

# **Biodiesel Limited**

**Disclaimer: This is a fictitious case study, however the contents cannot be disclosed to parties outside of this interview process.**

## **EXECUTIVE SUMMARY**

Biodiesel Limited owns and operates a biodiesel refinery in Dar es Salaam, Tanzania. The company collects used cooking oil from local hotels, restaurants, and street cart vendors to convert to biodiesel. Biodiesel is a renewable substitute for petroleum diesel, and can be used in any existing diesel engine without modification.

Biodiesel Limited is producing at only 20% of its capacity (2,000 liters per week) because of limited feedstock. The company's system for collecting used cooking oil is not efficient enough to collect all of the used cooking oil that is available.

The company plans to increase biodiesel production to its full capacity of 10,000 liters per week by increasing its feedstock supply. The Company will purchase new trucks to increase used cooking oil collections and will begin using crude palm oil as an additional feedstock.

Biodiesel Limited is the first and only company to enter the renewable fuels market in all of East Africa. Even if competitors enter the market, the Company has a significant head start in installing its technology and unmatched real-world experience producing and selling biofuels in a third-world county.

The company is seeking equity and/or debt financing of US\$175,000.

## **1 PROFILE OF THE COMPANY**

### **1.1 Current Status**

Biodiesel Limited ("BL" or the "Company") owns and operates a biodiesel refinery in Dar es Salaam, Tanzania. The refinery has installed production capacity to produce 520,000 liters of biodiesel per year (or, 10,000 liters per week). The Company is currently producing approximately 2,000 litres per week, just 20% of its capacity.

BL collects used cooking oil as its feedstock for biodiesel production.

The Company collects used cooking oil from local hotels, restaurants, and street cart vendors, and transports the used oil to its factory for processing. The Company produces one liter of biodiesel from each liter of feedstock.

Biodiesel is a renewable substitute for petroleum diesel, and can be used in any existing diesel engine without modification.

In addition to biodiesel, the Company produces and sells crude liquid soap. Raw glycerine is the main by-product from the biodiesel production process, and is also a primary ingredient in soap. By making soap from the raw glycerine, BL earns a secondary revenue stream, while efficiently and safely disposing of its waste stream.

BL is a company limited by shares duly formed under the laws of Tanzania. The Company is fully licensed by local taxing, industrial, and health authorities.

## **1.2 Short History**

The co-founders of BL, Mr. Michael and Mr. Anthony, met in New York and worked together at the same law firm for many years. They decided to start a renewable energy business together, and in May 2008, Mr. Michael moved back to his homeland, Tanzania.



In June 2008, Biodiesel Limited was duly formed under the laws of Tanzania, and received its tax authorization and industrial license.

In January 2009, after submitting its biodiesel for laboratory testing, the Company obtained authorization from the Ministry of Health and Social Welfare to produce and sell biodiesel.

During the spring and summer of 2009, BL began producing and selling its biodiesel on a small scale. The Company slowly established its relationships with the hotels, restaurants, and street cart vendors in and around Dar es Salaam, and began developing its customer list.

BL reached profitability in September 2009.

## **1.3 Management and Ownership**

Mr. Anthony is the co-founder, majority shareholder, and Chief Executive of BL. Mr. Anthony is in charge of all management and financial aspects of the Company. Mr. Anthony personally designed the refinery, and makes all decisions relating to technical and safety matters. Mr. Anthony is an attorney educated in the United States and is currently practicing law in New York.

Mr. Michael is the co-founder and General Manager of BL. Mr. Michael is responsible for day-to-day operations of the Company. Mr. Michael holds a diploma in Business Administration, with a Marketing Management Option, from the Dar es Salaam College of Business Education. Mr. Michael has a wide array of successful entrepreneurial experiences, including establishing and operating an exporting company in Dar es Salaam (exported over 20 tonnes of grapes to a Kenyan wine-making company) and

supervising mobile merchandising sales kiosks across the United States (over US\$2,000,000 per year gross sales). In 1998, Mr. Michael also wrote, financed, and self-published a biography of the first Tanzanian president, titled "Tanzania Tutakukumbuka Milele - Baba Wa Taifa."

BL receives advice, counsel, and analytic support from an Advisory Network, which includes:

Mr. Song is a graduate student pursuing his Masters in Business Administration at the Kellogg School of Management, Northwestern University. Mr. Song is experienced in international investment banking, consulting, and venture capital.

Mr. Massimo is a consultant at McKinsey & Company, focusing on the East Africa region. Mr. Massimo has broad international experience, and has spent 5 months in Dar es Salaam evaluating the Company.

Mr. Stefano is also a consultant at McKinsey & Company. Mr. Stefano has broad international experience, and has spent 4 months in Dar es Salaam evaluating the Company.

Ms. Christine is the Chief Executive Officer and Director of Africa Biofuel and Emissions Reduction (Tanzania) Ltd., a company focusing on the development of the Croton nut as a renewable fuel source. She has extensive experience in both corporate and start-up turnarounds, mergers, acquisitions and business development. Ms. Christine holds Masters degrees from Columbia University, Boston University, and Framingham State College in Corporate Finance, Strategic Planning and Biochemistry, respectively.

#### **1.4 Market and Client Base**

Tanzania consumes over 2,000,000 liters of petroleum diesel, daily. Most businesses in Tanzania rely heavily on diesel fuel not only as vehicle fuel, but also for stationary power generation. Despite the importance of diesel and steadily increasing prices, Tanzania is totally dependent on the import of petroleum products for its diesel fuel supply.

Commercial buildings in Dar es Salaam, alone, consume over 500,000 liters of diesel per week for standby power generation. There are over 100 commercial buildings in Dar es Salaam, and the average building purchases approximately 20,000 liters of diesel per week during periods of high electricity rationing. Even when the grid is providing more reliable electricity, commercial buildings still use an average of 4,000 liters of diesel per week.

BL is positioned to replace 2% of Dar es Salaam's diesel market with biodiesel. Biodiesel is a renewable substitute for petroleum diesel, and can be used in any existing diesel engine without modification. The Company sells its biodiesel at 20% below the pump price of petroleum diesel. The Company's existing customers have switched entirely to biodiesel. Both current customers and prospective customers have indicated interest in purchasing biodiesel in volumes that exceed even maximum production

capacity (10,000 liters per week).

### **1.5 Competition**

BL's only competition is imported petroleum-based diesel fuel, which costs 20% more than the Company's biodiesel. There are currently no other domestic biofuels producers in Tanzania. BL is the only biodiesel producer in East Africa.

### **1.6 Suppliers and other relevant stakeholders**

BL produces biodiesel from locally collected used cooking oil. Suppliers include luxury hotels, restaurants, and street cart vendors, all located in or near Dar es Salaam.

## **2 PLAN FOR THE FUTURE**

BL plans to increase biodiesel production to its full capacity of 10,000 liters per week by increasing its feedstock supply. The Company will purchase new trucks to increase used cooking oil collections and will begin using crude palm oil as an additional feedstock.

BL is only producing 20% of its capacity (2,000 liters per week) because of limited feedstock. The Company's system for collecting used cooking oil is not efficient enough to collect all of the used cooking oil that is available.

The Company will purchase its own trucks to increase the efficiency of its used oil collection system. Currently, the Company employs rented trucks and temporary drivers to collect the used cooking oil. This system causes many unnecessary delays due to (i) high traffic, (ii) poor roads, and (iii) unreliable drivers. With its own trucks, BL can establish a more efficient collection schedule that will allow the Company to reach more used cooking oil suppliers in less time.

BL will also begin using crude palm oil as an additional feedstock. The Company's research shows that Dar es Salaam produces approximately 3,000 liters of collectible used cooking oil per week. To supplement this supply, BL has located local crude palm oil suppliers that can supply over 8,000 liters per week. The Company's refinery is technologically capable of producing biodiesel from multiple feedstocks, including crude palm oil.

To reach full production capacity, the Company must also purchase additional support equipment. Although the reactor itself is capable of producing 10,000 liters of biodiesel per week, the surrounding equipment (storage tanks, transfer pipes and pumps, etc.), is suited for production of only 3,000-4,000 liters per week.

### **2.1 Feasibility**

In 2009, BL engaged a consulting team, Mr. Massimo and Mr. Stefano (the "Consultants"), to evaluate the Company's growth potential. The Consultants spent a combined eight (8) months working side-by-side with Mr. Michael, observing the day-to-

day operations, and also actively researched growth opportunities. The Consultants concluded that BL's best opportunity for growth is to expand its feedstock from just used cooking oil to crude palm oil, as well. The Consultants located several local crude palm oil suppliers and negotiated all terms (price, delivery, etc.). The Consultants have in place agreements for delivery of 8,000 litres per weeks of crude palm oil, enough feedstock to increase BL's production fivefold to 10,000 liters per week, or full operating capacity.

## **2.2 Marketing & Distribution**

The Consultants have concluded that there is sufficient customer demand to absorb the increased production. During their time in Dar es Salaam, they confirmed that BL's biodiesel is in very high demand.

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## **2.3 Management team**

In addition to the existing management team described in Section 1.3, BL will hire a manager specifically to oversee the expansion project (the "Expansion Manager"). Mr. Michael will generally assist the Expansion Manager, but Mr. Michael's primary responsibility will be to continue day-to-day operations, production, and sales. The Expansion Manager will be responsible for purchasing, importing, and installing the new equipment and raw materials, as well as hiring and training new staff.

The Consultants have already met with suitable applicants for this position, and have prepared a list of candidates.

## **2.4 Milestones**

The Company's performance is measured by biodiesel produced per week. BL's refinery equipment is designed to produce up to 10,000 liters of biodiesel per week.

Currently, the Company is producing 2,000 liters per week, or just 20% of capacity.

The Company should increase production to 5,000 liters per week, or 50% of capacity, within one year from the date of funding.

BL should increase production to 10,000 liters per week, or full capacity, within two years from the date of funding.

## 2.6 Investment Plan

A – What is already invested in the company?

Name of organization /individual	Type of finance	USD
Mr. Anthony	Own contribution	.\$136,500
Mr. Michael	Own contribution	\$13,500
Mr. Massimo	Loan	\$11,500
Mr. Stefano	Loan	\$11,500
TOTAL INVESTMENT ALREADY DONE:		\$173,000

## B - Finance needed

Fixed assets:	Amount (USD)
Trucks	\$40,000
Support equipment	\$20,000
Working capital:	Amount (USD)
Expansion Manager	\$75,000
Training	\$25,000
Raw materials	\$15,000
TOTAL INVESTMENT still NEEDED (USD):	\$175,000

## **C - How do you plan to acquire this capital?**

Name of organisation/ individual (if known)	Type of finance	USD
Unknown	Equity/Loan	\$175,000
TOTAL INVESTMENT STILL NEEDED:		\$175,000

### **2.7 Future Expansion**

BL's small-scale, high-efficiency biodiesel business model can be repeated throughout the African continent. The Company has already begun preliminary research in neighbouring areas, including Kenya and Uganda.

## **4 THE DEVELOPMENT IMPACT**

### **4.1 Local economic impact of the business**

BL directly employs 3-4 persons per year. With the requested funding, the Company would eventually employ a total of 8 persons per year.

BL has created an estimated 2-3 indirect jobs. This includes per diem drivers and laborers. Under our proposed expansion plan, the Company would create an estimated total of 5-6 indirect jobs.

Local building owners can save US\$1,000 per week by purchasing BL's lower cost biodiesel.

### **4.2 Local social impact of the business's products or services**

Biodiesel produces significantly less carbon dioxide, carbon monoxide, sulfur, and particulate matter emissions than petroleum diesel.

## Case Study Instructions:

Your task is to prepare a power point deck that covers the areas below in line with the guide provided below.

Please email the case study to [info@sme-supportcentre.com](mailto:info@sme-supportcentre.com). There is no need to spend more than three-four hours to complete.

1. Complete a brief SWOT analysis of Biodiesel Limited.( **Maximum 1 slide**)
2. Identify key issues that a potential equity investor would focus on when evaluating a potential investment in the business either during an introductory management meeting, due diligence, term sheet discussions, etc.( **Maximum 2 slides**)
3. Address the company's ability to access debt from a bank or other lender. Are there actions or measures management could consider to increase the company's ability to access debt?( **Maximum 2 slides**)
4. If you were to be approached by this company to advise on its growth, what would be your considerations in prioritizing this potential project in the context of many other businesses you might support? In the event you decide to support them, what practical advice would you offer the management of the business, and what would the work-plan you suggest entail? (**Maximum 2 slides**)
5. Free form – provide any other critical analysis or feedback.( **Maximum 1 slide**)