,23**	**-16 586,29**	**-16 460,47**	**-16 334,77**	**-16 209,18**	**-16 083,72**	**-15 958,37**

	2033											
	Jan.33	**Feb.33**	**mar.33**	**Apr.33**	**May.33**	**June 33**	**July 33**	**Aug.33**	**sen.33**	**Oct. 33**	**Nov.33**	**Dec. 33**
INVESTMENT CASH FLOW (ICEF)	**-14,037**	**-14,037**	**-14,337**	**-14,337**	**-562,384**	**-14,337**	**-14,337**	**-14,337**	**-1 470,871**			
Capital expenditures	14,037	14,037	14,337	14,337	562,384	14,337	14,337	14,337	1 470,871			
OPERATING CASH FLOW (OPF)	**218,541**	**217,423**	**217,423**	**217,423**	**217,423**	**217,423**	**217,423**	**217,423**	**217,423**	**217,423**	**217,423**	**217,423**
Revenue total	279,567	279,567	279,567	279,567	279,567	279,567	279,567	279,567	279,567	279,567	279,567	279,567
Expenses total	58,077	58,077	58,077	58,077	58,077	58,077	58,077	58,077	58,077	58,077	58,077	58,077
Variable costs	*54,661*	*54,661*	*54,661*	*54,661*	*54,661*	*54,661*	*54,661*	*54,661*	*54,661*	*54,661*	*54,661*	*54,661*
Fixed costs	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*	*3,416*
Accrued taxes and payments	2,950	4,067	4,067	4,067	4,067	4,067	4,067	4,067	4,067	4,067	4,067	4,067
FINANCIAL CASH FLOW (FDP)	**14,037**	**14,037**	**14,337**	**14,337**	**562,384**	**14,337**	**14,337**	**14,337**	**1 470,871**			
Own funds												
Borrowed funds	14,037	14,037	14,337	14,337	562,384	14,337	14,337	14,337	1 470,871			
Net cash flow (NFC)	**204,503**	**203,386**	**203,086**	**203,086**	**-344,961**	**203,086**	**203,086**	**203,086**	**-1 253,448**	**217,423**	**217,423**	**217,423**
Cumulative NPD	**-16 721,362**	**-16 517,976**	**-16 314,890**	**-16 111,805**	**-16 456,765**	**-16 253,680**	**-16 050,594**	**-15 847,508**	**-17 100,956**	**-16 883,533**	**-16 666,110**	**-16 448,687**
Cash balance at the beginning of the period	4 123,806	4 342,346	4 559,769	4 777,192	4 994,616	5 212,039	5 429,462	5 646,885	5 864,308	6 081,731	6 299,154	6 516,577
Cash balance at the end of the period	4 342,346	4 559,769	4 777,192	4 994,616	5 212,039	5 429,462	5 646,885	5 864,308	6 081,731	6 299,154	6 516,577	6 734,000
Net discounted income (NPV)	**184,625**	**183,442**	**182,998**	**182,825**	**-310,252**	**182,479**	**182,306**	**182,134**	**-1 123,069**	**194,623**	**194,439**	**194,255**
NPV on an accrual basis	**-15 773,75**	**-15 590,31**	**-15 407,31**	**-15 224,48**	**-15 534,73**	**-15 352,26**	**-15 169,95**	**-14 987,81**	**-16 110,88**	**-15 916,26**	**-15 721,82**	**-15 527,57**

	2034											
	Jan.34	**fev.34**	**mar.34**	**Apr.34**	**May.34**	**Jun.34**	**July 34**	**Aug. 34**	**sen.34**	**Oct. 34**	**Nov.34**	**Dec. 34**
INVESTMENT CASH FLOW (ICEF)												
Capital expenditures												
OPERATING CASH FLOW (OPF)	**356,969**	**356,969**	**356,969**	**356,969**	**356,969**	**356,969**	**356,969**	**356,969**	**356,969**	**356,969**	**356,969**	**356,969**
Revenue total	434,327	434,327	434,327	434,327	434,327	434,327	434,327	434,327	434,327	434,327	434,327	434,327
Expenses total	64,916	64,916	64,916	64,916	64,916	64,916	64,916	64,916	64,916	64,916	64,916	64,916
Variable costs	*60,430*	*60,430*	*60,430*	*60,430*	*60,430*	*60,430*	*60,430*	*60,430*	*60,430*	*60,430*	*60,430*	*60,430*
Fixed costs	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*
Accrued taxes and payments	12,442	12,442	12,442	12,442	12,442	12,442	12,442	12,442	12,442	12,442	12,442	12,442
FINANCIAL CASH FLOW (FDP)												
Own funds												
Borrowed funds												
Net cash flow (NFC)	**356,969**	**356,969**	**356,969**	**356,969**	**356,969**	**356,969**	**356,969**	**356,969**	**356,969**	**356,969**	**356,969**	**356,969**
Cumulative NPD	**-16 091,718**	**-15 734,749**	**-15 377,780**	**-15 020,811**	**-14 663,842**	**-14 306,873**	**-13 949,904**	**-13 592,935**	**-13 235,966**	**-12 878,997**	**-12 522,027**	**-12 165,058**
Cash balance at the beginning of the period	6 734,000	7 090,969	7 447,938	7 804,907	8 161,876	8 518,845	8 875,814	9 232,783	9 589,752	9 946,721	10 303,690	10 660,659
Cash balance at the end of the period	7 090,969	7 447,938	7 804,907	8 161,876	8 518,845	8 875,814	9 232,783	9 589,752	9 946,721	10 303,690	10 660,659	11 017,629
Net discounted income (NPV)	**318,630**	**318,328**	**318,027**	**317,726**	**317,425**	**317,125**	**316,825**	**316,525**	**316,225**	**315,926**	**315,627**	**315,328**
NPV on an accrual basis	**-15 208,94**	**-14 890,61**	**-14 572,58**	**-14 254,86**	**-13 937,43**	**-13 620,31**	**-13 303,48**	**-12 986,96**	**-12 670,73**	**-12 354,81**	**-12 039,18**	**-11 723,85**

	2035											
	Jan.35	**Feb.35**	**mar.35**	**Apr.35**	**May.35**	**Jun.35**	**July 35**	**Aug. 35**	**sen.35**	**Oct. 35**	**Nov.35**	**Dec. 35**
INVESTMENT CASH FLOW (ICEF)												
Capital expenditures												
OPERATING CASH FLOW (OPF)	**360,284**	**360,284**	**360,284**	**360,284**	**360,284**	**360,284**	**360,284**	**360,284**	**360,284**	**360,284**	**360,284**	**360,284**
Revenue total	443,189	443,189	443,189	443,189	443,189	443,189	443,189	443,189	443,189	443,189	443,189	443,189
Expenses total	71,613	71,613	71,613	71,613	71,613	71,613	71,613	71,613	71,613	71,613	71,613	71,613
Variable costs	*67,126*	*67,126*	*67,126*	*67,126*	*67,126*	*67,126*	*67,126*	*67,126*	*67,126*	*67,126*	*67,126*	*67,126*
Fixed costs	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*
Accrued taxes and payments	11,292	11,292	11,292	11,292	11,292	11,292	11,292	11,292	11,292	11,292	11,292	11,292
FINANCIAL CASH FLOW (FDP)												
Own funds												
Borrowed funds												
Net cash flow (NFC)	**360,284**	**360,284**	**360,284**	**360,284**	**360,284**	**360,284**	**360,284**	**360,284**	**360,284**	**360,284**	**360,284**	**360,284**
Cumulative NPD	**-11 804,775**	**-11 444,491**	**-11 084,207**	**-10 723,923**	**-10 363,639**	**-10 003,355**	**-9 643,071**	**-9 282,787**	**-8 922,503**	**-8 562,219**	**-8 201,935**	**-7 841,652**
Cash balance at the beginning of the period	11 017,629	11 377,912	11 738,196	12 098,480	12 458,764	12 819,048	13 179,332	13 539,616	13 899,900	14 260,184	14 620,468	14 980,752
Cash balance at the end of the period	11 377,912	11 738,196	12 098,480	12 458,764	12 819,048	13 179,332	13 539,616	13 899,900	14 260,184	14 620,468	14 980,752	15 341,035
Net discounted income (NPV)	**317,955**	**317,654**	**317,354**	**317,053**	**316,753**	**316,453**	**316,154**	**315,855**	**315,556**	**315,257**	**314,959**	**314,661**
NPV on an accrual basis	**-11 405,90**	**-11 088,24**	**-10 770,89**	**-10 453,84**	**-10 137,08**	**-9 820,63**	**-9 504,47**	**-9 188,62**	**-8 873,06**	**-8 557,81**	**-8 242,85**	**-7 928,19**

	2036											
	Jan.36	**Feb.36**	**mar.36**	**apr.36**	**May.36**	**Jun 36**	**July 36**	**Aug. 36**	**sen.36**	**Oct. 36**	**Nov.36**	**Dec. 36**
INVESTMENT CASH FLOW (ICEF)												
Capital expenditures												
OPERATING CASH FLOW (OPF)	**358,429**	**358,429**	**358,429**	**358,429**	**358,429**	**358,429**	**358,429**	**358,429**	**358,429**	**358,429**	**358,429**	**358,429**
Revenue total	441,267	441,267	441,267	441,267	441,267	441,267	441,267	441,267	441,267	441,267	441,267	441,267
Expenses total	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678
Variable costs	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*
Fixed costs	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*
Accrued taxes and payments	11,161	11,161	11,161	11,161	11,161	11,161	11,161	11,161	11,161	11,161	11,161	11,161
FINANCIAL CASH FLOW (FDP)												
Own funds												
Borrowed funds												
Net cash flow (NFC)	**358,429**	**358,429**	**358,429**	**358,429**	**358,429**	**358,429**	**358,429**	**358,429**	**358,429**	**358,429**	**358,429**	**358,429**
Cumulative NPD	**-7 483,223**	**-7 124,794**	**-6 766,365**	**-6 407,936**	**-6 049,507**	**-5 691,078**	**-5 332,649**	**-4 974,220**	**-4 615,791**	**-4 257,363**	**-3 898,934**	**-3 540,505**
Cash balance at the beginning of the period	15 341,035	15 699,464	16 057,893	16 416,322	16 774,751	17 133,180	17 491,609	17 850,038	18 208,467	18 566,895	18 925,324	19 283,753
Cash balance at the end of the period	15 699,464	16 057,893	16 416,322	16 774,751	17 133,180	17 491,609	17 850,038	18 208,467	18 566,895	18 925,324	19 283,753	19 642,182
Net discounted income (NPV)	**312,744**	**312,448**	**312,153**	**311,857**	**311,562**	**311,267**	**310,973**	**310,678**	**310,384**	**310,091**	**309,797**	**309,504**
NPV on an accrual basis	**-7 615,44**	**-7 302,99**	**-6 990,84**	**-6 678,98**	**-6 367,42**	**-6 056,15**	**-5 745,18**	**-5 434,50**	**-5 124,12**	**-4 814,03**	**-4 504,23**	**-4 194,73**

	2037											
	Jan.37	**fev.37**	**mar.37**	**apr.37**	**May.37**	**June 37**	**July 37**	**Aug. 37**	**sen.37**	**Oct. 37**	**Nov. 37**	**Dec. 37**
INVESTMENT CASH FLOW (ICEF)												
Capital expenditures												
OPERATING CASH FLOW (OPF)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Revenue total	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248
Expenses total	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678
Variable costs	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*
Fixed costs	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*
Accrued taxes and payments	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160
FINANCIAL CASH FLOW (FDP)												
Own funds												
Borrowed funds												
Net cash flow (NFC)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Cumulative NPD	**-3 182,094**	**-2 823,683**	**-2 465,273**	**-2 106,862**	**-1 748,451**	**-1 390,041**	**-1 031,630**	**-673,219**	**-314,809**	**43,602**	**402,013**	**760,423**
Cash balance at the beginning of the period	19 642,182	20 000,593	20 359,004	20 717,414	21 075,825	21 434,236	21 792,646	22 151,057	22 509,468	22 867,878	23 226,289	23 584,700
Cash balance at the end of the period	20 000,593	20 359,004	20 717,414	21 075,825	21 434,236	21 792,646	22 151,057	22 509,468	22 867,878	23 226,289	23 584,700	23 943,110
Net discounted income (NPV)	**309,195**	**308,903**	**308,610**	**308,318**	**308,027**	**307,735**	**307,444**	**307,153**	**306,862**	**306,572**	**306,282**	**305,992**
NPV on an accrual basis	**-3 885,53**	**-3 576,63**	**-3 268,02**	**-2 959,70**	**-2 651,67**	**-2 343,94**	**-2 036,49**	**-1 729,34**	**-1 422,48**	**-1 115,91**	**-809,63**	**-503,63**

	2038											
	Jan.38	**fev.38**	**mar.38**	**Apr.38**	**May.38**	**June 38**	**July 38**	**Aug. 38**	**sen.38**	**Oct. 38**	**Nov. 38**	**Dec. 38**
INVESTMENT CASH FLOW (ICEF)												
Capital expenditures												
OPERATING CASH FLOW (OPF)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Revenue total	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248
Expenses total	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678
Variable costs	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*
Fixed costs	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*
Accrued taxes and payments	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160
FINANCIAL CASH FLOW (FDP)												
Own funds												
Borrowed funds												
Net cash flow (NFC)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Cumulative NPD	**1 118,834**	**1 477,245**	**1 835,655**	**2 194,066**	**2 552,477**	**2 910,887**	**3 269,298**	**3 627,709**	**3 986,119**	**4 344,530**	**4 702,941**	**5 061,352**
Cash balance at the beginning of the period	23 943,110	24 301,521	24 659,932	25 018,342	25 376,753	25 735,164	26 093,574	26 451,985	26 810,396	27 168,806	27 527,217	27 885,628
Cash balance at the end of the period	24 301,521	24 659,932	25 018,342	25 376,753	25 735,164	26 093,574	26 451,985	26 810,396	27 168,806	27 527,217	27 885,628	28 244,038
Net discounted income (NPV)	**305,702**	**305,413**	**305,124**	**304,835**	**304,547**	**304,258**	**303,970**	**303,683**	**303,395**	**303,108**	**302,821**	**302,535**
NPV on an accrual basis	**-197,93**	**107,48**	**412,61**	**717,44**	**1 021,99**	**1 326,25**	**1 630,22**	**1 933,90**	**2 237,29**	**2 540,40**	**2 843,22**	**3 145,76**

	2039											
	Jan.39	**fev.39**	**mar.39**	**apr.39**	**May.39**	**June 39**	**July 39**	**Aug. 39**	**sen.39**	**Oct. 39**	**Nov. 39**	**Dec. 39**
INVESTMENT CASH FLOW (ICEF)												
Capital expenditures												
OPERATING CASH FLOW (OPF)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Revenue total	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248
Expenses total	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678
Variable costs	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*
Fixed costs	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*
Accrued taxes and payments	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160
FINANCIAL CASH FLOW (FDP)												
Own funds												
Borrowed funds												
Net cash flow (NFC)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Cumulative NPD	**5 419,762**	**5 778,173**	**6 136,584**	**6 494,994**	**6 853,405**	**7 211,816**	**7 570,226**	**7 928,637**	**8 287,048**	**8 645,458**	**9 003,869**	**9 362,280**
Cash balance at the beginning of the period	28 244,038	28 602,449	28 960,860	29 319,271	29 677,681	30 036,092	30 394,503	30 752,913	31 111,324	31 469,735	31 828,145	32 186,556
Cash balance at the end of the period	28 602,449	28 960,860	29 319,271	29 677,681	30 036,092	30 394,503	30 752,913	31 111,324	31 469,735	31 828,145	32 186,556	32 544,967
Net discounted income (NPV)	**302,249**	**301,962**	**301,677**	**301,391**	**301,106**	**300,821**	**300,536**	**300,252**	**299,968**	**299,684**	**299,400**	**299,117**
NPV on an accrual basis	**3 448,01**	**3 749,97**	**4 051,65**	**4 353,04**	**4 654,14**	**4 954,96**	**5 255,50**	**5 555,75**	**5 855,72**	**6 155,40**	**6 454,80**	**6 753,92**

	2040											
	Jan.40	**fev.40**	**mar.40**	**Apr.40**	**May.40**	**Jun 40**	**July 40**	**Aug. 40**	**sen.40**	**Oct. 40**	**Nov. 40**	**Dec. 40**
INVESTMENT CASH FLOW (ICEF)												
Capital expenditures												
OPERATING CASH FLOW (OPF)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Revenue total	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248
Expenses total	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678
Variable costs	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*
Fixed costs	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*
Accrued taxes and payments	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160
FINANCIAL CASH FLOW (FDP)												
Own funds												
Borrowed funds												
Net cash flow (NFC)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Cumulative NPD	**9 720,690**	**10 079,101**	**10 437,512**	**10 795,922**	**11 154,333**	**11 512,744**	**11 871,154**	**12 229,565**	**12 587,976**	**12 946,386**	**13 304,797**	**13 663,208**
Cash balance at the beginning of the period	32 544,967	32 903,377	33 261,788	33 620,199	33 978,609	34 337,020	34 695,431	35 053,841	35 412,252	35 770,663	36 129,073	36 487,484
Cash balance at the end of the period	32 903,377	33 261,788	33 620,199	33 978,609	34 337,020	34 695,431	35 053,841	35 412,252	35 770,663	36 129,073	36 487,484	36 845,895
Net discounted income (NPV)	**298,834**	**298,551**	**298,268**	**297,986**	**297,704**	**297,422**	**297,141**	**296,860**	**296,579**	**296,298**	**296,018**	**295,738**
NPV on an accrual basis	**7 052,76**	**7 351,31**	**7 649,57**	**7 947,56**	**8 245,27**	**8 542,69**	**8 839,83**	**9 136,69**	**9 433,27**	**9 729,57**	**10 025,58**	**10 321,32**

	2041											
	Jan.41	**fev.41**	**mar.41**	**apr.41**	**May.41**	**Jun 41**	**July 41**	**Aug. 41**	**sen.41**	**Oct. 41**	**Nov. 41**	**Dec. 41**
INVESTMENT CASH FLOW (ICEF)												
Capital expenditures												
OPERATING CASH FLOW (OPF)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Revenue total	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248
Expenses total	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678
Variable costs	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*
Fixed costs	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*
Accrued taxes and payments	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160
FINANCIAL CASH FLOW (FDP)												
Own funds												
Borrowed funds												
Net cash flow (NFC)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Cumulative NPD	**14 021,618**	**14 380,029**	**14 738,440**	**15 096,851**	**15 455,261**	**15 813,672**	**16 172,083**	**16 530,493**	**16 888,904**	**17 247,315**	**17 605,725**	**17 964,136**
Cash balance at the beginning of the period	36 845,895	37 204,305	37 562,716	37 921,127	38 279,537	38 637,948	38 996,359	39 354,770	39 713,180	40 071,591	40 430,002	40 788,412
Cash balance at the end of the period	37 204,305	37 562,716	37 921,127	38 279,537	38 637,948	38 996,359	39 354,770	39 713,180	40 071,591	40 430,002	40 788,412	41 146,823
Net discounted income (NPV)	**295,458**	**295,178**	**294,899**	**294,620**	**294,341**	**294,062**	**293,784**	**293,506**	**293,228**	**292,951**	**292,673**	**292,396**
NPV on an accrual basis	**10 616,78**	**10 911,96**	**11 206,85**	**11 501,47**	**11 795,82**	**12 089,88**	**12 383,66**	**12 677,17**	**12 970,40**	**13 263,35**	**13 556,02**	**13 848,42**

	2042											
	Jan.42	**fev.42**	**mar.42**	**APR 42**	**May.42**	**Jun 42**	**July 42**	**Aug. 42**	**sen.42**	**Oct. 42**	**Nov. 42**	**Dec. 42**
INVESTMENT CASH FLOW (ICEF)												
Capital expenditures												
OPERATING CASH FLOW (OPF)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Revenue total	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248
Expenses total	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678
Variable costs	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*
Fixed costs	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*
Accrued taxes and payments	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160
FINANCIAL CASH FLOW (FDP)												
Own funds												
Borrowed funds												
Net cash flow (NFC)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Cumulative NPD	**18 322,547**	**18 680,957**	**19 039,368**	**19 397,779**	**19 756,189**	**20 114,600**	**20 473,011**	**20 831,421**	**21 189,832**	**21 548,243**	**21 906,653**	**22 265,064**
Cash balance at the beginning of the period	41 146,823	41 505,234	41 863,644	42 222,055	42 580,466	42 938,876	43 297,287	43 655,698	44 014,108	44 372,519	44 730,930	45 089,340
Cash balance at the end of the period	41 505,234	41 863,644	42 222,055	42 580,466	42 938,876	43 297,287	43 655,698	44 014,108	44 372,519	44 730,930	45 089,340	45 447,751
Net discounted income (NPV)	**292,120**	**291,843**	**291,567**	**291,291**	**291,015**	**290,740**	**290,465**	**290,190**	**289,915**	**289,641**	**289,367**	**289,093**
NPV on an accrual basis	**14 140,54**	**14 432,38**	**14 723,95**	**15 015,24**	**15 306,25**	**15 596,99**	**15 887,46**	**16 177,65**	**16 467,56**	**16 757,20**	**17 046,57**	**17 335,66**

	2043											
	Jan.43	**fev.43**	**mar.43**	**Apr.43**	**May.43**	**June 43**	**July 43**	**Aug.43**	**sen.43**	**Oct. 43**	**Nov.43**	**Dec. 43**
INVESTMENT CASH FLOW (ICEF)												
Capital expenditures												
OPERATING CASH FLOW (OPF)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Revenue total	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248
Expenses total	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678
Variable costs	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*
Fixed costs	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*
Accrued taxes and payments	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160
FINANCIAL CASH FLOW (FDP)												
Own funds												
Borrowed funds												
Net cash flow (NFC)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Cumulative NPD	**22 623,475**	**22 981,885**	**23 340,296**	**23 698,707**	**24 057,118**	**24 415,528**	**24 773,939**	**25 132,350**	**25 490,760**	**25 849,171**	**26 207,582**	**26 565,992**
Cash balance at the beginning of the period	45 447,751	45 806,162	46 164,572	46 522,983	46 881,394	47 239,804	47 598,215	47 956,626	48 315,037	48 673,447	49 031,858	49 390,269
Cash balance at the end of the period	45 806,162	46 164,572	46 522,983	46 881,394	47 239,804	47 598,215	47 956,626	48 315,037	48 673,447	49 031,858	49 390,269	49 748,679
Net discounted income (NPV)	**288,819**	**288,546**	**288,273**	**288,000**	**287,728**	**287,455**	**287,183**	**286,911**	**286,640**	**286,369**	**286,098**	**285,827**
NPV on an accrual basis	**17 624,48**	**17 913,03**	**18 201,30**	**18 489,30**	**18 777,03**	**19 064,48**	**19 351,67**	**19 638,58**	**19 925,22**	**20 211,59**	**20 497,69**	**20 783,51**

	2044											
	Jan.44	**fev.44**	**mar.44**	**Apr.44**	**May.44**	**Jun.44**	**July 44**	**Aug. 44**	**sen.44**	**Oct. 44**	**Nov.44**	**Dec. 44**
INVESTMENT CASH FLOW (ICEF)												
Capital expenditures												
OPERATING CASH FLOW (OPF)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Revenue total	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248
Expenses total	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678
Variable costs	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*
Fixed costs	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*
Accrued taxes and payments	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160
FINANCIAL CASH FLOW (FDP)												
Own funds												
Borrowed funds												
Net cash flow (NFC)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Cumulative NPD	**26 924,403**	**27 282,814**	**27 641,224**	**27 999,635**	**28 358,046**	**28 716,456**	**29 074,867**	**29 433,278**	**29 791,688**	**30 150,099**	**30 508,510**	**30 866,920**
Cash balance at the beginning of the period	49 748,679	50 107,090	50 465,501	50 823,911	51 182,322	51 540,733	51 899,143	52 257,554	52 615,965	52 974,375	53 332,786	53 691,197
Cash balance at the end of the period	50 107,090	50 465,501	50 823,911	51 182,322	51 540,733	51 899,143	52 257,554	52 615,965	52 974,375	53 332,786	53 691,197	54 049,607
Net discounted income (NPV)	**285,556**	**285,286**	**285,016**	**284,746**	**284,477**	**284,208**	**283,939**	**283,670**	**283,402**	**283,133**	**282,865**	**282,598**
NPV on an accrual basis	**21 069,07**	**21 354,36**	**21 639,37**	**21 924,12**	**22 208,59**	**22 492,80**	**22 776,74**	**23 060,41**	**23 343,81**	**23 626,95**	**23 909,81**	**24 192,41**

	2045											
	Jan.45	**fev.45**	**mar.45**	**Apr.45**	**May.45**	**Jun.45**	**Jul.45**	**Aug.45**	**sen.45**	**Oct. 45**	**Nov.45**	**Dec. 45**
INVESTMENT CASH FLOW (ICEF)												
Capital expenditures												
OPERATING CASH FLOW (OPF)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Revenue total	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248
Expenses total	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678
Variable costs	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*
Fixed costs	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*
Accrued taxes and payments	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160
FINANCIAL CASH FLOW (FDP)												
Own funds												
Borrowed funds												
Net cash flow (NFC)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Cumulative NPD	**31 225,331**	**31 583,742**	**31 942,152**	**32 300,563**	**32 658,974**	**33 017,384**	**33 375,795**	**33 734,206**	**34 092,617**	**34 451,027**	**34 809,438**	**35 167,849**
Cash balance at the beginning of the period	54 049,607	54 408,018	54 766,429	55 124,839	55 483,250	55 841,661	56 200,071	56 558,482	56 916,893	57 275,303	57 633,714	57 992,125
Cash balance at the end of the period	54 408,018	54 766,429	55 124,839	55 483,250	55 841,661	56 200,071	56 558,482	56 916,893	57 275,303	57 633,714	57 992,125	58 350,536
Net discounted income (NPV)	**282,330**	**282,063**	**281,796**	**281,529**	**281,263**	**280,997**	**280,731**	**280,465**	**280,200**	**279,935**	**279,670**	**279,405**
NPV on an accrual basis	**24 474,74**	**24 756,80**	**25 038,60**	**25 320,13**	**25 601,39**	**25 882,39**	**26 163,12**	**26 443,58**	**26 723,78**	**27 003,72**	**27 283,39**	**27 562,79**

	2046											
	Jan.46	**fev.46**	**mar.46**	**Apr.46**	**May.46**	**Jun.46**	**July 46**	**Aug.46**	**sen.46**	**Oct.46**	**Nov.46**	**Dec. 46**
INVESTMENT CASH FLOW (ICEF)												
Capital expenditures												
OPERATING CASH FLOW (OPF)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Revenue total	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248
Expenses total	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678
Variable costs	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*
Fixed costs	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*
Accrued taxes and payments	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160
FINANCIAL CASH FLOW (FDP)												
Own funds												
Borrowed funds												
Net cash flow (NFC)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Cumulative NPD	**35 526,259**	**35 884,670**	**36 243,081**	**36 601,491**	**36 959,902**	**37 318,313**	**37 676,723**	**38 035,134**	**38 393,545**	**38 751,955**	**39 110,366**	**39 468,777**
Cash balance at the beginning of the period	58 350,536	58 708,946	59 067,357	59 425,768	59 784,178	60 142,589	60 501,000	60 859,410	61 217,821	61 576,232	61 934,642	62 293,053
Cash balance at the end of the period	58 708,946	59 067,357	59 425,768	59 784,178	60 142,589	60 501,000	60 859,410	61 217,821	61 576,232	61 934,642	62 293,053	62 651,464
Net discounted income (NPV)	**279,141**	**278,876**	**278,613**	**278,349**	**278,085**	**277,822**	**277,559**	**277,297**	**277,034**	**276,772**	**276,510**	**276,248**
NPV on an accrual basis	**27 841,93**	**28 120,81**	**28 399,42**	**28 677,77**	**28 955,86**	**29 233,68**	**29 511,24**	**29 788,54**	**30 065,57**	**30 342,34**	**30 618,85**	**30 895,10**

	2047											
	Jan.47	**fev.47**	**mar.47**	**Apr.47**	**May.47**	**Jun.47**	**July 47**	**Aug. 47**	**sen.47**	**Oct.47**	**Nov.47**	**Dec. 47**
INVESTMENT CASH FLOW (ICEF)												
Capital expenditures												
OPERATING CASH FLOW (OPF)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Revenue total	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248
Expenses total	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678
Variable costs	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*
Fixed costs	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*
Accrued taxes and payments	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160
FINANCIAL CASH FLOW (FDP)												
Own funds												
Borrowed funds												
Net cash flow (NFC)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Cumulative NPD	**39 827,187**	**40 185,598**	**40 544,009**	**40 902,419**	**41 260,830**	**41 619,241**	**41 977,651**	**42 336,062**	**42 694,473**	**43 052,884**	**43 411,294**	**43 769,705**
Cash balance at the beginning of the period	62 651,464	63 009,874	63 368,285	63 726,696	64 085,106	64 443,517	64 801,928	65 160,338	65 518,749	65 877,160	66 235,570	66 593,981
Cash balance at the end of the period	63 009,874	63 368,285	63 726,696	64 085,106	64 443,517	64 801,928	65 160,338	65 518,749	65 877,160	66 235,570	66 593,981	66 952,392
Net discounted income (NPV)	**275,987**	**275,726**	**275,465**	**275,204**	**274,944**	**274,683**	**274,424**	**274,164**	**273,904**	**273,645**	**273,386**	**273,127**
NPV on an accrual basis	**31 171,09**	**31 446,81**	**31 722,28**	**31 997,48**	**32 272,43**	**32 547,11**	**32 821,53**	**33 095,70**	**33 369,60**	**33 643,25**	**33 916,63**	**34 189,76**

	2048											
	Jan.48	**fev.48**	**mar.48**	**Apr.48**	**May.48**	**Jun.48**	**July 48**	**Aug. 48**	**sen.48**	**Oct. 48**	**Nov.48**	**Dec. 48**
INVESTMENT CASH FLOW (ICEF)												
Capital expenditures												
OPERATING CASH FLOW (OPF)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Revenue total	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248	441,248
Expenses total	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678	71,678
Variable costs	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*	*67,191*
Fixed costs	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*	*4,487*
Accrued taxes and payments	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160	11,160
FINANCIAL CASH FLOW (FDP)												
Own funds												
Borrowed funds												
Net cash flow (NFC)	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**	**358,411**
Cumulative NPD	**44 128,116**	**44 486,526**	**44 844,937**	**45 203,348**	**45 561,758**	**45 920,169**	**46 278,580**	**46 636,990**	**46 995,401**	**47 353,812**	**47 712,222**	**48 070,633**
Cash balance at the beginning of the period	66 952,392	67 310,803	67 669,213	68 027,624	68 386,035	68 744,445	69 102,856	69 461,267	69 819,677	70 178,088	70 536,499	70 894,909
Cash balance at the end of the period	67 310,803	67 669,213	68 027,624	68 386,035	68 744,445	69 102,856	69 461,267	69 819,677	70 178,088	70 536,499	70 894,909	71 253,320
Net discounted income (NPV)	**272,869**	**272,611**	**272,353**	**272,095**	**271,837**	**271,580**	**271,323**	**271,066**	**270,810**	**270,554**	**270,298**	**270,042**
NPV on an accrual basis	**34 462,63**	**34 735,24**	**35 007,59**	**35 279,69**	**35 551,52**	**35 823,10**	**36 094,43**	**36 365,49**	**36 636,30**	**36 906,86**	**37 177,15**	**37 447,20**

14. 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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