

ALQUIMIA INDUSTRY COMPANY LIMITED

BUSINESS PLAN

FOR

ETHANOL PRODUCTION

1.0. EXECUTIVE SUMMARY

1.1 Project Concept

ALQUIMIA INDUSTRY COMPANY LIMITED is a company incorporated in Tanzania with Certificate of Incorporation No. 186475313 dated 3rd July, 2025, the company is specializing in production of ethanol using sugar molasses, maize and cassava as raw materials, molasses will be sourced from Mtibwa sugar and Mkulazi Sugar Factory, apart from molasses the company is planning to use maize and cassava as raw materials

The board of directors had worked in this field for several years and had established multiple business contacts which will help the company pick up major business accounts

The project promoters are confident of mobilizing financial resources through owners' equity by US\$335,000 and the remaining US \$1,000,000 will be sourced from local financial institutions.

1.2 Location

The project will be located at **Mbigili Area, Mikocheni Village, Mabana Ward, Kilosa district, Morogoro region**

1.3 The Sponsors

ALQUIMIA INDUSTRY COMPANY LIMITED will be sponsoring this project.

The Company is jointly owned by two shareholders

Name of shareholders	% Ownership	Nationality
JIN LUFENG P.O. Box 75975-DAR ES SALAAM	50	CHINA
WU HANYUN P.O. Box 75975-DAR ES SALAAM	50	CHINA

1.4 The Company Objectives

The company main business objective is production of ethanol using sugar molasses, maize and cassava as raw materials

1.5 Objective of Study

The purpose of this study is to work out the project viability technically and financially of a project for production of ethanol using sugar molasses, maize and cassava as raw materials

1.6 Mission

The company's mission is to be successful by effectively utilizing the philosophies of high quality, advanced techniques, and customer service.

1.7 Keys to Success

It is important that the company continues to provide superb customer service and fast delivery. At the same time, the company's further success will depend on securing new customers in the served market niches.

2.0 Project Management and Manpower requirements

The project will be under management of **ALQUIMIA INDUSTRY COMPANY LIMITED** management who have more than twenty-five in the field assisted by 20 employees.

ALQUIMIA INDUSTRY COMPANY LIMITED has a management team with direct knowledge of the industry, extensive research experience, and unique administrative skills. The company's management team consists of people with broad backgrounds in production of ethanol using sugar molasses, maize and cassava as raw materials

2.1 Project description

The production of ethanol from molasses is a widely used and efficient biological process. Molasses is a by-product of sugar production from sugarcane or sugar beet and is rich in fermentable sugars.

Process of Ethanol Production from Molasses

- Preparation of Molasses

Molasses Composition: Contains ~30–50% sugars (sucrose, glucose, fructose), water, minerals, and other organic matter. Molasses will be diluted with water to reduce viscosity and bring the sugar concentration to ~15–18% Brix.

There after addition of nutrients like nitrogen (urea/ammonium salts), phosphates, and sometimes yeast extract will be done to support yeast growth.

- Clarification (Optional)

Clarification process will be done to remove impurities and suspended solids that could inhibit fermentation, this will be conducted through settling, filtration, or centrifugation.

- Inoculum Preparation (Yeast Propagation)

Yeast strain (typically *Saccharomyces cerevisiae*) to be activated and grown in a fermenter using diluted molasses and nutrients. This starter culture is scaled up in stages before being transferred to the main fermenter.

- Fermentation

Batch, fed-batch, or continuous fermenters (stainless steel, anaerobic) at temperature of 30–35°C, pH: 4.5–5.0. Anaerobic environment (to avoid oxidation of ethanol), (Glucose → Ethanol + Carbon Dioxide), Output: "Beer" or fermented wash containing 7–12% ethanol.

- Distillation

The fermented liquid is heated in distillation columns to separate ethanol based on its lower boiling point (78.4°C). Fractional distillation gives ~95% ethanol (azeotropic mixture).

Flowchart Summary

Molasses → Dilution & Nutrient Addition → Fermentation → Distillation → Ethanol

Point to note

1 ton of molasses → approx. 220–280 liters of ethanol, depending on sugar content and efficiency.

It is expected that the project will be completed within one years' time and the company will apply to be exempted from paying import duty and VAT on Capital good and deemed capital good.

3.0 The Alcoholic Drinks – Tanzania

3.1 Highlights

- Revenue, at home (e.g., revenue generated in supermarkets and convenience stores) in the Alcoholic Drinks market amounts to US\$7.34bn in 2025.
- Revenue, out-of-home (e.g., revenue generated in restaurants and bars) amounts to US\$514.67m in 2025.
- Revenue, combined amounts to US\$7.85bn in 2025.
- The revenue, at home is expected to grow annually by 7.01% (CAGR 2025–2030).
- In global comparison, most revenue, at home is generated China (US\$206bn in 2025).
- In relation to total population figures, the average revenue per capita, at home of US\$103.99 are generated in 2025.
- In the Alcoholic Drinks market, volume, at home is expected to amount to 4.21bn L by 2025.
- Volume, out-of-home is expected to amount to 155.96m L in 2025.
- Volume, combined is expected to amount to 4.37bn L in 2025.
- The Alcoholic Drinks market is expected to show a volume growth, at home of 3.2% in 2026.
- The average volume per person, at home in the Alcoholic Drinks market is expected to amount to 59.68L in 2025.

3.2 The Alcoholic Drinks market is divided into 5 markets

- The Beer market encompasses fermented beverages based on malt. The Beer market is further divided into the markets Alcoholic Beer and Non-Alcoholic Beer.
- The Spirits market encompasses alcoholic beverages that are produced through the distillation of wine, fermented fruits, or grains. It contains the Whisky, Vodka, Rum, Gin, Brandy, Soju, Tequila, and Liqueurs & Other Spirits markets.
- The Wine market encompasses all fermented juices made from grapes. The Wine market is further divided into Still Wine (Red Wine, White Wine, and Rosé Wine), Sparkling Wine, and Fortified Wine.
- The Cider, Perry & Rice Wine market encompass all wines made from fruits other than grapes, grains, or other plants.
- The Hard Seltzer market encompasses alcoholic beverages made with carbonated water, alcohol, and often fruit flavoring.

4.0 Target Market Segment Strategy

ALQUIMIA INDUSTRY COMPANY LIMITED will focus our market offerings on major customer groups:

- Sprite industry
- Hygiene industry

Our market research shows that these customer segments are the most demanding in terms of the engineering, technical service support, and automated design. ALQUIMIA INDUSTRY COMPANY LIMITED is particularly strong in these areas and will utilize our capacities to serve these clients. The company will seek customers who require ethanol products.

4.1 Industry Participants

Competitive threats come from imported ethanol, imported sprite and other related products which save the same purpose. Their weaknesses, however, are affordability, constant supply and quality.

4.2 Competition and Buying Patterns

ALQUIMIA INDUSTRY COMPANY LIMITED believes that our customers choose our products based on the following criteria:

- Affordability
- Quality.
- Availability
- Customer service and support.

4.3 Value Proposition

ALQUIMIA INDUSTRY COMPANY LIMITED's products and services offer the following advantages to customers.

- Delivery. We provide on-time delivery, thereby reducing customer inventory and providing them with overall cost reduction.
- Quality. The products we supply are of high quality and have attributes that enable customers to carry out their business functions.
- Price. Our products competitively priced, thus helping customers control their own bottom line.

4.4 Competitive Edge

ALQUIMIA INDUSTRY COMPANY LIMITED has several highly significant competitive advantages:

- The state-of-the-art technology to be used from China.
- Strategic location

- Customer service and support.
- Quality systems are in place.

4.5 Market Needs

Each of the served segment's market needs are shaped by the desire to procure quality products at reasonable prices. ALQUIMIA INDUSTRY COMPANY LIMITED is in the position to offer just that to our clientele, and we understand that our products must help our clients to better add value to their own end customers.

4.6 Market Strategy

According to expert, personal selling is the most effective method for marketing. The project will use all types of media and publicity will support and enhance personal selling. The project will use internet and print media for advertising.

The market strategy is to capitalize on our expertise by positioning the company to acquire strategic companies within the industry. The company's goal in the next year is to secure more business. The company's goal in the next five years is to continue with our "value added" scheme and increase our market share at least by 5%.

4.7 Pricing

The pricing policy for the project will be based on the service cost and competition levels considering various variables namely:

- Service positioning
- Gain market share from competitors
- Achieving profitability and liquidity financial performance goals

- The price of ethanol is estimated to be US \$840 per ton
- Internal mill-sourced molasses is estimated to be US \$54–76/ton), especially when sold in bulk to ethanol producers.
- Production capacity per year 3300 tons

4.8 **Monitoring and Evaluation**

The Management has full commitment to ensuring good use of the resources and sustainable environment. Thus, the management philosophy is through business process, the company will strive to ensure compliance to standards and safety.

4.9 **Aspect of Project Sustainability**

The project sponsors having studied market conditions and the infrastructure in Tanzania are convinced that the project will be able to operate undisturbed. The growing of beverage industry, economic growth and rise of purchasing power gives ALQUIMIA INDUSTRY COMPANY LIMITED assurance of a steady market. The peace and tranquility that exist in Tanzania is another aspect of assured business sustainability.

4.10 **Projected Risks**

This is a manufacturing industry investment; no major risks have been identified for this kind of project so far. Unless a change in the country's political and economic stability occurs, the project is more likely to prosper very fast for a very long period.

5.0 **Project Investment Cost**

The estimated capital investment cost of the project is **US \$1,335,000** as shown in the schedule below:

ALQUIMIA INDUSTRY COMPANY LIMITED PROJECTED INVESTMENT COST
US\$

Land and Buildings	200,000
Machinery & Equipment	700,000
Motor Vehicles	80,000
Furniture & Fixtures	5,000
Pre exp	20,000
Others	80,000
Working Capital	250,000
TOTAL	1,335,000

5.1 Financing Pattern

The project will be financed by equity by US\$335,000 and the remaining US\$ 1,000,000 to be sourced from financial institutions

5.2 Projected Project Operating Costs

In order to realize its intended objective, the project will have to meet the operating costs which is estimated to be 65% of the total annual revenue.

5.3 Considerations and Assumptions:

The corporate tax charged is 30% of the profits. Capital investment allowance is 50%. The capital assets are exempted from custom duty and Value Added Tax. The straight-line method to depreciate the project's capital items has been applied, it is assumed to be 10% annual depreciation.

It is assumed that the major raw material will be procured from local market and other will be imported. Revenues have been conservatively estimated based on experience of the promoters and trends in the industry.

5.4 **Projected Profit and Loss Statement**

The Income and Expenditure Statement shows the projected income for the 10 years period. The position depicted is that the project earns profit throughout its life. Accumulated after tax profits grow from **US \$ 609,490** in first year to **US \$ 3,516,427** in the 5th year, refer appendix II

5.5 **Projected Cash Flows**

This is shown in the Projected Cash Flows Statement in appendix II. They indicate that the project will meet its entire financial obligation, the Accumulated cash flow in the first year **US\$ 708,990** and grow up to **US\$ 3,853,927** in 5th year, refer appendix III

5.5 **Projected Balance Sheet**

The projected Balance Sheet of the projected is shown in the financial statements under appendix IV total owners' equity of the project increases from **US\$335,000** at the end of first year of operation to **US \$3,851,427** at the end of in 5th year. Therefore; balance sheets depict a healthy financial, refer appendix IV

5.6 **Projected payback period**

Total investment is **US \$ 1,335,000** cash accumulation in year 2 is **US\$ 1,447,137** which is more than the initial investment costs, the project payback Period is within 2 years, refer appendix V

6.0. Economic Aspects

Implementation of this project will have the following social and economic values

- The project is an ideal option for utilization of the existing market
- The project will significantly contribute in increase of ethanol products available in Tanzania
- The project will create direct employment for 20 people on permanent contract basis leave alone temporary employees.
- It will create more business opportunities to local suppliers, which will also have a trickledown effect in the Tanzania economy as whole.
- It will generate substantial revenue to the government in the form of corporate tax paid, value-added tax and pay as you earn etc.
- The project will have transfer of knowledge and skills as far as manufacturing sector

8.0 Implementation Schedule

Project implementation is expected to be relatively very short once project has been approved it is estimated that construction of serviced furnished apartment will be completed within two years: –

ALQUIMIA INDUSTRY COMPANY LIMITED PROJECT IMPLEMENTATION

S/N	ACTIVITY	PERIOD
1	Processing TIC Certificate of Incentive	July 2025
2	Construction	October 2025– October 2028
3	Procurement furniture and other facilities	December 2028
4	Recruitment	January 2030
5	Testing business and in house training	January – April 2030
6	Commercial operations	May 2030

9.0 Conclusion and Recommendations

The project is technically feasible, financially viable, and economically sound, provided the sponsors will manage it efficiently.

It is recommended that the project be approved by Tanzania Investment Centre and be granted the TIC Certificate of Incentives with its associated privileges and benefits as provided for under the Tanzania Investment and Special Economic Zones Authority Act.

ALQUIMIA INDUSTRY COMPANY LIMITED COST STRUCTURE

Land and Buildings	200,000
Machinery & Equipment	700,000
Motor Vehicles	80,000
Furniture & Fixtures	5,000
Pre exp	20,000
Others	80,000
Working Capital	250,000
TOTAL	1,335,000

ALQUIMIA INDUSTRY COMPANY LIMITED PROJECTED INCOME & EXPENDITURE STATEMENT (US\$)

	1	2	3	4	5
Revenue	2,772,000	2,910,600	3,056,130	3,208,937	3,369,383
Operating Expenses:	1,801,800	1,891,890	1,986,485	2,085,809	2,190,099
Profit before Depreciation &Interest	970,200	1,018,710	1,069,646	1,123,128	1,179,284
Interest	80,000	64,000	48,000	32,000	16,000
Depreciation	19,500	19,500	19,500	19,500	19,500
Gross Profit	870,700	935,210	1,002,146	1,071,628	1,143,784
Tax (30%)	261,210	280,563	300,644	321,488	343,135
Profit After Tax	609,490	654,647	701,502	750,139	800,649
Accumulated Profit	609,490	1,264,137	1,965,639	2,715,778	3,516,427

ALQUIMIA INDUSTRY COMPANY LIMITED PROJECTED CASH FLOW US\$

SOURCES:		1	2	3	4	5
Profit before interest and depreciation	-	970,200	1,018,710	1,069,646	1,123,128	1,179,284
Equity	335,000					
Loan	1,000,000					
Total Sources	1,335,000	970,200	1,018,710	1,069,646	1,123,128	1,179,284
Applications:						
Capital expenditure	985,000	-	-	-	-	-
working Capital &Others	350,000					
Cash	-	708,990	738,147	769,002	801,639	836,149
Tax	-	261,210	280,563	300,644	321,488	343,135
Sub total	1,335,000	970,200	1,018,710	1,069,646	1,123,128	1,179,284
Total applications	1,335,000	970,200	1,018,710	1,069,646	1,123,128	1,179,284
Accumulated cash		708,990	1,447,137	2,216,139	3,017,778	3,853,927

ALQUIMIA INDUSTRY COMPANY LIMITED PROJECTED BALANCE SHEET US \$

Fixed Assets		1	2	3	4	5
Opening balance	–	985,000	965,500	946,000	926,500	907,000
Additions	–					
Total Long-term Assets	–	985,000	965,500	946,000	926,500	907,000
Less depreciation	–	19,500	19,500	19,500	19,500	19,500
Closing balance	–	965,500	946,000	926,500	907,000	887,500
Working capital	350,000	350,000	350,000	350,000	350,000	350,000
Accumulated cash	–	708,990	1,447,137	2,216,139	3,017,778	3,853,927
Total assets	350,000	2,024,490	2,743,137	3,492,639	4,274,778	5,091,427
Financed by						
Equity	335,000	335,000	335,000	335,000	335,000	335,000
Accumulated profit	–	609,490	1,264,137	1,965,639	2,715,778	3,516,427
Total equity	335,000	944,490	1,599,137	2,300,639	3,050,778	3,851,427
Long term loan	1,000,000	800,000	600,000	400,000	200,000	–
Bank overdraft	–	–	–	–	–	–
Total debts	1,000,000	800,000	600,000	400,000	200,000	–
Total equity and debts	1,335,000	1,744,490	2,199,137	2,700,639	3,250,778	3,851,427

ALQUIMIA INDUSTRY COMPANY LIMITED PROJECTED LONG TERM LOAN REPAYMENT

Year	principle	Loan Interest (8%)	Total Amount Paid	Loan Balance
1	200,000.00	80,000.00	280,000.00	1,000,000.00
2	200,000.00	64,000.00	264,000.00	800,000.00
3	200,000.00	48,000.00	248,000.00	600,000.00
4	200,000.00	32,000.00	232,000.00	400,000.00
5	200,000.00	16,000.00	216,000.00	200,000.00

ALQUIMIA INDUSTRY COMPANY LIMITED PROJECTED FIXED ASSETS US\$

NAME OF ASSETS	1	2	3	4	5
Land And Buildings	200,000	196,000	192,000	188,000	184,000
Machinery, Tools & Equipment	700,000	693,000	686,000	679,000	672,000
Motor Vehicles	80,000	72,000	64,000	56,000	48,000
Furniture & Fixtures	5,000	4,500	4,000	3,500	3,000
Total	985,000	965,500	946,000	926,500	907,000
DEPRECIATION	1	2	3	4	
Land and buildings	4,000	4,000.00	4,000.00	4,000.00	4,000.00
Machinery tools & Equipment	7,000	7,000.00	7,000.00	7,000.00	7,000.00
Motor Vehicles	8,000	8,000	8,000	8,000	8,000
Furniture & Fixtures	500	500.00	500.00	500.00	500.00
ANNUAL DEPRECIATION	19,500	19,500	19,500	19,500	19,500