Training Manual for Micro, Small and Medium Entrepreneurs in Energy Business Financing

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GVEP International

TRAINING MANUAL FOR MICRO, SMALL AND MEDIUM ENTREPENEURS IN ENERGY BUSINESS FINANCING

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This module introduces types of energy technologies where it differentiates renewable and non renewable sources of energy. It further highlights various applications for energy as well as giving practical examples. Lastly, the module highlights trends in energy use and benefits.

Module 2: Types of Business delivery models

This module discusses business delivery models and their application to the SME sector. Focus is placed on how the SME sector can apply different models in a business set up while differentiating how each model interacts with the customer.

Module 3: Business and financial management for energy enterprises

This module discusses management issues such as planning, organizing, staffing leadership and control. It also introduces concepts in financial management, budgeting and costing of an energy business.

Module 4: Growing an energy business

This module discusses business opportunities that may arise in the energy sector and entrepreneurial issues. It also discusses growth strategies and how they can be adopted by energy SMEs. Also included is the business planning process and financial plan.

Module 5: Sources of business finance for Energy Entrepreneurs

This module discusses financing for SMEs as a critical part of enterprise development. It seeks to raise awareness of the various sources that an entrepreneur can utilise to raise capital and operational resources for their businesses. It highlights key considerations for borrowing, costs related to borrowing as well as the process of loan negotiation for energy entrepreneurs. It concludes by discussing the loan management and repayment.

Module 6: Marketing and Branding by Energy Entrepreneurs

This module discusses the marketing activities that could be employed by an energy entrepreneur. It also highlights the importance of branding an energy business and discusses concepts in business positioning.

ACRONYMS

CBO	Community Based Organization
DEEP-EA	Developing Energy Enterprise Project, East Africa
ESCO	Energy Service Company
FI	Financial Institution
GVEP-I	Global Village Energy Partnership International
ICS	Improved Cooking Stoves
KES	Kenya Shilling
KW	Kilo Watt
LPG	Liquefied Petroleum Gas
MDGs	Millennium Development Goals
MP	Member of Parliament
MW	Mega Watt
NEMA	National Environment Management Authority
NGO	Non-Government Organization
PV	Photo Voltaic
RE	Renewable Energy
SACCO	Savings and Credit Co-Operatives
SME	Small and Medium Enterprise
USD	United States Dollar

Module 1

Introduction to Energy

OBJECTIVE

To introduce basic knowledge about the different energy technologies and their respective end uses.

Further, to illustrate business options and opportunities in the energy sector.

TOPICS IN THE MODULE

1. *Importance of the Energy Sector*
2. *Types of Common Clean Energy Technologies*
3. *Trends in Energy : Why People are Moving Towards Alternative Energy*

Introduction

Energy is a basic need and a component of all productive processes. Often access to energy is interpreted as access to electricity. However, it is not always so as mechanical power can be generated from water to drive agro-processing mills. Solar and wind powered systems can pump water for drinking or irrigation.

Everything we do involves energy and we use various forms of energy for day-to-day activities like heating, cooking, cooling, lighting and transport. It can make our life easier and more efficient. For example, a flourmill may be run on electricity, which may be produced from running river in a hydro power station. Thus, electrical energy eases the tedious and tiring work of pounding maize or hulling rice by hand, which uses metabolic/human energy. Electric light is brighter and better than candles for seeing at night. Some of the disadvantages of using wood as a source of cooking fuel include:

- Not readily available collecting wood from long distances
- Produces a lot of smoke and soot that is bad for our health.

Energy is central to sustainable development and poverty reduction efforts. It affects all aspects of development: social, economic, and environmental and improved energy sources can improve levels of welfare and increase standards of living.

There is growing evidence that investments in small- and medium-scale energy projects have a positive impact on improving the energy situation for the majority of population especially in those regions that are devoid of electricity. There is a range of different energy technologies for use and the following section will provide an overview of some of the technologies.

1.1 Difference between Non-renewable and Renewable Energy

Energy sources can be classified into two major classes: **non-renewable and renewable**.

Non-Renewable Energy commonly refers to 'conventional energy'. These are mainly fossil fuels such as coal and oil. These are produced over millions of years and cannot be replaced or replenished. These fuels are considered to be un-clean and harmful to the environment because they produce adverse smoke and gases when burnt. They are not sustainable fuels.

Renewable Energy (RE) is often known as a clean and modern form of energy. This is because it pollutes less than conventional fossil fuels. Renewable energy comes from natural resources and can be replenished. Table 1 shows a brief overview of types of RE and their derivative sources.

Table 1 - Types of renewable energy

Source	Description	Type of RE	Description
Sun	The source of all energy, transmitted as heat and light.	Solar energy	Energy from the sun.
		Hydro energy	Energy from flowing water.
		Biomass*	Energy from living or recently deceased natural and animal material.
Rotation of the earth	The earth's daily rotation leads to various processes (differential heating and changing inter-planetary forces) from which energy can be derived.	Wind energy	Energy from the movement of air molecules.
		Tidal energy	Energy from the tides and currents of the sea.
		Wave energy	Energy derived from the waves of the sea.
The interior of the earth	Heat from the earth's hot core is conducted towards the surface.	Geothermal energy	Energy from the earth's inner heat.

** It is debatable as to whether biomass is a renewable energy source. To illustrate this confusion, firewood taken from unsustainable management systems may not be renewable although there is still reliance on the sun to sustain the lifecycle of trees from which it is harvested.*

In Table 2 below, common renewable energy technologies and their applications are provided.

Table 2 - Renewable Energy Technologies and their Applications

RET	Potential service/ applications	Location
Solar PV and Solar Home Systems	▪ Lighting for houses and institutions ▪ Vaccine refrigeration for isolated clinics ▪ Lighting for enterprises to extend trading hours and in hatcheries ▪ Phone charging ▪ Street and market lighting to facilitate security and the operation of night markets	Rural and Urban
Solar PV Pumps	▪ Supply of clean drinking water for households and water for sanitation at household and community level ▪ Supplying water for cattle and other livestock ▪ Meeting water needs at rural health facilities	Mostly rural
Solar Thermal – (water heating, air heating and power generation)	▪ Water and air heating needs for public facilities, enterprises such as hotels and households. ▪ Steam generation for power generation	Mostly urban
Solar Cookers	▪ Supply energy for homes and enterprises to reduce cooking costs and time. This would also reduce costs of fuel-wood collection	Mostly rural
Solar Driers	▪ Crop drying by farmers for improved storage and enterprises for homes, micro enterprises and industry	Mostly rural
Wind Turbines	▪ Residential and industrial electricity applications	Urban and Rural
Wind Pumps	▪ Water pumping for irrigation ▪ Supply of clean drinking water for households	Mostly rural
Biogas	▪ Cooking in households and enterprises ▪ Motive power for small industry and small-scale electricity generation ▪ Reduces energy costs and preserves scarce wood-fuel sources by supplying energy for cooking ▪ Improved sanitation through improved waste management	Mostly rural
Efficient cooking stoves	▪ Used in houses, enterprises, institutions ▪ Reduces time spent collecting fuel Improved air quality for cooks and cleanliness in food preparation	Mostly rural, also urban
Ethanol and bio-diesel	▪ Transport fuels, mechanical power, heating and electricity generation, cooking ▪ Reduction in usage of fossil fuels	Urban and Rural
Small, micro and pico hydro	▪ Lighting and electricity applications	Mostly rural, can also benefit urban
Landfill methane	▪ Improved waste management particularly in urban centers ▪ Heating needs in public buildings and homes ▪ Electricity applications	Urban

It must be noted that the small systems are most favourable in rural areas. Large centralized systems, such as hydro-electric stations, large solar power plants, and wind farms provide a wider range of applications but also need specialist considerations during implementation. In the following sections, some of the common energy technologies pertinent to the sources are explained further.

1.2 Bio Energy Technologies

Bio energy technologies use a variety of material of plant or animal origin as the source for energy. The term includes fossil fuels but is generally used to include renewable energy sources such as agricultural crops and residues, wood and wood residues, animal and human faeces which lead to production of fuels directly or through conversion. Bio energy can be used for cooking, heating, and power generation.

There are numerous commercially available technologies for the conversion processes (e.g. biogas) and for utilization of the end-products (e.g. improved cooking stoves). Examples of bio energy applications are:

- ***Biogas*** for cooking, lighting and heating water
- ***Liquid bio-fuel*****:** mechanical power and transport fuels, lighting, cooking fuel
- ***Solid biomass*****:** cooking and lighting, motive power for small industry.

Some of the common bio energy technologies are explained in the following sections.

1.2.1 Improved Cooking Stoves (ICS)

Improved Cooking Stoves (ICS) are designed to be energy-efficient, which translates into the consumption of less fuel wood or charcoal, saving on time and resulting in less production of harmful smoke in comparison to the traditional stoves. The ICS is generally suited both to urban and rural populations. Specifically, consumers of ICS products are:

- Domestic charcoal users mostly in urban/peri-urban areas
- Domestic firewood users, mostly in rural areas
- Institutional users such as schools and hospitals
- Business users such as restaurants, hotels and street food vendors

The use of ICS leads to reduction of pressure on forest and energy resources. If the sector is well developed such as in Kenya, there is tremendous potential for skill development and job creation.

Types of ICS: The key feature of any ICS over a traditional stove is the use of an insulating material such as clay or mud to conserve heat, thereby making it more efficient. Two main parameters can be used to distinguish ICS types: the type of fuel used (e.g. charcoal or firewood) and whether the stove is portable or fixed.

- ***Fixed Firewood Stove:*** Fixed stoves with a mud or cement brick construction are common in areas of Uganda and Western Kenya. These are usually built in rural areas and can be made very cheaply using local materials. They work by directing hot gases from a fuel-wood fire.
- ***Portable Stoves (Charcoal/Firewood):*** These are stand-alone and portable stoves commonly used across East Africa. Their portability makes them suitable for both retail/distribution as a take-home product, and mass-manufacture away from the point of use.

Figure 1 - Portable 'KCJ' Stove

1.2.2 Gasifier

Gasifier stoves allow for cleaner cooking than traditional cooking stoves and use typical fuels such as dry firewood, sawdust, agricultural waste (e.g. coconut shells, husks, twigs), wood shavings, chunks or twigs among others. The gasifier uses the process of converting biomass fuel into combustible gases through intense heating resulting in a clean flame.

Figure 2: Gasifier Stove, produced by a local Kenyan entrepreneur

Gasifier stoves can be used to cook food and heat water. The stoves can be used as a substitute for other conventional stoves such as charcoal cooking stoves or three stone fireplaces. The key markets include:

- Peri-urban households that use firewood and charcoal
- Rural households cooking with firewood
- Restaurants and other users

The gasifier stove can save fuel consumption, causes less air pollution as it releases less carbon monoxide, is affordable and readily available biomass materials can be utilized.

1.2.3 Briquettes

Briquette making is the process of pressing and compacting biomass waste materials to produce fuel. The main source of raw materials to make briquettes are sawdust, coffee husk, charcoal dust, ground nut husk, wheat bran, coconut husk among others. Briquettes are used as fuel in household, institutions and industries for:

- ✓ Cooking and water heating
- ✓ Heating productive processes such as tobacco curing, fruits and tea drying, poultry rearing etc
- ✓ Firing ceramics and clayware such as improved cooking stoves, pottery and bricks
- ✓ Powering boilers to generate steam
- ✓ Power machineries

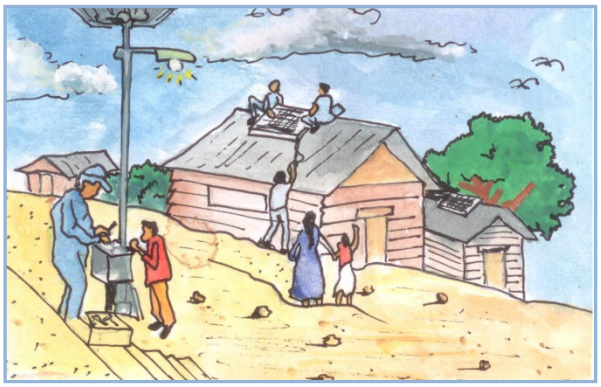
1.2.4 Biogas

Biogas refers to a gas produced by the biological breakdown of organic matter in the absence of oxygen. Biogas is produced by anaerobic digestion or fermentation of biodegradable materials such as biomass, manure, sewage, municipal waste, green waste and energy crops. Biogas can provide a clean, easily controlled source of renewable energy from organic waste materials, replacing firewood or fossil fuels. It is primarily used for cooking purposes but sometimes lighting and heating water as well. It can also be generated in modern waste management facilities where it can be used to run any type of heat engine, to generate either mechanical or electrical power.

1.2.5 Solar Technologies

Solar energy technologies are divided into two categories: solar thermal systems (e.g., for heating water) and solar electric or photovoltaic (PV) systems. Solar electricity systems capture the sun's energy using photovoltaic (PV) cells. A solar cell made from one or two layers of semi conducting material, usually silicon, creates an electric field across the layers when light shines on it. The amount of energy that can be produced is directly dependent on the intensity of the sunshine. Assemblies of cells are used to make solar panels, solar modules, or photovoltaic arrays.

1.2.6 Solar Photovoltaic (PV) Systems



Solar PV systems can be connected to the grid or can be isolated systems for the use of households and institutions. The applications include lighting, radio, TV, telecommunications, water pumping, drying, and charging other devices, among others. Mobile phones, car batteries and lamps/lanterns are some of the devices charged using this kind of energy.

They can be deployed by individual households, commercial or mini grid systems. Some of the strengths and weaknesses of using PV systems are in table 3.

Table 3 - Strengths and Weaknesses of PV Energy Systems

Strengths	Weaknesses
Highly reliable with a long lifespan	High capital/initial investment costs
Reliant on sun. No fuel required	Highly dependent on intensity of sunshine
Low maintenance requirements	If sunshine intensity is low, it will need back-up
Modular nature of PV allows for installation of different system ranges depending on application and willingness to pay	• Can be easily stolen • Quality may be an issue

1.2.7 Solar Thermal Systems

Solar thermal systems use the sunlight for its thermal or heat energy for heating, drying and evaporation. Some of its uses are outlined below:

- ***Solar cookers*:** There are two common types of solar cookers: oven or stove. Solar cookers are useful in areas that have scarce fuel-wood resources and can also be an effective clean and cost efficient alternative stove. The oven applies heating to the fully enclosed area which contains a cooking pot, and the stove applies the same principle of a conventional cooking stove.
- ***Solar thermal power plants***: Solar thermal engines use complex concentrating solar collectors to produce high temperatures which produce steam that is further utilized to generate electricity.
- ***Solar drying***: Solar drying systems are simple and often more efficient than simple open-air drying.

- ***Solar water heating:*** In this system, water is heated usually in a special collector and stored in a tank for usage. These systems are used in households and institutions such as schools and hospitals, and also in hotels and restaurants.
- ***Solar distillation***: Solar distillation is a solar enhanced distillation process to produce portable water from a saline source. It can be used in areas where, for instance, drinking water is in short supply but brackish water, i.e. water containing dissolved salts, is available. The costs may increase significantly with output.

1.3 Wind Technologies

Wind availability provides a good opportunity to generate clean and affordable energy. The working principle of the wind turbine is to convert the force of the wind (kinetic energy) action on rotor blades (rotational energy) into force or mechanical energy. When the rotational energy is used within a generator, it produces electricity. It is also used directly for powering equipment such as water pumps.

Wind technology is mainly used to meet energy needs through electricity generation and water pumping purposes to serve mostly isolated locations from wind turbines installed at both on-shore (on dry land) and off-shore (in the sea) sites. It can also be applied to deliver power to small businesses for lighting, battery-charging and operating electrical devices such as for refrigeration or food processing.

The strengths and weaknesses of this technology are presented in Table 4.

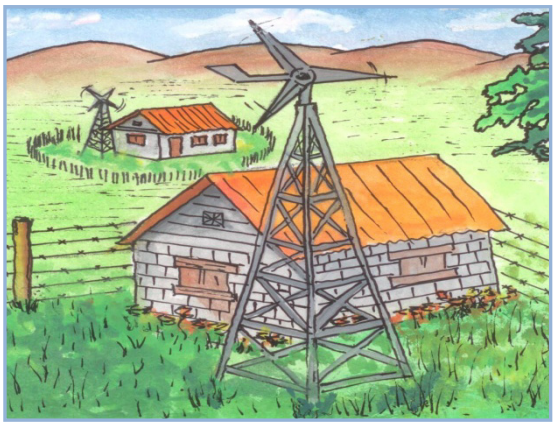
Table 4 - Strengths and Weaknesses of Wind Energy Technology

Strengths	Weaknesses
Alternative to grid electricity	High capital / initial investment
Simple and robust with lifetime of 10-15 years (if quality is good)	Site-specific
Easy to maintain	May need storage or back-up system as power produced is variable
No fuel required	Not a mature industry in many countries in the South as potential markets still low
Environmental impact low	Support expertise/equipment may not be easily available if market is not very active

Wind energy systems are mainly classified in three categories: mechanical systems, stand-alone electricity generation systems, and electricity generation systems for grid connection.

- ***Mechanical wind systems:*** This system uses the kinetic energy of the wind to lift the water. Wind pumps are the most common mechanical systems often used for water supply and irrigation.

- ***Stand-alone systems:*** Stand-alone electrical systems involve the use of a wind generator to maintain an adequate level of charge in an electrical storage battery. The battery in turn provides electricity for lighting, or powering TV, radios and refrigerators. Often, a controller is used so that the batteries are not damaged by overcharging or excessive discharge. The load connected to the battery can either be DC or AC (via an inverter).



Smaller, decentralized systems commonly are rated between 25 - 100W with 10m/s wind speed and a rotor diameter of 50cm to 1m. Larger stand-alone systems incorporate larger generators and battery banks, and are less common in developing countries. They could also be backed up by solar or diesel generators to enable continuous charge to the battery bank.

- ***Grid-connected systems:*** These systems are mainly large scale and installed either on land (on-shore) or in the sea (off-shore). In developed countries, these systems supply power to a private owner already connected to the electricity grid but the owner supplies back some of the power to the grid. This is the least common in developing countries but large wind-powered systems are starting to be installed and are favored as it is a clean source of energy.

1.4 Hydro-power Technologies

Hydro-power is the extraction of energy usually from falling water (potential energy), but this may include power extracted from the flow of water such as in rivers and streams (kinetic energy). Hydro-power systems are classified mainly in terms of their range of output, which can be from tens of Watts to hundreds of Mega Watts (MW).

The most common categories are:

- ***Large and Small hydro-power:*** These are systems that have outputs of hundreds of MWs. Small hydro-power technologies (SHP) generate up to 10 MW.
- ***Mini and Micro-hydro:*** Mini hydros range between 100kW to 1 MW in generational capacity and micro hydros usually generate between 5kW up to 100kW. Micro hydros can also be community-owned and managed which often may demand a different approach as opposed to SHP or large systems.
- ***Pico hydro*** is a term used for hydro-electric power installations that typically produce electricity in the range 0 – 5 Kilowatt (kW)

Micro and pico hydro installations can provide power to homes and communities in areas that are not served by the national grid. They offer an opportunity to produce clean and affordable energy from a decentralized, sustainable energy source.

Electricity is generated from moving water and is distributed to households and other users in the community. The systems can either be grid-connected, stand-alone or hybrid depending on the site, grid connectivity and reliability of the water supply. The systems normally use run-of-the-river systems which do not require storage reservoirs/dams to harness the energy from moving water. Whereas these may be seasonal in nature, they are more reliable in operation than wind or solar resources.

1.5 Liquefied Petroleum Gas

Liquefied Petroleum Gas (LPG) is obtained from refining crude oil or extracted from natural gas. One of the key characteristics of LPG is that it liquefies under moderate pressure making it easy to transport and store in concentrated liquid form. LPG is used as fuel for domestic (cooking), lighting, industrial, horticultural, agricultural, heating and drying processes. LPG is also used as an automotive fuel or as a propellant for aerosols, in addition to other specialist applications.

The clean burning properties and portability of LPG makes it an excellent substitute for traditional biomass fuels such as wood, coal, and other organic matter like cow dung cakes or charcoal briquettes.

1.6 Fireless cookers

Fireless cookers are made in such a manner that they do not lose heat to the outside environment. The food is allowed to boil in a conventional cooker and then transferred to the fireless cooker, where it is covered. The food cooks slightly slower than if it was directly on the stove. A well made fireless cooker can keep food warm for up to 8 hours after it has been heated.

1.7 Trends in Energy Use and Benefits

The modern lifestyle depends tremendously on the wide use of fossil fuels. With the high and increasing cost, and the decrease in levels of these fuels, as well as the high emissions of greenhouse gases they emit, there have been notable initiatives to increase the utilization of renewable energy and develop the technologies further.

Developing natural renewable resources also assists communities and countries to depend less on external imports. For individual countries, they can fulfill the targets and objectives on the environment that have been passed at international conventions and mandates that they have committed to.

The most important is the Kyoto Protocol and various linking mechanisms such as the Clean Development Mechanism that allows developed countries to buy carbon credits (effectively punishing them for emitting greenhouse gases) from developing countries.

There are several benefits related to increased use of clean forms of energy, in particular renewable energy. The key benefits are:

1) ***Environmental Benefits:*** The decreasing level of fossil fuels is not the only reason why the use renewable energy should be increased. Carbon emissions lead to air pollution that is a problem in many countries around the world due to use of fossil fuels. The impact of global warming has increased attention to cleaner energy production methods. The more carbon dioxide we pump into the atmosphere, the greater the effect becomes. Increased use of renewable energy resources can slow down and dilute the effects of global warming.

2) ***Sustainability***: Renewable energy can be replenished and is unlikely to run out, for instance solar energy. Other sources of energy are finite and will some day be depleted e.g. oil deposits, coal etc.

3) ***Growth in economy:*** Renewable energy investments help to grow local economies. They save the country foreign exchange that could have been spent importing fossil fuels. including biomass ICS and biogas units that are produced locally. Additionally, the RE sector creates jobs e.g. assembly of biomass kilns, biogas units, solar technicians etc.

4) ***Energy Security:*** Many of the countries that depend on foreign oil supplies or energy imports are at risk of an energy crisis due to the ever-changing political and economic climate. Increased utilization of renewable energy resources that are locally available increases energy security which could ensure stable economic conditions. For example, reliance on thermal fuel for electricity generation leads to volatile electricity tariffs due to changing world prices on oil. Utilization of wind for electricity generation will ensure constant tariffs as well as mitigation against hydroelectric generation which normally suffers during the drought season.

5) ***Better facilities for drinking water and irrigation:*** Renewable energy technologies can help generate the energy needed for pumping and sterilizing water. It can provide reliable and safe water supplies which is essential for adequate sanitation. Further, women and children can reduce the time spent gathering water. Irrigation facilities can be improved with water-pumping technologies.

6) ***Lower Energy cost:*** While the initial investment cost of renewable energy technologies may be high due to the initial cost of equipment (solar panels, wind turbines, and geothermal energy equipment), the only running cost to the consumer relates to any required maintenance and operation.

Discuss the renewable energy solutions available in your country or region.

Module 2

Energy Business Delivery Models

OBJECTIVE

This module intends to introduce the energy entrepreneurs to key business models that can be used in the delivery of energy products and services to the markets.

TOPICS IN THE MODULE

1. *Introduction*
2. *Parameters*
3. *Expanding the Delivery Model*

Introduction

In marketing energy products or services, it is vital to have the most appropriate business model. This module describes what a business model is and the common types of delivery models that are used by energy suppliers and entrepreneurs to market their products. It is important to recognize that local conditions will demand tailored solutions and approaches, or perhaps combinations of the models described here. Furthermore, the descriptions in this module should not be applied rigidly.

Definition of Business Model

A business model describes the various aspects, approaches and values that an enterprise offers to one or more segment of customers while launching or running a business; in particular focusing on the generation of profitable and sustainable revenue streams. The business models focuses on roles and linkages of actors in the energy product supply chain, and is related to but are distinct from the legal structure of the business.

The development of an appropriate business model is very important as it helps the entrepreneur/s to identify the right implementation strategies to be profitable. In the absence of a business model, an entrepreneur may find that he/she is unable to take the right decision at the time of starting a business that may lead to inefficient operations and in turn a non-viable business.

2.1 Parameters of Business Model

Four key components need to be defined and developed before starting a business as outlined in the table below and explained in this section further.

Table 5: Business model format

Business Goal	Objectives the enterprise aims to achieve through its operations. Includes profit making as well as social objectives.
Product/ Services	The device / equipment (or services) that will be sold by the enterprise, the uses it will fulfill. Also, the way in which the enterprise will obtain products and provide them to the customers.
Demand	Source of demand, the target segment and its characteristics geographic and socio-economic characteristics.
Delivery Model	Financing mechanism, ownership and management, delivery / implementation, sales / distribution, collaboration with other market players.

2.1.1 What is your business goal?

Establishing the business goal is important. The entrepreneur/s need to clearly lay out its objectives such as:

- *Is the enterprise profit making?*
- *Does the enterprise serve society as well?*

Once the objective is clear, the performance of the business can be measured against the goals. For profit oriented entrepreneurs, any profits can be reinvested in growth and expansion. The goals of the enterprise also determine other aspects of the business model.

Example: Company X sells Solar PV to rural households. It is a for profit private business that has brought about social welfare as well. By keeping itself profitable, it has been able to sustain itself and also grow. Since profitability is one of the key drivers, it has developed its business model accordingly. It is also working with micro finance institutions to provide end user financing for its customers.

2.1.2 Products and Services

To create the business model, the energy technology that will be the main product or service for business needs to be determined. It is important that the entrepreneur know the various sections within the technology supply chain. Once this is understood, the entrepreneur can determine the appropriate devices/equipment or services to start or expand a particular energy business. In this process, the entrepreneur must be able to identify clearly the following:

- ***Product v/s service:*** will the entrepreneur provide only products or services related to a product or both?
- ***Uses***: what are the uses the products or services will fulfill?
- ***Product / service suite***: will the entrepreneur further provide a wider range of related services or products that will enable the business to be more sustainable? For example, supplying complimentary products, providing repair and maintenance services, providing credits to consumers, providing training for use and maintenance and others.
- ***Supply chain***: It is important to establish the supply chain. How will the entrepreneur obtain products and then provide them to the customers. Will the products be manufactured or assembled?
- ***Standardization:*** will the product be standardized or customized per user?

Example: Understanding the energy technology sector is very important to create the right business model. Take Improved Cookstoves as the technology choice. An entrepreneur can either get involved in one part of the supply chain, such as producing liners, or decide to be involved in the full process of producing liners to stove cladding to sales. Choosing the technology and the component of the supply chain is important as it determines the business delivery model.

2.1.3 Demand

An entrepreneur must understand the markets that he/she/they will be serving. Demand refers to the understanding where the demand for the product / service will come from - *Who will be the target segment to whom the enterprise will sell its products and/or service?* Most of the off-grid market in developing countries involves remote and rural areas and often interrelates with high percentage of population living in poverty. It is therefore often important to understand the ability of customers to pay for the service or product, the income stream of the customers and the current energy spending of the customer or his/her household.

Demand encompasses having a good understanding of:

- ✓ *End user of the product* – is it an individual, a household, an organization or a community
- ✓ The geographic coverage area and its demographics where the enterprise will operate and sell its product
- ✓ The socio-economic strata of the society that will be the users of the organizations products / services including the income level – are they willing or capable to pay for the product or service?
- ✓ Presence of formal / informal groups and leadership structures that will impact local practices.
- ✓ The current levels of spending on energy needs of the produce in the target segment

Once the market, in particular the demand is understood, appropriate delivery models can be designed. This is the fourth dimension of designing an appropriate business model for the enterprise.

2.1.4 Delivery Model

The delivery model includes the approach that the enterprise will follow to provide products or services to the customers in a way that it fulfils its goals. Few key aspects are:

- ➢ ***Financing mechanism:*** It is important to know where the finance for setting up or expanding your business is coming from. How will the business make profit? Understanding the costing and revenue model is important. Will the entrepreneur be able to provide credit to the customer or how will products or services be affordable?
- ➢ ***Ownership and Management:*** One of the most important components of the business model is to determine the ownership and management structure. Is the enterprise a co-operative, private or public one? What is the right of ownership of the products/services?
- ➢ ***Delivery:*** This is very important to be determined as it includes the way the product or services are made available to the customers. The delivery model is dependent on the other factors particularly demand. The delivery should look at the following in detail:
  - ✓ ***Distribution***: will the product be delivered through a decentralized mechanism or will there be centrally provided product/services where several units can use it
  - ✓ ***Sales model:*** The mechanism through which the product / service will be sold - lease / hire purchase/ cash / credit / (background on these expanded in this section with examples) as utility.
  - ✓ ***Sales channels***: what sales channels will be used e.g. franchise
  - ✓ ***Marketing***: what will be the marketing approach

The next section details some of the key distribution/sales delivery models of energy products and services.

2.2 Expanding the Delivery Model

Once the step by step understanding of a business model is completed, the actual delivery of goods and services can be designed. In this section, some key sales mode and sales channels are being introduced in particular reference to energy product delivery.

2.2.1 Cash Sales

The cash sale model is straightforward and many micro and small energy entrepreneurs in East Africa use this model. This is probably the only model that applies to all energy technologies. The energy product is procured or made locally and then directly sold to customers, who are responsible for the maintenance of the product. Cash sales can also be:

- ✓ ***Direct sales*:** whereby a product or service is sold directly to customers
- ✓ ***Decentralized sales*:** a product is sold via dealer to the customer

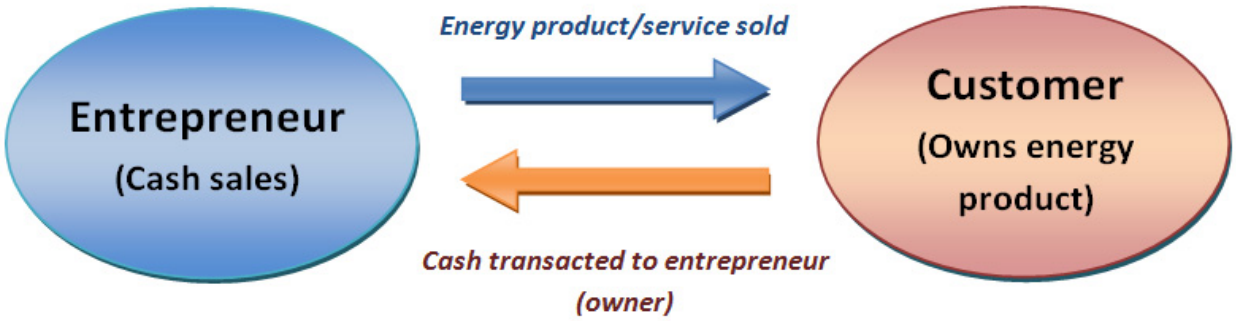


Figure 3: Cash Sales Model

If there is a high demand and potential to pay is good, cash sales usually works well. If not, the business will stagnate. The success of a cash sales delivery model mainly also rests on the quality of the products, and particular the warranty period, which the entrepreneur should honor to keep his/her clients. Despite demands, sometimes entrepreneurs cannot expand or start a business because of the 'initial investment barrier' especially if for larger products like solar home systems or biogas. However, briquettes and LED solar lanterns are starting to be alternatives for micro energy entrepreneurs to initiate business.

The suppliers are also coming up with credit for micro entrepreneurs who can be their dealers. If the purchasing power of the consumer is strong, the cash model works in a perfect condition. It must be noted that in rural areas, seasonal fluctuations of harvesting, festivals etc may determine the best time period for cash sales.

Low quality products, low demand in volume, and lack of maintenance are some important determining factors that will negatively impact the cash sales model.

2.2.2 Lease and hire purchase

This model is not commonly used but there are a few cases especially in the solar PV sector. In this model, the entrepreneur leases the energy product (often for lighting) to the customer for a limited period of time in return for a fee. During this leasing or hiring period, the entrepreneur has to be responsible for the maintenance of the products or systems hired or leased out to the customer. If customer does not pay for the services, the entrepreneur retains and withdraws the system. The entrepreneur has options to lease such as:

- ✓ Transfer the energy product to the customer after recuperating the fees plus the part payment of the equipment. This is obligatory if it is a hire-purchase model.
- ✓ Retain the energy product as only fees are charged

Figure 4: Lease Model - Simple

The model works best if the entrepreneur has up front financial investment to buy the products for leasing, and also the capacity to administer the process. It requires good management skills and payment collection systems, as well as customers who are disciplined to pay fees each month or whatever time period payment is set by the entrepreneur. Again, the demand for a particular service needs to be high for this model to work. Lighting is the best example as solar PV systems or lamps can be leased out. It may not be a good idea to lease out energy products that do not have a long lifespan such as cook stoves.

2.2.3 Supplier Credit

This model is mostly for medium or large scale suppliers and dealers who provide credit to customers to buy an energy product. Some form of agreement is made between the two parties. Often, the customer owns the product (PV, cook stove, LPG etc) and repays the credit in installments to the supplier. There may be a clause in the agreement whereby inability to pay may lead to the ownership reverting to the supplier. This model is apt to move products and often suppliers/dealers will borrow cash themselves to on lend to end users, keeping the interest margin as part of the credit arrangement.

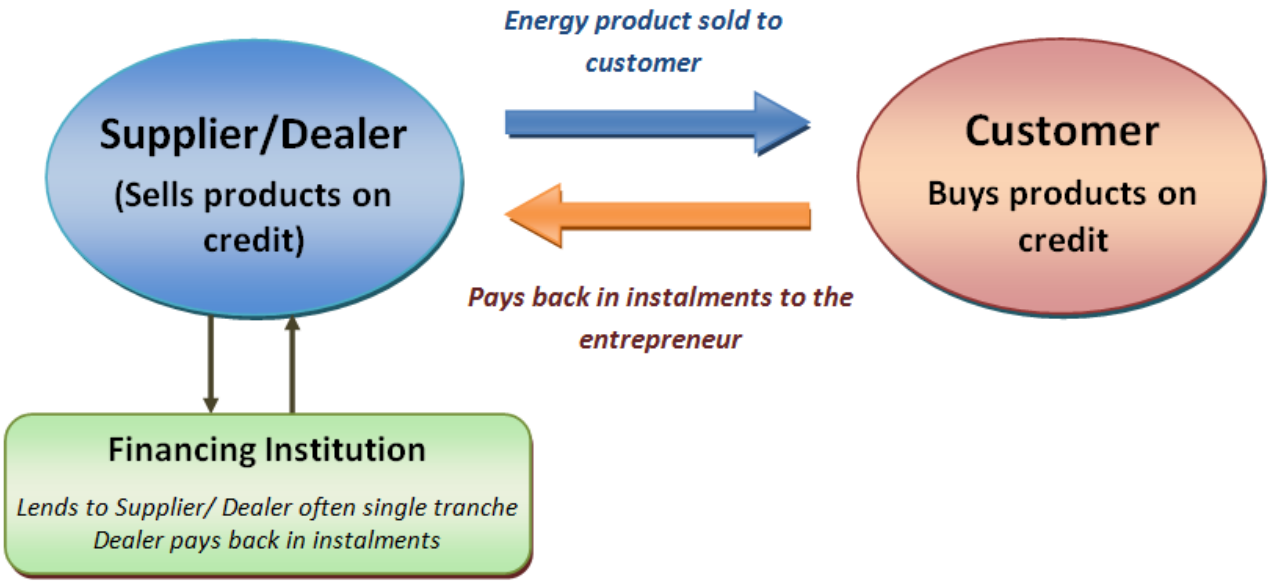


Figure 5: Supplier Credit Model

The supplier credit works particularly if the energy product is expensive. Conditions for credit need to be well suited as defaults may occur. A supplier can be faced with shortage of working capital and dealing with consumer credit may not be his/her specialty. Unless a supplier/dealer has the capacity to administer a credit scheme, this model is not recommended.

2.2.4 End-user Credit

In this credit model, the supplier/dealer sells energy products to the customer who obtains consumer credit from a third party credit institution such as a Bank, a micro finance, SACCO etc. The entrepreneur is not directly involved in the credit scheme and thus valuable working capital remains available for the entrepreneur. Often, the customer can own the product but often full ownership needs to wait after paying back the financing institutions. The financial institution can in turn also have a lending deal with the supplier or dealer.

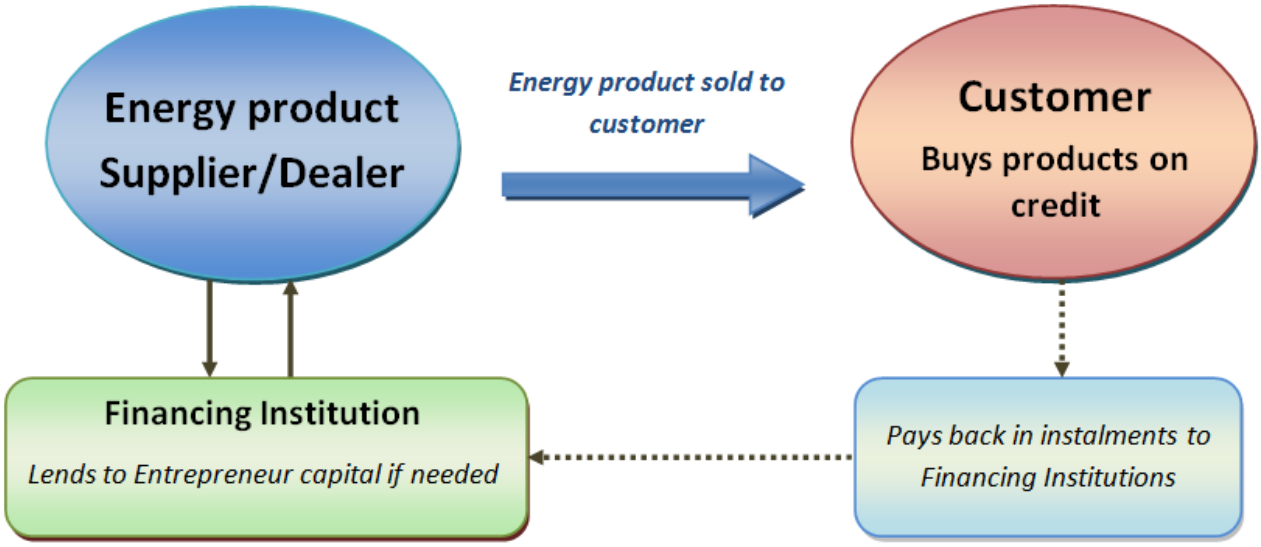


Figure 6: End User Credit Model

The entrepreneur remains responsible for the sales and distribution. The end-user pays a down-payment (either directly to the company or to the financial institution), and the remaining payments are collected by the financial institution. The financial institution usually takes responsibility for the loan. The energy product is usually used as collateral because it is easy to remove and reuse. The supplier/dealer needs to work with financial institutions that have regional reach and experience with credit particularly in rural areas.

End user credit is advantageous as it lowers the high cost of buying an energy product such as a solar PV home system or an LPG or a biogas installation. Also, the supplier/dealer does not have to worry about the credit management but rather focus on providing good products and services, particularly maintenance. As a dealer, one can always approach local credit or savings group to start a small end user credit model even in rural areas.

2.2.5 Community/ Co-operative/ Utility (Fee for service)

This model applies usually when community/co-operatives or small private utility delivers energy services and products to customers, usually at a fee. If community is well organized and structured, a Company can be formed. The Company invests (borrows from a FI) and owns the energy project (example, micro hydro, wind, large solar installations) and provides a service such as lighting to the customer. A monthly fee is usually charged by the Company or Co-operative. Although this model is common in many parts of Asia, it is still new in East Africa. Often, the Company needs sound financial and technical advice to establish such a venture and often, is a long term one. This model is common for bigger energy businesses such as hydro or wind.

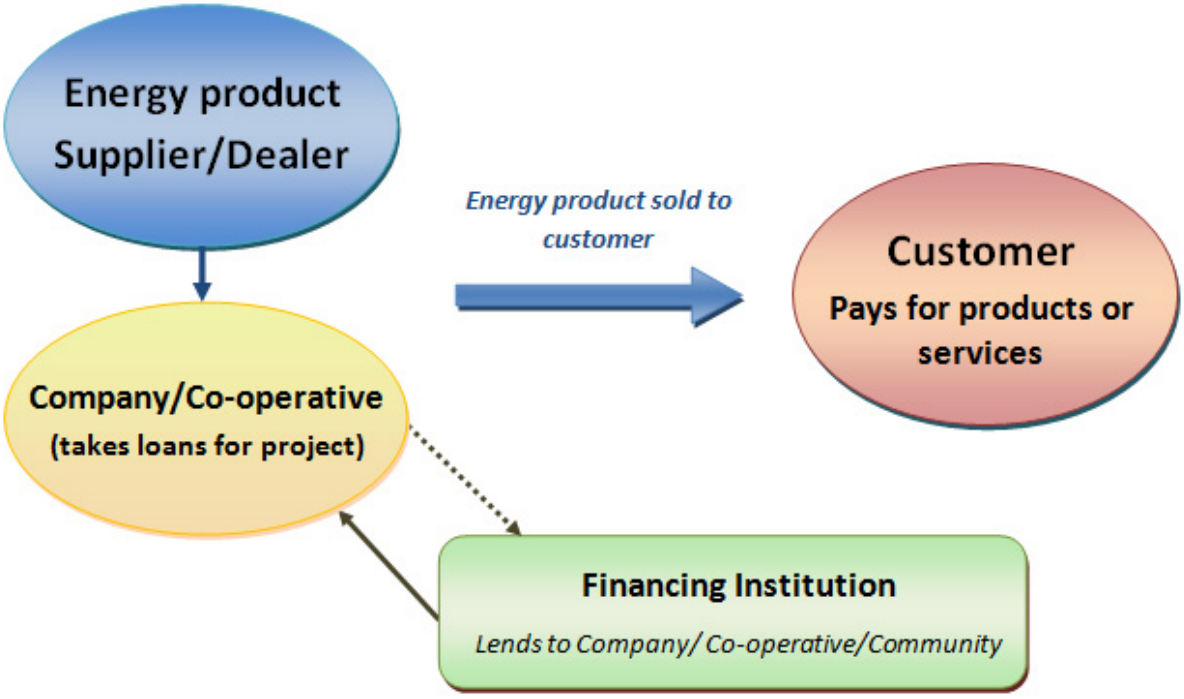


Figure 7: Company Model

For this model to succeed, the members forming the Company must be well versed in financial management as well as stay committed for a long duration of time. If well managed, more people could benefit from the services. Management of service delivery is important as well and often a good technical maintenance person is an absolute must to be trained or hired. Collection of fees from customers can be time consuming and such issues needs to be sorted out at the initial phases. Customer care is very important as if they do not pay fees, the Company could lose out. If installation size of the project is large, then it can also be connected to the grid once there is a government policy to buy power from decentralized sources.

2.2.6 Franchise / Dealership

In a Franchise dealership model, the business processes, products and marketing are standardized and a number of 'franchisee' is set up by a parent Company to deliver the energy goods and services. In a way, the Company depends on the franchisees to link to other levels of supply chain. The franchisee has the right to sell or rent the parent Company's products and use its name. In a franchise model, a successful dealer network can potentially be set up, each franchisee/dealer will need to adhere to the standards that are set up, often with the same operating and marketing business strategy set by parent company.

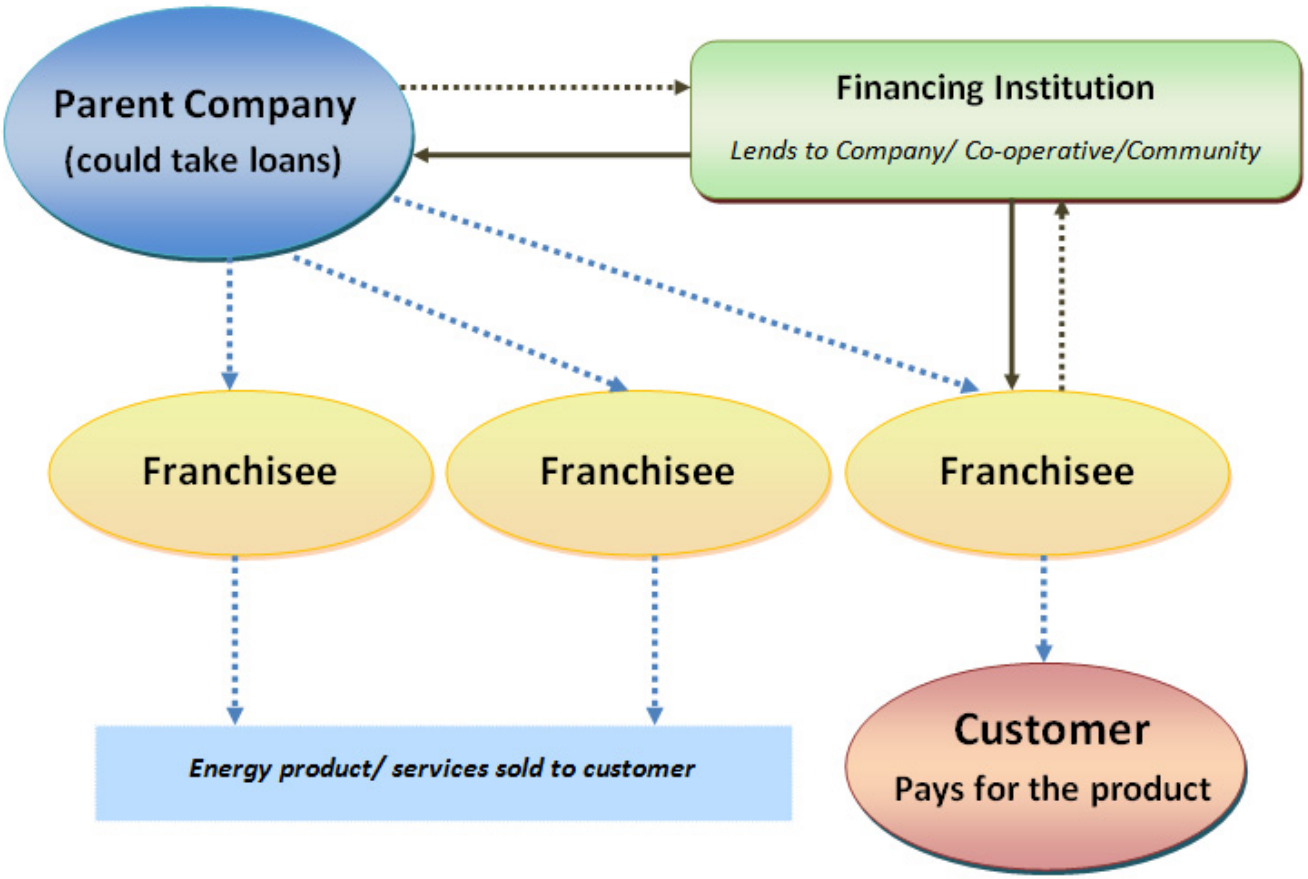


Figure 8: Franchise Model

Franchises are often set up when the parent company (franchisee) succeeds in the retailing of energy products or service to a customer base. In a typical franchise model, anyone has the right to own and operate an outlet. For the franchise model to succeed, dealers must have similar drive and determination to promote and sell the products or services. The parent company may assist in the initial setting up but dealers must be entrepreneurial and innovative to sustain it. They can further take loans from financial institutions and establish their business further. Franchise models in East Africa are mostly in the solar sector.

Table 6 below shows a summary of various energy products and their best delivery model.

Table 6: Different delivery models suited according to energy specific technologies

Energy Product	Demand/ Reasons	Cash sales model		Lease / Hire	Credit (dealer & end user)	Company / Co-operative	Franchise
		Direct	*Dealers*				
Improved cook stove liners	Often high – sales to other entrepreneurs or customers	√	√				
Improved cookstove – cladding/ retailer	Often high – rural and urban, depending on types of stoves	√			√	√	
Briquettes	Medium – rural and few urban (if well made)	√	√ (larger enterprise)		√	√	
Solar PV home systems	Medium, depending on ability to pay	√	√	√	√		√
Solar LED lamps	Medium to high, depending on awareness	√	√	√	√		
Wind	Low, depending on wind resources, ability to pay	√			√	√	
LPG	Medium, often urban or peri urban, ability to pay must be high	√		√	√		
Hydro – manufacturing installing, maintenance, energy kiosks	Low to medium – ability to pay low, costs high	√ depending on product parts or services		√	√	√	√
Biogas	Low to medium	√			√		

Activity

a) Think about your business, what model are you using?

b) From the discussion, what business model would you like to work with and why?

Module 3

Business and Financial Management

OBJECTIVE

To measure and monitor business performance, plan and enhance business growth and sustainability.

TOPICS IN THE MODULE

1. *Business Management*
2. *Record-keeping for energy business*
3. *Preparation of financial statements; profit and loss, balance sheet and cash flow*
4. *Stock management*

Introduction

Every business deals with money to pay for expenses, buy equipment and stock, receipts from sales and so on. These transactions are either in cash or credit (promise to pay or be paid later). Financial management would therefore involve recording of business activities that are of financial nature (book-keeping), organizing and summarizing this data and presenting it in reports for use by stakeholders. The first and most important user of this information is the owner of the business.

The Importance of Financial Management

The purpose of financial management is to help in decision-making on matters of profitability, investment, cash management, pricing and other aspects of business performance. The cost of making wrong decisions is high and in many cases leads to business failure. Financial management helps reduce mistakes in decision-making and enhances management effectiveness (making the right decision).

3.1 Business Management

3.1.1 Definition of Management

Principles of business management consist of mobilizing resources and combining and coordinating them effectively to help you meet the goals of the business. To be able to do this, the manager performs the functions of planning, organizing, leading, staffing and controlling.

Duties and responsibilities of owner/manager

Most micro and small business are owned and managed by the same person. Therefore, he/she can be called an owner/ manager. Because of this the owner/ manager carries out the following duties and responsibilities:

- ✓ Plans the business resources and activities.
- ✓ Organizes work, recruits staff and allocates work to himself/herself and workers.
- ✓ Leads and communicates with those who work in the business
- ✓ Controls resources – materials, machines, buildings, finances etc
- ✓ Markets his / her business
- ✓ Seeks for investment in the business
- ✓ Communicates and works with others outside the business including handling public relations.
- ✓ Customer care
- ✓ Gathers information on matters that affect the business.

3.1.2 Planning Activities

Planning is a process of coming up with a plan of action to achieve a set target for operational activities. This may involve forecasting events, scheduling and re-scheduling of activities and tasks that affect the attainment of a target or goal. Planning is thinking ahead of time. Planning affects all the activities that the business undertakes.

The entrepreneur should plan for everything in the business including and not limited to finance, marketing, buying of stock and even the people he/she employs in the business.

Planning for the business involves the following:

- Setting goals, objectives and targets. This involves:
  - Making a decision on what target to achieve after a certain period of time.
  - Developing long term and short term plans for the business.
- Deciding on the activities that will be undertaken to help achieve the goals, objectives and targets.
- Developing ways of finding out whether the business is achieving its desired targets.

3.1.3 Organisation

This is the process of identifying activities and tasks which will be carried out in the business and deciding the order in which the activities will be implemented and the people responsible for the activities.

There are many activities that could be involved in a particular business such as purchasing of goods or materials, banking and selling. The complexity and intensity of these activities will depend on the size of the energy enterprise.

The entrepreneur would need to involve members of his/her family or employ workers to help in carrying out some routine activities. The entrepreneur should identify the tasks and allocate duties and responsibilities to others. This is organizing.

The following are the main functions in organizing:

- ***Listing or writing down all the activities that must be carried out in the business*****.** Such activities include accounting, marketing, transport and production

- ***Grouping all the activities that are related together.*** For example for accounting:
  - Record keeping
  - Banking
  - Planning finances (budgeting)

- ***Deciding which activities must done by the owner/manager*** and those that others allowing the manager to focus on the core business activity of selling.

- ***Delegating*** i.e. allocating duties and responsibility to others. When delegating, the entrepreneur should make sure that others know their full responsibilities.

3.1.4 Leadership

This is the function of providing strategic direction in the business. In a business there may be people working for or assisting the owner in one way or another. But it is the owner who knows the direction he/she wants to take the business. The business vision may be written or not. To have a successful business, the owner must be prepared to be a leader.

Leading is seen in the following business activities:

i. Showing direction and decision making
ii. Suspension and coordination of activities carried out in the business
iii. Communicating with workers and also the outside world.
iv. Customer and public relations.
v. Inter-personal relations. How people work together with others.
vi. Making sure others remain motivated to do their best for the goal of the business.

3.1.5 Staffing or Resource Mobilization

Staffing or resource mobilization involves looking for required resources to implement the activities identified in the business plan. These resources could be people, money, raw materials, equipment and so on. It is the responsibility of the manager/owner to look for these resources.

3.1.6 Controlling

Controlling is one of the most important roles for any manager. Control involves knowing whether what has been planned or invested in the business is going according to plan. The owner/manager should take pro-active measures to prevent damages to the business. The following are some of the main control activities:

- ***Control the budget. This involves ensuring that spending does not exceed what was budgeted.***
- ***Controlling cash movement and the way it is spent (used).*** It involves making sure that there is enough cash to meet daily business activities.
- ***Controlling credit sales*** – reduce the number of debtors.
- ***Controlling stock held*** so that the business doesn't have too much or too little.
- ***Controlling performance of workers*** so that they are able to meet the targets and that they stick to the work that has been planned.

3.2 Record Keeping for Business

3.2.1 Why is record-keeping important?

Accurate record keeping is essential to the success of a business. Record-keeping allows you to:

- ✓ Manage stock and raw materials
- ✓ Calculate and monitor profit and loss
- ✓ Plan for the future
- ✓ Filing tax returns

Every single transaction must be recorded daily – both purchases (cash out) and sales (cash in). This is described as cash flow; cash flowing into the business and out of the business.

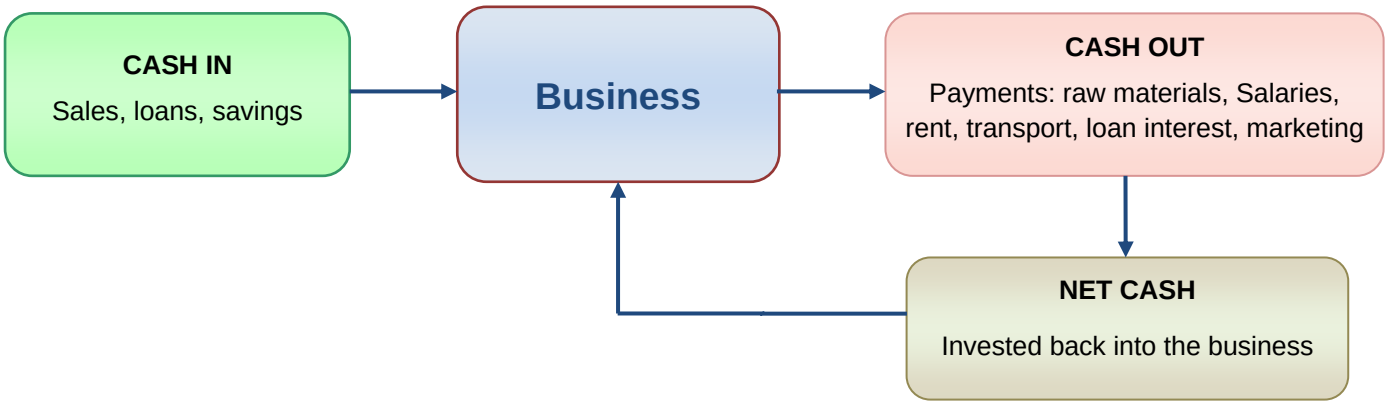
> Cash flow is important for predicting how much money will be needed and when it will be needed, or to predict cash surplus (profit) and plan investment.

3.2.2 How to keep a Cash Book

The cash book shows the situation of the business at any given time. It includes all sales and all costs over time. It is important to record every single sale and expenditure. This allows the owner to track sales and expenditures month by month. In addition, knowing the average monthly sales means that one can plan for the future.

- To work out the cash flow for the month, add up all the **Cash In** records for that month. Then add up all the **Cash Out** records for that month. Subtract the **Cash Out** total from the **Cash In** total to find out the balance (profit or loss).

- To work out **Cash balance, Cash Out** is subtracted from **Cash In** into the business



A format of cash book is provided in Table 7 below:

Table 7: Cash Book

Cashbook					
Number	**Date**	**Description**	**Cash in**	**Cash out**	**Balance**
1	3/5/09	Initial cash in	2000		2000
2	3/5/09	Sale of Stove	400		2400
3	5/5/09	Sale of 2 Stoves	800		3200
4	5/5/09	Shop rent		330	2870
5	6/5/09	Sale of 3 Stoves	1200		4070
6	7/5/09	Purchase of stock – 5 Stoves at wholesale price of $ 200		1000	3070
7	8/5/09	Staff wages		800	2270
8	8/5/09	Sale of 2 Stoves	800		3070
		SUB-TOTAL for May 2009	**5200**	**2130**	**3070**

3.2.3 Receipt Book

Though it may reduce the speed of working and serving the customer, the use of a receipt book minimizes errors and keeps a hard copy of all past transactions carried out. The risk of not recording could be very high especially when the business has employees handling cash transactions. Cash is very sensitive and easy to steal.

An ideal receipt book should have at least two copies for each transaction, one for the customer and one for the business. Usually one copy remains in the book (book copy) while the other is given to the customer. The book copies are left in the receipt book until it is time for computing sales.

A sample receipt book format is shown below in Table 8.

Table 8: Receipt Book Format

RECEIPT		**No.**
PAYEE NAME: ***ADDRESS:***		***PAYER NAME:*** ***ADDRESS:***
DATE:	**DESCRIPTION**	**AMOUNT**
	E.g. sale of 1 kg of briquettes	
	Total	

3.2.4 Sales on Credit

Selling on credit has the advantages of retaining royal customers or improving sales during low period. Caution has to be taken when selling on credit. Many businesses have gone under due to non collection of debts.

It is important to assess the credit worthiness of the customer and put in place some control measures for the credit levels. It is advisable for the owner to limit credit to those long term customers that can be trusted.

Table 9 below shows how to keep a record of sales on credit. It is good practice to inform the customer when the payment must be done. It is also good to send reminders on or before the due date. This same information should be recorded and tracked in the records as shown in the table below. If the customer does not pay the balance by the agreed date, the owner/manager should pursue the client for payment.

Table 9: Sample record for Sales on credit

Sales on credit									
No.	Date	Client	Product / service	Unit value	Advance paid	Cash to be paid	Final payment due date	Actual date of final payment	Signature of customer
1	23/11/09	Randu	Stove	400	340	60	30/11/09		
2	25/11/09	Mary	Stove	400	300	100	2/12/09		

3.3 Preparation of Financial Reports

In the course of doing business, many transactions take place and the owner may not trace each and every activity in mind. With record keeping in place a summary could be prepared on what has been happening. From time to time, the owner of a business would want to know exactly what is happening in the business.

In accounting, there are set procedures and guidelines on how this is done. There are three main reports that could be prepared that provide a full picture of financial performance by a business. These reports are profit and loss statement, balance sheet and cash flow statement as discussed below.

3.3.1 Preparing a Profit and Loss Statement

Profit and loss statement is prepared to provide information on whether a profit or loss was made for that particular period. The more often the owner calculates the profit or loss of his/her business, the earlier he/she can see problems or opportunities.

The owner gets on the driver's seat of the business – he/she is in control. Benefits are:

- ✓ Helps the owner to assess business performance and can therefore make good decisions
- ✓ Reference and comparison purposes
- ✓ Help in assessing one's tax liability
- ✓ Sourcing funds
- ✓ Detection of fraud
- ✓ Budgeting for future needs
- ✓ Cost control
- ✓ Credit control

A profit and loss statement is prepared as follows:

Step 1: Computing sales

Sales are cash receipts (or promise to be paid later) for goods sold or services rendered to customers. Computation of sales should include all what was sold and is treated as gross income into the business. Where few items are involved and the selling price is fixed, sales could be determined by multiplying units sold to selling price. This could also be determined by adding all cash sales and credit sales.

Step 2: Calculation of Gross Profit

After computing sales the next item to estimate are the costs of those sales. For example if the business is that of selling solar panels, they must have been bought or made them by owner. The cost of getting these panels ready for sell is what is called cost of sales. These costs are deducted from sales to get ***Gross Profit.***

Gross Profit = Sales – Cost of sales

Table 10 below illustrates this.

Table 10: Gross profit computation

	Total (currency)	***Example***
Sales	……..	*$ 3000*
Cost of sales (Costs spent on product) *For example raw material, machinery)*	……..	*$ 1800*
Gross Profit = Sales – Cost of sales (*3000 – 1800 = $ 1200)*		*$1,200*

Step 3: Calculation of expenses

In the course of doing business, the owner pays for services like transport, rent, electricity and wages/salaries. He/she may also withdraw money for own use at home. All these expenses drain cash or resources from the business and that money never comes back. They are deducted from gross profit. Table 11 below shows some workings.

Table 11: Computation of Expenses

Salaries/Wages	$ 200
Rent	$ 100
Transport	$ 40
Bills	$ 100
Other Indirect costs (tax, XX)	$ 0

Expenses = Salaries + Rent + Transport + Bills + all other indirect costs

= *200 + 100 + 40 + 100 = 440*

Step 4: Calculation of Net Profit (or Loss)

Net profit is what remains after expenses have been removed. This is computed as follows:

Net Profit = Gross profit – Expenses = *600 – 440 = $ 160*

A further illustration is given in the next page.

3.3.2 Balance Sheet

Balance sheet is a statement of wealth; a statement showing assets held and how they were acquired. Assets are items or property of value held by a person or entity. The business is a separate entity from the owner and therefore it can own assets. These assets could have been purchased using own money or borrowed money. Money or assets brought into the business is referred to as capital. Also included into the capital is profits retained into the business for purpose of expansion. Money borrowed or goods received from other people or banks are referred as liabilities. These are obligations to pay later.

Assets are held for purpose of resale like stock and inventory, to help generate services like machines or aid the flow of business activities like cash. Wealth is created by transacting in or using these assets. Examples of assets are cash in hand and at bank, stock/inventory, debtors, furniture, vehicles, buildings and rent deposit.

Liabilities are incurred in the process of doing business especially when the owner does not have cash to pay for goods or services received. Liabilities are also incurred when other people work for the business but are promised to be paid later. When the enterprise borrows from a bank, MFI, SACCO or a friend of the owner incurs a liability as well.

The Balance Sheet is a statement of all assets of the business, liabilities and capital. The general principle applied in preparing a balance sheet is that all assets must equal capital plus liabilities. Hence the following balance sheet equation:

Assets = Capital + Liabilities

Example 1: Calculation of profit or loss

Assume Njora runs a business selling stoves in Meru Town and wants to know whether he is making any profit in this business. In the month of April, Njora bought 25 Stoves from the market at $ 200 each. This translates to a cost of $ 5,000. He sold all the 25 stoves at $ 500 each. This makes sales of $ 12,500. Njora spent $ 1500 on rent, $ 1000 on salaries, $ 500 on phone air time and $ 500 on transport.

a. How much profit or loss did he make for the month of April?

A CALCULATE GROSS PROFIT

Sales	12,500
Cost of Stoves (direct costs)	5,000
GROSS PROFIT =	7,500

B CALCULATE EXPENSES

Rent	1500
Salaries	1000
Phone air time	500
Transport	500
EXPENSES =	3,500

C CALCULATE NET PROFIT

Net profit = Gross Profit - Expenses

= 7,500 – 3,500 = 4,000

Njora made $ 4,000 profit.

b. Suppose Njora finds that the Meru market is very competitive and reduces the selling price to $ 400, how much profit or loss will he make?

_____

_____

_____

*Answer: $ 1,500 profit {(400*25=10,000; less 5,000 +3,500)}*

c. Suppose he can only sell 10 stoves at $ 500 and incur same operating expenses of $ 3,500, how much profit or loss does he make?

_____

_____

*Answer: $ 500 loss: {sales = 10*500= 5,000; cost of sales=10*200=2000}*

Steps in preparing a balance sheet are:

1. Listing all assets of the business with their values on one side
2. Listing all liabilities on the other side. This list includes all debts that have been acquired over the period and not paid.
3. On the same side as liabilities, money brought into the business by the owner is included.
4. Adding totals on each side and getting the difference. This difference is the retained or accumulated profit or loss over the period.
5. To separate retained profits of the past period and that of current period, net profit for the current period is deducted from the difference obtained (retained profits) in step 4 above.

Following is an illustration of the above steps.

Step 1: List assets and their values		**Step 2: List liabilities**	
Asset	***Value***	***Liability***	***Value***
Cash in hand	20,000	Creditors (trade)	50,000
Cash at bank	50,000	Loan from bank	150,000
Stock (inventory)	560,000	Other loans	0
Debtors	0	Unpaid bills	10,000
Prepaid rent	5,000	**Total liabilities**	**210,000**
Furniture	40,000		
Motor cycles	75,000	*Step 3: Assets – liabilities = total capital*	*540,000*
		Initial capital	200,000
		Step 4: Retained profits or loss = capital – initial capital	340,000
Total assets	**750,000**	**Liabilities + capital**	**750,000**

3.4 Costing and Pricing of Products and Services

Definition: Pricing is the method or system followed in setting up the price of a particular product or service. So price is the worth (value) of a product or service expressed in monetary terms.

Once the cost of producing a unit of product has been worked out, the next step is working out a reasonable price to charge customers for the product. The price set should be fair and affordable by the customers and at the same time guarantee some profit margin to the entrepreneur.

3.4.1 Price Setting

In setting prices it is important to know:

- Direct and indirect costs in the business
- Competitors' prices, and
- How much customers are willing to pay

The price must be:

- ✓ Low enough to attract customers to buy;
- ✓ High enough to cover all costs and give the business a profit.

From the example above, George calculated that one briquette costs $ 6.6 to produce, including indirect costs. This means that for him to make a profit, he much charge more than $ 6.6 per briquette. He decides to sell one briquette for $ 10. This gives him a profit of $ 3.4 as shown below:

$ 10 – $ 6.6 = $ 3.4 per briquette

3.4.2 Pricing: Factors to Consider

The following are factors to consider when setting prices:

a) **The competition –** Prices charged by competitors. Some competitors are able to obtain their raw materials cheaply and are able to charge reasonable prices. The only remedy is to reduce costs and charge the same as competitors. If there is no competition, one can charge reasonably but don't exploit customers.

b) **Business costs –** i.e. direct and indirect costs. The retail price should cover all of these costs, as well as make a reasonable profit. The trap is that most people consider only the direct costs and forget to include the indirect costs like telephone, own salaries and rent.

c) **Substitute products –** The prices of those goods that can take the place of own goods and serve the same purpose. They may not be the same quality but will affect the price of goods been sold by the business.

d) **Customer price sensitivity/elasticity of demand -** this depends on whether the product/service is necessary; i.e. whether customers have to have it or can do without it.

e) **Own capacity and strategy –** This depends on whether the entrepreneur is introducing a new product (to penetrate the market) or selling cheaply to clear stocks (market skimming) or increasing the price to cover a profit margin.

f) **Distribution channels –** if the entrepreneur sells the product to distributors they have to make a small profit and so they will mark-up the price given. Alternatively, if entrepreneur is the distributor, then he/she will need to mark-up the price given to make a profit. The mark-up price depends on the position in the distribution chain e.g. manufacturer, wholesaler or retailer. The manufacturer has to charge less and leave a profit margin for the wholesaler and retailer.

g) **Sales turnover –** If items are moving faster, the entrepreneur can do with a moderate price and make enough.

3.5 Stock Management and Control

3.5.1 Definition and Purpose of Stock Management

Definition: Stock refers to all the goods owned and held for sale in form of merchandise and includes goods both on the shelves and in the stores.

Reasons for the need for stock management are:

- To make sure that there is enough stock for customers.
- To meet the demand of the customers while at the same time avoiding having excess because it ties up money.
- To keep to the amount budgeted for and avoid holding too much working capital in form of stocks.
- To help calculating business costs i.e. tracking stock movement.
- To help in planning and control.
- To help in knowing which items move slowly and the ones which move faster.
- To help in deciding which items to stock and not to stock.
- To help in checking against losses.

3.5.2 Raw Material Inventory

Raw materials are stock held for the purpose of being converted to new products that can be sold to add value. Table 12 below can help in identifying the amount of material used over a period of time, and the amount of raw material that remains (the inventory).

Table 12: Raw Material Inventory

		Record							
		Raw Material purchased			Raw material used			Inventory	
No	Date	Type	Qty	Total Value	Type	Qty	Total Value	Qty	Total Value
1	20/11/09	Sack of bagasse (50 kg)	10	1000					
2	25/11/09				Sack of bagasse	6	600		
3	28/11/09				Sack of bagasse	3	200	1	100

Module 4

Growing an Energy Business

OBJECTIVE

To review the requirements for enterprise survival, growth and sustainability.

TOPICS IN THE MODULE

1. *Introduction to Entrepreneurship concepts*
2. *Business opportunities for SMEs in energy sector*
3. *Growth strategies*
4. *Business planning*
5. *Financing planning*

Introduction

Before an entrepreneur pursues any growth strategies, it is essential to make sure that the business is running efficiently. This module, we explore what an energy entrepreneur needs to do to smoothly run his or her business but more so what is required for one to grow their business.

The importance of business growth

Usually, the focus of the business changes as it moves through the various stages in the business growth lifecycle. The energy SME should continually identify opportunities for growth and innovation to ensure the enterprises sustainability and expansion.

Growth can be measured by looking at key statistical parameters such as:

- *turnover*
- *market share*
- *profits*
- *staff numbers*

However, determining which parameter delivers the most accurate picture of the business' performance depends on the type of business and the stage in the business lifecycle an enterprise has attained.

4.1 Entrepreneurship in energy Sector

4.1.1 Who is an energy entrepreneur?

An entrepreneur is defined as: ***'A person, who identifies an opportunity, takes a calculated risk, brings together resources and sets up a business enterprise and is rewarded with a profit'.***

Entrepreneurship is the process of using creative or innovative ways to create a new business or expanding an existing business in new ways that better serve the needs of customers.

To start up and run a successful business, it helps to have the appropriate characteristics of an entrepreneur.

For example:

a. A retailer of solar PV expanding the business to cover installation of solar panels for lighting systems thereby saving customers money spent on buying kerosene.

b. Fabrication of improved cooking stoves that are more efficient in fuel consumption and have lower health risks to users

4.1.2 What makes a good entrepreneur?

Successful entrepreneurs have certain entrepreneurial factors or personal characteristics and managerial skills. Entrepreneurial success factors include:

- ***Creativity and innovation***; should be able to discover new ways of producing their products, delivering their services or think of different ways of doing their business.
- ***Risk orientation;*** must be prepared to make use of opportunities identified even if no one else has done it that way or even if it may result to financial loss.
- ***Provide leadership;*** have strong aspiration and personal drive to consistently convert the idea through into product or service.
- ***Good human relations;*** influence people into accepting the new product
- ***Positive attitude;*** have a positive perception to his/her business and be willing to accept outcomes of his/her decision and actions.
- ***Perseverance*** especially when their businesses are faced with setbacks or hardships. ***Commitment to business*** – this refers to the willingness of entrepreneurs to commit their personal resources and time to their business.

Managerial success factors include:

- ***Planning;*** successful entrepreneurs spend considerable time planning their business and ensure that they work systematically.
- ***Knowledge of competitors;*** entrepreneurs know who their competitors are, what they are doing and their position compared to their competitors.
- ***Successful entrepreneurs are market oriented***; they produce, offer goods and services that serve the needs of their target market
- ***Offer excellent customer service*** and high quality
- ***Have good insight to financial concepts***, profits and financial management systems including the need to have business records.
- ***Have knowledge and skills with regard to business management***. Sufficient relevant experience is essential to run a successful energy business.

In this case an entrepreneur is expected to have certain key characteristics such as:

- **Creativity and innovation – willing to take initiative**
- **Desire to Achieve positive results**
- **Business Skills**
- **Good Planner**
- **Problem Solver**
- **Ability to Communicate**
- **Need for Independence**
- **Time Conscious & Efficient**
- **High Quality Work**
- **Passion for business**
- **Determination and persistence**

Successful entrepreneurship goes with a set of winning skills. Entrepreneurs should aim to continuously improve aspects that they are weak in. In the following below do a self-assessment and review those points that you consider to be your skills.

Activity: Self-assessment

Describe the basic strengths that can enable you to successfully run your energy business.

4.1.3 Challenges facing SMEs in energy sector

Some of the challenges facing entrepreneurs in the energy sector are:

- Access to start-up and expansion finance;
- Access to markets and information;
- Access to appropriate technology (especially technology related to alternative sources of energy);
- Access to resources especially skilled energy experts.

4.2 Business opportunities in energy sector

4.2.1 Business idea and opportunities

We gain ideas from daily encounters with challenges, new knowledge or sharing with others. Finding a good idea is the first step in the task of converting an entrepreneur's creativity into an opportunity. A good idea does not always translate into an opportunity.

For an idea to be an opportunity it must be attractive, durable and timely, can be packaged into a product or service, which creates or adds value for the customer. Finding good ideas and converting them into opportunities is a conscious, deliberate and creative process. Business opportunities can arise when entrepreneurs use their skills, expertise or aptitude to provide a product or service to the market. Solving existing problems like lack of lighting in rural areas, rising price of paraffin or looming danger of using kerosene or charcoal in closed rooms could all become opportunities to start a business.

4.2.2 Evaluating business opportunities in energy sector

In order to determine whether or not a business idea will translate into a lucrative opportunity which possesses the qualities of being timely, attractive and durable, the entrepreneur must follow a strategy of evaluating or screening the revealed opportunity. The criteria to use to screen opportunities could include among others the following:

- Sector issues; e.g. increasingly need to use more renewable energy in Kenya and the concern on climate change
- Economies of scale – profitability assessment; cost of production and potential selling price, e.g. improved stoves.

- Personal criteria such as passion and interest in the business venture. It may be easy for someone trained in electrical engineering specializing in light power to see and have interest in optimizing solar power systems to cut on costs and make a margin.
- Strategic differentiation which refers to how a venture positions itself to take advantage of the given market conditions to its benefit against its competitors. For example, a SME building capacity in the installation of solar systems in addition to selling the panels.

4.3 Growth strategies in an energy business

4.3.1 Definition of growth strategy

Bateman & Snell (1999) define strategy *as a pattern of action and resource allocation to achieve the goals of an organization.* Growth or expansion of the business means expanding the amount of trade it undertakes. It also means that the resources, systems and structures of the business venture will need some expansion.

4.3.2 Purpose of growth strategy

The purpose of business growth is to increase the stream of inflows hence more profits and reaching more customers. However, proper timing is critical to the success of implementation of any growth strategy. By answering the following key questions one is able to judge if the time is right to implement any growth strategy:

- *Can the business cope with expansion, or is it working at full capacity?*
- *Do you have sufficient resources and systems in place to optimally carry out the existing business and expand without exerting adverse pressure to the business?*
- *If new initiatives are likely to disrupt existing performance, how will the owner ensure his/her customers don't lose out?*

Before one decides to invest extra resources to expand the product portfolio in the energy business, the entrepreneur needs to be sure that the core business activity is performing well. It is also important to review the key business income sources to ensure that the business has sufficient funds to support growth.

4.3.3 Growth strategies and methods available for energy businesses

Most growth strategies are based on either internal growth or external growth, or a combination of both.

a) *Internal growth*

Internal growth is achieved through bringing new resources together in an innovative combination to create new value. This means growing the business through increasing market share, developing new products and entering new markets.

Strategies used in internal growth are:

- ✓ **Increasing market share**; *e.g., adopting aggressive marketing leading to sale of more improved stoves*.
- ✓ **Expansion and growth in turnover, volume, income or profit and increasing efficiency in delivery**; *e.g., looking for ways to sell more solar panels at lesser costs*
- ✓ **Achieving economies of scale and command of technology and distribution**; *e.g., expanding production levels of briquettes to cut down unit cost.*
- ✓ **Expansion into new market areas and niches through differentiating existing products or creating new**; *e.g., entering solar mobile phones especially to rural areas where there is no electricity.*
- ✓ **Expanding into new locations**.

b) *External growth*

The external growth strategies deal with factors outside the SME and market environment – i.e., beyond the boundaries of existing business. The options are:

- ✓ **Vertical integration:** this is attained when a SME ventures into business above or below current one in the value addition chain; e.g., *a briquettes retailer starts making them or merging his/her retail business with a manufacturer of the same product*
- ✓ **Horizontal integration:** this happens when a SME integrates business that is in the same level; e.g., *two SMEs dealing with production of charcoal stoves combine their business to form one.*
- ✓ **Lateral integration:** this occurs when a SME diversifies to another slightly different sector or line of business; e.g., *a solar dealer starting to construct biogas digesters.*

c) Growth methods

Growth methods that have and could be adopted to attain both internal and external growth are joint venture, franchising, alliances, licensing and dealership:

4.3.4 Managing growth in energy business

Growth in a business must be achieved and there must be a strategy for achieving it. It is obvious that growth puts a tremendous strain on resources of the business. Therefore this growth must be planned, additional resources required must be raised and managed effectively to lead to desired outcome.

In order to achieve the goals of growth two key things must be done; developing a business plan and sourcing for funding for growth activities. These are discussed below. In addition performance monitoring must be done through preparation of reports as discussed in Module 3.

4.4 Business Planning

Definition: Business planning is the process of systematically thinking about ones business, setting business goals and objectives and planning for resources which will help him/her achieve the desired goals and objectives.

In business planning the entrepreneur should:

- Clarify his/her vision and purpose of getting to this business
- Set goals and objectives for the business.
- Define his/her business.
- Assess business environment such as level of competition, socio-economic, political and technological. Assess the potential risks e.g. Inability to secure raw materials for improved cook stoves. After identifying some of the risks, one should draw up a risk mitigation plan
- Develop a strategy of satisfying his/her target customers.
- Assess resources requirements and availability
    - Raw materials that are needed in the production process *e.g. charcoal dust for briquettes*
    - Finance that is required for the purchase of resources *e.g. money to buy solar cooker parts*
    - Human skills needed to manage and run the production process *e.g. metal worker to construct cladding*

Activity: Analyzing environmental factors

In groups, discuss environmental factors that may affect your energy business

4.4.1 Stages of preparing a business plan

A good business planning model is circular. One step links to another in a continuous chain. The diagram (figure 9) below illustrates the stages of preparing a business plan, and what you should think about at each stage. Table 13 shows the contents.

Figure 9: Stages of Preparing a Business Plan

Table 13: Contents of a good business plan

Contents of a Business Plan[1]

1) **Executive Summary**
2) **Background and Objectives of business** e.g. To produce briquettes from saw dust
3) **Strategic Direction**
    a) Vision
    b) Mission or purpose of the business
    c) Values and principals
4) **Production plan**
    a) Production method (briquettes made by hand or machine)
    b) Materials (buy wholesale or retail, source, delivery, quality)
    c) Machinery (briquette press, kiln)
    d) Production and sales location (kiosk, workshop, home, shop)
5) **Marketing plan**
    a) Target market (householders, hotels, youths, parents)
    b) Competition (This can be another product - for briquettes this would include charcoal and firewood. It could also be other retailers - private companies, kiosks, hawkers)
    c) Marketing proposed (posters, leaflets, presentation to community council
6) **Organization and Management**
    a) Organization structure
    b) Duties of staff - transport to market, stock management, cash management etc
7) **Finance**
    a) Source of capital (MFI, SACCO, bank)
    b) Expenditure (rent, wages, electricity)
    c) Cash flow
    d) Costing and proposed price of product
    e) Sales projections
8) **Potential Risks and Opportunities**
    a) Competitors
    b) Lack of raw materials
    c) Potential to link up with more suppliers and expand business
    d) Risk mitigation plan

[1] The contents can vary according to energy product and environment

4.4.2 Stages of business implementation

Definition: Business implementation is the process of executing what is set out in the Business Plan. A gradual implementation of the business plan ensures systematic roll out rather than a random execution. The ultimate purpose of business plan is to implement it. Implementation process starts with the completion of the business plan and followed by sourcing for funds. Figure 10 below shows the stages in implementing the business plan.

Figure 10: Stages of Implementing a Business Plan

4.5 Financial plan

Financial plan is basically a plan about money: the need and the sources of finance. It is presented in a form of cash flow or projected income and expenses or both. For a business both cash flow and projected income and expenses are important.

4.5.1 Projected income and expense

Projected income and expense statement is also called a budget. A budget is an expression of business plan. It is also called financial plan because it presents the business activities to be undertaken during the planning period in monetary values.

The purpose of budgeting is to:

- State clearly what entrepreneur expects to earn or get and what he/she will use or spend for each period in future.
- State the expected goals in clear, formal terms to avoid confusion and make sure they are attainable.
- Communicate expectations to all concerned so that they are supported, understood and implemented.
- Help coordinate the activities and efforts in such a way that the resources are properly used.
- Provide a means of measuring and controlling performance

The following are the steps, which should be taken in preparing budgets:

- Estimate the expected incomes from sales, services and other sources. These estimates are based on expected activity level as described in the business plan. The planner should indicate assumptions made when making the projections, for example, that sales will grow by 5%.
- Estimate the cost of goods sold. This estimate could be based on average margin made per unit of stock sold, e.g., suppose a solar panel is bought at 16,000 and sold at 20,000, the cost of selling that panel will be 80%. In this case to get cost of sales the amount of sales per month is multiplied by 80%.
- Compute the projected gross profit by deducting cost of sales from sales for each month.
- Estimate the expected expenses for each period. These include salaries and wages, transport, rent, telephone etc. Sum all the expenses per period.
- Compute projected net profit by deducting total expenses from gross profit.

These steps have been applied in Table 14 below.

Table 14: Example of a projected income and expenditure

Income	Jan	Feb	Mar	Apr	May	Jun	Total
Sales	50,000	55,000	60,500	66,550	73,205	80,526	385,781
Less: Cost of sales	40,000	44,000	48,400	53,240	58,564	64,421	308,625
Gross Profit	10,000	11,000	12,100	13,310	14,641	16,105	77,156
Add: other income	5,000	5,000	5,000	5,000	5,000	5,000	30,000
Total	**15,000**	**16,000**	**17,100**	**18,310**	**19,641**	**21,105**	**107,156**
Expenses							
Salaries & wages	6,000	6,000	6,000	6,000	6,000	6,000	36,000
Rent	1,000	1,000	1,000	1,000	1,000	1,000	6,000
Transport	500	500	500	500	500	500	3,000
Telephone	1,500	1,500	1,500	1,500	1,500	1,500	9,000
Personal expenses	2,000	2,000	2,000	2,000	2,000	2,000	12,000
Other	1,250	1,250	1,250	1,250	1,250	1,250	7,500
Total expenses	**12,250**	**12,250**	**12,250**	**12,250**	**12,250**	**12,250**	**73,500**
Net Profit	***2,750***	***3,750***	***4,850***	***6,060***	***7,391***	***8,855***	***33,656***

4.5.2 Budgetary Control

Budgetary control refers to investigating whether there are differences between actual performance and budgets, finding out the causes and taking corrective action. Budgetary control does not limit expenditure but ensures that expenses incurred are justified and brings the desired results. An entrepreneur should ensure they carry out a budgetary control analysis often so that they keep within the cost estimates and on track with the business plan. Failure to track budget expenses may lead to cost over runs or spending more money in one area and leaving others without knowing.

4.5.3 Cash flow Management

Cash is the most liquid asset. It is also referred as the life-blood in the business. All assets are acquired through paying cash now or later. Similarly expenses and debts are settled through cash. Cash runs the risk of being lost through theft by employees and other people.

The cash position is affected by the way business transactions take place. Cash balance at the end of the day in a business does not necessarily represent profit but net of cash in and out of business. Therefore cash flow statement should not be confused with profit and loss though they are related.

Projected cash statement represents a plan of cash to be received from various sources into the business (inflow) and how that cash will be used or applied in the business (outflow). A simple format of preparing a projected cash flow is outlined below.

Preparing projected cash flow statement

At time projected cash flow is referred to as a cash budget and is a projection of how an entrepreneur expects cash to come in or go-out within a specified time, but usually month by month. To be able to prepare a cash budget the following information is important:

- Cash at the beginning (opening balance). This includes:
  - Cash in the office safe
  - Money at the bank
  - Money on transit
- Expected receipts – which money you expect to come in and when
- Expected payments for expenses and assets

The following steps are could be used in preparing projected cash flow

Step I: Preparing a schedule of cash balances e.g. money in the office, money in bank and cash in transit

Step II: Preparing a schedule of expected sources of cash. In business cash is expected to come from sales and fees from any services. Other sources could be loans or grants. A total of all inflows is then computed.

Step III: Preparing a schedule of expected cash payments. Payments are made for stock supplies, salaries and wages, rent, transport, motor vehicle office expenses, insurances, telephone and other expenses. Payments are also made for assets like furniture and equipment. Compute the total cash outflow.

Step IV: Deducting cash outflow from cash inflow to get net cash flow for each month.

Step V: Adding this net cash balance for the month to the opening cash balance to get cash balance to be carried forward to the next month.

Step VI: Repeating the same exercise for the each month that follows.

Activity: Developing a cash flow projection

Using your experience of your energy business estimate sources of income or cash and how you use it. A format has been provided below to guide you on what you need to put down. This is just a guide and where you find there are items you want to add please be free to do so. Let these projections be as realistic as possible.

		Month 1	Month 2	Month 3
Sources of Cash (Cash inflow)				
1	Sales of solar panels and accessories			
2	Sales of solar batteries			
3	Services for installations			
4	Sales of electrical appliances			
5	Other (specify)			
6				
(a) Total Cash Inflow (1 to 6)				

		Month 1	Month 2	Month 3
Use of Cash (Cash Outflow)				
1	Purchases of business stock			
2	Payment of labour (salaries and wages)			
3	Payment of expenses (like transport, rent, water etc)			
4	Purchase of business assets(fridge, shelves)			
5	Loan repayment			
6	Payment or withdrawal for personal use			
7	Other (specify)			
8				
(b) Total Cash Outflow (1-8)				
(c) Net Cashflow (a-b)				
(d) Add: Cash balance brought forward (b/f)				
(e) Cash Balance carried forward (c/f) to next month (c+d)				

Module 5

Sources of Business Finance for Energy Entrepreneurs

OBJECTIVE

The module discusses the various sources that an energy entrepreneur can get financing from.

Additionally the module discusses the advantages and disadvantages of the various sources of funds.

TOPICS IN THE MODULE

1. *Informal sources of financing*
2. *Formal Sources of financing*
3. *Accessing Business Finance*
4. *Borrowing and loan repayment*

Introduction

There are a number of ways SMEs can access financing which can be classified into formal and informal sources. Formal financing is structured and is mostly provided by institutions such as banks, MFI and SACCO.

Formal financing involves the execution of a legally binding contract between the borrower and the lender that governs the terms and provision of the contract between the parties. Informal financing is usually un-structured and conducted on the basis of gentleman's agreement. The contract between the borrower and the lender is not legally binding, but is facilitated by other factors such as friendship, respect, and peer pressure that compel parties to abide with the terms of the agreement.

An energy SME requires financing for various business needs such as business expansion, working capital, marketing and promotional activities etc. The energy SME should know that each source has its pros and cons and only choose the source that best suits his/her needs and circumstances.

5.1 Informal Sources

There are a number of informal sources of finance that an energy entrepreneur can use to access financing. Informal sources of finance are normally characterized by lack of contract documents. However the borrower in most cases is well known by the lender. Table 15 below shows possible sources of finance for an energy enterprise.

Table 15: Sources of finance

Informal sources	Formal Sources
Relatives and friends	Banks
Money lenders	Microfinance institutions
Rotating savings and credit association	

5.1.1 Relatives and friends

One informal method of sourcing finance is where SMES borrow from relatives and friends to finance their businesses. Some of the reasons why the SMEs opt for family and friends financing are:

- ***Easy to approach:*** SMEs can easily source funds from family members or a friend for all it takes is an agreement struck between the SME and the lender. SMEs and the lender have a personal relationship and do not need any introduction as they are familiar to each other. This makes it easy for the SME to approach the relative/friend and seek for funds.

- ***Few requirements:*** In comparisons to banks and other formal sources relatives/friends normally have fewer requirements. Many SME do not have proper books of accounting, business plans, business licenses, perfected collateral or guarantors which are required by the banks and MFI. The financing is usually based on a gentleman's agreement between the parties.

There are some disadvantages associated with sourcing funds from relatives/friends and they include:

- ***Small loan size:*** Many of the SME friends/relatives have limited funds and may not be in a position to finance the SME to the level that their businesses require. This leaves the SME sourcing for funds from other sources and could lead to multiple loans that normally are difficult to service.

- ***Not reliable:*** One disadvantage associated with relying on relatives/friends for financing is that at times they do not hold their end of the bargain. This leaves the SME in a precarious position more-so if the expected funds had been factored to the working capital budget for expenses such as stock purchases, rent payment and salaries etc. In the event of the relative/friend does not provide the financing as agreed the SME has little recourse and there is not much s/he can do.

- ***Interference:*** Many times when relatives/friends have financed a SME, they want to be involved in making decisions for the business. Some of these decisions are detrimental to the business. It is important for the energy SME to limit the involvement of relatives/friends to providing finance only.

5.1.2 Money Lenders

Another common source of financing for the SME is a money lender. The money lender usually demands for collateral that is many times more valuable than the loan borrowed to be deposited in their custody. In the event the SME cannot service the loan, the money lender disposes the collateral and recoups their money. The SME may opt to source for loans from a money lender because:

- ***Quick processing:*** In the event that the SME requires money on short notice then s/he may go to a money lender. Upon satisfying the set requirements almost all the money lenders disburse cash on the spot without any delays.It is worth pointing out that there are serious challenges in a SME using a money lender as a source of business funds such as:

- ***High cost of funds:*** Many money lenders charge very high interest rates that are compounded frequently on the borrowed funds. When the borrower fails to service the loan then the outstanding balance balloons to huge amount that are many times the initial borrowed funds. Many SME have difficulties in servicing loans from money lenders and end up losing the collateral that is many times more valuable than the loan borrowed. The SME should avoid borrowing money from money lenders unless it is very necessary and they are very sure that they can service the loan in the agreed duration.

- ***Miscommunication of interest rates, fees and penalties***: Many money lenders communicate the interest rates charged on loans very attractively but do not disclose that they compound the interest to the principal. This causes a situation where the SME is always behind on their loan repayments leading to further penalties that further raise the outstanding loans. The SME should be very careful and make sure that s/he understands all the costs related to the loan and how they are calculated.

5.1.3 Rotating Savings and Credit Associations

Many SME are members of Rotating Savings and Credit Associations (ROSCAS) in which they save and extend credit to each other. The members contribute a prescribed amount of money regularly and then the total/part of the money raised is given to one of the members during each meeting until all the members have been covered. Some of the advantages for a SME raising funds through the ROSCAS are:

- **Affordable:** The SME save up in the ROSCAS by making small contributions that are given to a member every time the members make a contribution. The ROSCA does not charge any interest or fees to the members making the funds cheap. The members either save-up or down and are able to receive a lump sum that they can invest in their businesses.
- **Few requirements:** There are few requirements in sourcing funds from ROSCAS. All that is required is for the energy SME to join a ROSCA and make the required contributions. This makes ROSCAS attractive to SME as they do not have to meet the normally stringent requirements of formal sources or charged punitive interest rates by money lenders.

There are some shortcomings associated with ROSCAS that the energy SME should be aware of. They include:

- **Loss of monies:** The ROSCAS are informal groups and normally are not registered. There are cases where some members of a ROSCA receive money and then fail to make further contributions to the ROSCA. In such cases those members that had not received contributions from the ROSCA end up losing their money.

- **Small loan amounts:** The funds that are advanced to ROSCAS members are limited the contributions they collected in their meetings and ultimately only amount an individual member's savings. This is because the ROSCAS do not charge fees or interest hence they do not have any other source of funds. In most cases these funds are cannot meet the financing need of the energy entrepreneur.

5.2 Formal sources

The energy SME can get financing from formal sources such as:

5.2.1 Banks

Energy SMEs can finance their businesses from formal sources like banks. Banks require SMEs to transact with them through various products offered by banks which include: opening savings accounts and regularly depositing part of the profit from the business as savings until such a time when they have accumulated sufficient funds to finance the intended business need. This is known as saving up. However saving up is not easy as many of the SME needs are immediate and cannot wait for the SME to save-up for need.

For instance if an energy SME is manually producing briquettes and requires to mechanize their operations to meet increased demand, the SME may find it difficult to wait until such a time that it has raised sufficient funds to mechanize. The SME may opt to go for a loan (save down) from the bank and tap the opportunity.

Some of the benefits of sourcing financing from banks include:

- **Security:** In comparison to other modes of saving, funds deposited in banks as savings are secure. Funds deposited in the bank are safe from loss, theft, fire, misappropriation and other risks that are associated with holding cash in hand.
- **Big loans:** In comparison with other sources of financing banks can provide the energy SME with bigger loans that can meet the intended business needs. Banks are well placed to advance bigger loans to the energy SME from the deposits mobilized from their clients.
- **Advisory services:** The banks' credit officers provide guidance and advice on technical areas such as business planning, record keeping, separation of duties and many other areas of the business.
- **Flexible and Longer loan repayment periods:** Banks' offer the energy SME flexible and relatively longer loan repayment periods to service their loans. This enables the SME to schedule their loan repayments according to the instalments that they can comfortably service. (It's worth pointing out that the loan repayment duration increasingly becomes a critical factor as the loan amount borrowed increases.)

- **Wide product range:** Banks offer the energy SME a wide variety of products over and above the saving account. These products are tailor-made to meet the SME business needs which include:
  - Asset finance loans for energy business assets such as loans to acquire mechanized briquette producing machines, vehicles and others.
  - Emergency loans in case the energy SME has an immediate need that requires cash.
  - Top-up loans which means an additional loan to top up an already existing loan.

- **Prompt loan disbursement:** Upon fulfilment of the prescribed requirements and submission of a duly completed loan application form banks are very prompt in making loan disbursement. This is important for the energy SME for some of the financing sources may take long leading to loss of business opportunities.

- **Stringent requirements:** This is the most common shortcoming associated with banks financing energy SME. Banks have stringent loan qualification requirements. They require a loan applicant to provide guarantors who are regular customers with the bank, or collateral such as logbooks and title deeds. A good number of energy SME may not meet such requirements for they do not have property that can be used as collateral and cannot access funds from banks.

5.2.2 Microfinance Institutions

There are many microfinance institutions (MFI) operating in East Africa. They mostly provide financial services to low income clients that normally cannot access financial services from the mainstream banks. They are characterized by few requirements when joining and provision of un-secured loans or loans that are not backed by physical collateral since they use other forms of collateral such as group guarantee.

Some of the benefits of the energy SME accessing funds from MFI are:

- **Easy terms of joining:** The energy SME will find that MFI have easy terms of joining and becoming a client. In most of the MFI, all that is required:
  - ✓ Client photos
  - ✓ Identification document(s)
  - ✓ A business that has been in operation for some time
  - ✓ A registration fee

- **Weekly repayments and Monthly repayments**: Many MFIs offer their clients weekly repayments that are easy to make. Majority of the energy SMEs would be comfortable in making weekly loan repayments that are small and manageable while some may opt for monthly loan repayments.

There are also some challenges associated with MFIs such as:

- **Small loan size and slow graduation:** In comparison with banks the MFI advance small loans that at times is not sufficient to meet the energy SME needs. Additionally the MFI normally do loan clients the money their business require or the business ability to pay but on strict graduation. For instance some MFIs only advance a maximum USD 300 for the first loan.
- **Loan repayment period:** The loan repayment period by the MFI to SME clients is generally short. For instance many MFI only offer maximum repayments period of 12 months. The loan repayment instalment amounts for bigger loans are big and the loan applicants find it difficult to put together the huge repayments instalments
- **Limited number of products:** Many MFIs only offer a limited product range. Some MFIs only offer business loans and the customers have other needs besides the working capital such as Asset acquisition and investment.

5.3 Accessing business finance

The SME sector in East Africa has been steadily growing in spite of poor access to financing. Energy entrepreneurs have not been able to acquire financing because of a number of factors.

Key among the factors is that the energy enterprises are at the infancy stage, to some extent very informal as well as inadequate financial facilities in energy lending. A number of financial institutions have been involved in funding the SME sector as seen in the earlier module.

In order to overcome the challenge of lack of enterprise finance, energy SMEs should be able to position themselves to be attractive to the financial sector. The energy SMEs need to prove to financial institutions that their enterprises are: profitable, properly managed and have a market for their products. To do this, energy SMEs need to understand the concept of borrowing in order to broaden their scope on financing.

To make informed borrowing choices, energy entrepreneurs need to develop a clear understanding of concepts related to borrowing. This module broadly introduces the concepts of borrowing and gives insights to entrepreneurs to be better prepared to negotiate for loans.

5.3.1 Why energy SMEs borrow money

Energy SMEs borrow money from financial institutions to do the following:

- ✓ To start a business
- ✓ For working capital needs of the energy business – specifically to increase the businesses work force or increase inventory.
- ✓ Expanding into new markets – the entrepreneur may want to borrow in order to enter new energy markets.
- ✓ Making capital purchases – an entrepreneur may need to finance new energy equipment for the business into a new market or expand another energy product line.
- ✓ Improving cash flow of the enterprise
- ✓ Building a credit history or relationship with a financial Institution- an entrepreneur may not have borrowed before so taking out a loan can help in developing a good repayment history and can help the entrepreneur obtain financing in the future.

5.3.2 Considerations for borrowing

Energy entrepreneurs need to plan carefully when borrowing money for either start up or growth. Entrepreneurs are required to make informed borrowing choices, which should be based on the business performance. Prior to borrowing entrepreneurs should carefully consider the following:

1. **A thorough knowledge of the energy business** - this includes analysis of the business, seasonality of the business (identification of peak seasons, slow seasons, and business cycles among others). Knowing the business very well helps the entrepreneur plan the loan repayments around some of the factors mentioned.
2. **A well laid out business plan** will allow the entrepreneurs to forecast on their cash requirements, enabling them to determine business needs as well as identifying the correct timing for finances. This will give them extra time to explore all possible borrowing sources and negotiate the most favourable terms.
3. **Knowledge of other energy competitors:** This information is important because it helps the entrepreneur access whether the timing of borrowing will be affected by activities conducted by the competition. An entrepreneur may borrow without studying the competition only to find that he/she cannot make more sales as a result of activities conducted by the competition.

4. **Strengths, Weaknesses, Opportunities and Threats (**SWOT) analysis of the entrepreneur as well as the enterprise. An entrepreneur needs to conduct a SWOT analysis to be able to maximise both personal and business strengths, minimize weaknesses, take advantage of opportunities as well as have contingency plans to take care of threats. In the case of an energy entrepreneur, borrowing should be done when the environment they are operating in provides many opportunities. Borrowing should not be done when the business weaknesses and threats outweigh business opportunities.

5. **Business Profile –** A business profile defines an entrepreneurs business in detail. For start-ups, the business profile of the energy business provides a justification why the entrepreneur wants to start the particular business as well as sources of start up capital. For business that are expanding or at the growth stage, the business profile highlights when the business was started, how it has grown over time and the direction the business is taking in terms of borrowing finances for expansion and growth.

6. **Purpose of the loan –** When an energy entrepreneur is planning to borrow money they should provide a well written statement showing the purpose of the loan, what it will be used for, how the loan will contribute to increased sales and profitability.

7. **Accurate financial records -** these are proof of how an enterprise is performing, this information is used to evaluate whether the enterprise has capacity to repay the loan. Capacity of the enterprise can only be accessed if proper records are maintained and how much money the business is generating against business expenditure.

8. **Cash flow projection –** a cash flow shows money into the business and out of the business on a day-to-day basis.

9. **Collateral -** this refers to the security an entrepreneur is willing to give a financial institution to secure a loan. Collateral can include business and personal property such as inventory, equipment, and accounts receivable or real estate, stocks, bonds, etc.

10. **A repayment plan** that shows how and when an entrepreneur will pay back the loan. As a contingency, an entrepreneur might outline a plan of action on how they will pay off the loan if profits alone aren't enough.

11. **Supporting documentation** - these consist of documents that verify the information for a loan request - for instance, a lease, certificate of incorporation, partnership documents and letters of reference, contracts, invoices or vendor quotes.

5.3.3 Costs related to borrowing

SMEs considering borrowing need to understand all the costs related to borrowing. Some financial institutions do not disclose costs unless asked to do so by the entrepreneur. It is important for entrepreneurs to understand costs in order to compare what financial institutions are offering to make informed choices.

The following section presents a number of costs that an energy entrepreneur needs to consider before accessing enterprise finance:

a) ***Interest rates***. Interest rate is the charge for using of borrowed money and is expressed as an annual percentage of the principle. This fee is added to the amount of the loan. There are different way of charging interest with most common ways being reducing balance and flat rate. Though the rate could be the same but the difference in interest charge is huge. Flat rate is charged equally on amount disbursed while reducing balance is charged on balance on loan at time of charging. Interest expense charged on flat rate will always be higher that of reducing balance. For more details look at box 5.01 below.

An entrepreneur should seek the following information from a financial institution

- ✓ *What is the interest payable from as many institutions as possible?*
- ✓ *How do different financial institutions calculate the interest rate?*
- ✓ *What is the default rate of interest and is it competitive?*
- ✓ *Is the interest rate coupled with all fees, competitive with other available loans?*
- ✓ *Is the interest rate fixed or variable? Fixed interest rate means that the interest will remain at a per- determined rate for the entire term of the loan while variable interest rate means that the interest rate will move up or down based on the changes of the interest rate index (base lending rate).*

b) ***Payment Terms.*** Payment terms refer to the duration an energy SME is given by a financial institution to pay the loan. What happens if an entrepreneur pays before the stipulated end date? What penalties are charged? Some financial institutions charge entrepreneurs for late and delayed payments therefore it is important that an energy entrepreneur to know how much the FI will charge for late payments.

An entrepreneur should seek the following information from a financial institution

- ✓ *What are the monthly or other periodic payment obligations?*
- ✓ *When is the final principal payment due?*
- ✓ *Is there a right to extend the due date of the loan?*

c) ***Fees and charges***. Fees are different from interest rates because they are charges incurred in loan processing and differ from one financial institution to another. Some common types of fees includes: loan underwriting fees, loan application fees, loan disbursements fees, loan insurance fees, legal costs, collateral valuation costs, due diligence costs, expenses of arranging the loan among others. Find out the following:

- ✓ *Are there any loan fees, commitment fees, placement fees?*
- ✓ *Are they payable upfront?*
- ✓ *Are there any on-going fees or charges during the life of the loan?*

Box 5.01: Example of Interest charging

Johan LED lanterns trader borrowed $5,000 from a Microfinance Institution to purchase more LED lanterns. He agreed to repay the amount in 8 months, plus simple interest at an interest rate of 10% per annum (year).

Scenario one

If he repays the full amount of $ 5,000 in eight months, the interest would be:

P = $ 5,000 r = 0.10 (or 10% per year) t = 8/12 (this denotes fraction of a year)

Applying the above formula, interest would be

I = $ 5,000(0.10)(8/12) = $ 335

Scenario two

If he repays the amount of $5,000 in twelve months, the only change is with time. Therefore, his interest would be:

I = $ 5,000 (0.10)(12/12) = $ 500

Scenario three

If above loan of $ 5,000 was for 12 months and interest rate of 10% flat rate for monthly instalments total interest would be:

I = $ 5,000 *(0.10/12)* 12 = $ 500

Scenario four

If above loan of $ 5,000 was for 12 months and interest rate of 10% on reducing balance for monthly instalments total interest would be 275.

NB: computation of interest using reducing balance is complicated and requires a software application to do so.

5.3.4 Making a decision to borrow

Borrowing is advisable where there is an opportunity to acquire an asset or take advantage of a business occurrence/opportunity that may not wait until entrepreneur gets his/her own money. It makes sense to borrow if the cash flow can show potential to pay the loan installment over time or money is expected in future in lump sum but the opportunity has occurred today. Utilizing such an opportunity today will make a difference rather than waiting.

When borrowing caution should be exercised, it is a commitment to honor the obligation as per agreement with penalties for failure. The entrepreneur should not borrow if:

- **There is no clear purpose and plan for the loan;**
- **The cost of borrowing exceeds the benefits to be derived from the use of the loan;**
- **The loan will strain the borrower's future cash flows;**
- **The future cash flows are not certain.**

5.3.5 Loan negotiation

Negotiation can be defined as a process involving two or more people of either equal or unequal power meeting to discuss shared and/or opposed interests in relation to a particular area of mutual concern. Negotiating a loan commitment and agreement can be a struggle for the energy entrepreneur. In most cases an entrepreneur will find that the financial institution has the money and therefore controls the negotiation process.

Negotiations are based on the following:

- The amount that may be borrowed.
- The applicable interest rates.
- The maturity date of the loan.
- Any rights to extend the maturity date and the conditions for doing so.
- A description of the fees and their due dates. This includes fees and when the fees are deemed as earned.
- Financial agreements such as debt service coverage ratios, tangible net worth requirements, or capital expenditure limitations.
- Calculation of interest. On what basis will interest be calculated? For example, will it be based on a 365/6-day calendar year, a 360-day year of equal 30-day months, or some other methods?

- Collateral requirements – what kind of collateral requirements does the FI require- cash, chattels etc.?
- Guarantors-The nature, content, and scope of guarantees can only be touched on in this article. The borrower must understand, however, precisely what guarantees will be required and from whom.

In preparing to negotiate an energy entrepreneur should do the following:

- ✓ Gain as much information about the financial institution and specific loan product prior to setting up a negotiation meeting.
- ✓ Consult as widely as possible with different people to get before meeting the financial institution.
- ✓ Try and build consensus while clearing defining what is and what is not negotiable.

During negotiation, the energy entrepreneur should:

- ✓ Maintain a posture of flexibility
- ✓ Maintain open lines of communication, while avoiding looking nervous
- ✓ Be friendly and cooperative while negotiating
- ✓ Demonstrate understanding of the content being negotiated
- ✓ Be willing to explore a range of alternative possible outcomes
- ✓ Be as conciliatory as possible without compromising your position

5.4 Loan Management and repayment

Good management of a loan is important to ensure that the loan serves the purpose for it was intended for. Additionally the businesses have to be sound and well managed to service the loan. Poor loan management often leads to business failure, loss of livelihoods and in some cases loss of property/collateral.

It is important to point out that many businesses fail because they do not honor loan obligations. Energy entrepreneurs should engage in good loan management so as to ensure that they meet all the due obligations for the energy business.

Managing a loan falls into 3 critical categories:

1. **Applying the loan for the right purpose**
2. **Managing the business finances well**
3. **Prompt repayment of the loan**

5.4.1 Applying the loan to the right purpose

Many a times, when SMEs borrow, loans may not be applied to the purpose for which they were borrowed. While the diversions may be necessary e.g. family problems, they leave the entrepreneur with so much burden of repayment. Therefore every entrepreneur should ensure that each loan is applied only to the purpose it was borrowed.

Tips on the right loan use:

- The entrepreneur should ensure that borrowed money is banked with. This process will ensure that the borrower just maintains cash levels that are adequate to meet financial obligations as they fall due. This ensures that the funds are safe and minimizes wastage.
- Only withdraw amounts that are needed for the business at the time. The entrepreneur should not withdraw more than s/he requires for that day or week.
- Using cheques for payments whenever possible. This ensures the entrepreneurs can easily track their expenses and only pay what is required for the business.
- Where possible, separate the business account from own personal account. This will ensure that s/he does not mix up his/her money with the business money.
- Regularize payments to self. When an entrepreneurs factor their pay into the business expenses, it ensures they do not pay themselves as and when they feel like.

5.4.2 Managing cash flow for loan repayment

Financial Management assists the energy business entrepreneur to plan, control and monitor how the business is performing. It demonstrates the procedures of initiating transactions, gathering monetary information related to transactions, recording it and preparing reports to various parties interested in the business.

How to manage cash in the business

- Bank all excess cash
- Use a till under lock and key
- One person should be responsible for collecting cash and making payments.
- Issue receipts for all cash collected
- Request payments by use of an invoice
- Reconcile all bank statement
- Use a cash book
- Use a purchases ledger
- Record all debts and do not exceed a safe level of debts

Reasons for cash management:

- To ensure that there are enough funds for the organizations operations all the time.
- To make sure there are enough funds to commit the organizations commitment.
- To cater for any emergency which might occur
- To make sure there are funds for future expansion
- To plan the time when we shall need to borrow or raise more funds.
- To establish standards for comparing, monitoring and control or money.
- To avoid over expenditure or certain items.
- To time properly the out and inflow of funds.

5.4.3 Assessing ability to pay a loan

There is a close relationship between stock management and cash flow and eventually level of profitability. Tying too much cash in stocks may jeopardize the operations and cause unnecessary liquidity problem. It is helpful to predict the volume of each product to make/buy and sell each month. Buying the right stock quantity allows the business to make reasonable profits and release cash for other purposes like paying loan instalment. The ability to pay is determined by mainly two things. Firstly, the ability to generate adequate cash flow at the end of the month or other agreed interval to pay the loan instalment. Secondly, the ability to generate enough profit from the extra business associated with borrowed funds to cater for the interest expense as and when it is charged.

Example:

Let's assume that George produced 1200 briquettes in the first month but only sells 1000 briquettes.

- *To calculate the money made from sales use:*

Retail price per unit x number of units sold per month

$ 10 x 1000 = $ 10,000

- *To calculate the raw material costs per month use:*

Cost of raw materials used to produce one unit x number of units produced per month

$ 3.5 per briquette x 1200 = $ 4200

Table 16 below illustrates product costing for briquettes.

Table 16: Computing Production cost

		Jan	Feb	Mar	Apr
A	Estimated production of briquettes (units per month)	1200	1200	1300	1400
B	Cost of raw materials per unit ($ 6.6 per briquette)	3.5	3.5	3.5	3.5
C	Total cost of raw materials ($ per month) A X B	4200	4200	4550	4900
D	Sales of briquettes (units per month)	1000	1100	1200	1300
E	Unit retail cost ($ 10 per briquette)	10	10	10	10
F	Total profit from sales (D X E)	10,000	11,000	12,000	13,000

Now, George needs to take account of other overheads such as labor, and equipment.

The direct and indirect costs are totaled and subtracted from the total inflow, as shown in the table below. The net profit is B – E. This profit must be reinvested back into the business as initial cash in Month 2.

In Month 3, George wants to buy a briquette press machine for $ 8000. This will allow him to produce more briquettes per month. He does not have enough profit from the previous month to purchase the press so he decides to take out a loan for $ 10,000. This must be paid back to the bank within 6 months at a rate of 1.66% interest per month.

- *To calculate the loan repayment use:*

(Total loan / number of month to repay the loan)

$ 10,000 / 6 months = 1,667

Then, total loan amount x interest per month

$ 10,000 x 0.0166 = 166

Total loan installment will be: $ 1,667 + 166 = $ 1,733

Remember: *When you take out a loan from a bank, SACCO or MFI, you must include the loan repayment in your budget.*

The table 17 below illustrates how one can analyze business cash flow to determine the borrowing capacity.

Table 17: Assessing ability to pay loan

		MONTH 1	MONTH 2		MONTH 3		MONTH 4
	Item	**Actual**	**Forecast**	**Actual**	**Forecast**	**Actual**	**Forecast**
A	Initial cash	0	2800		6100		9740
Inflows	Sales	10,000	11,000		12,000		12,000
	Loan				10,000		0
	Savings	2000	0				
B	**Total inflows**	**12,000**	**11,000**		**22,000**		**12,000**
Outflows	OUTFLOWS						
Direct costs	Raw materials	4200	4200		4550		4900
	Casual labor	2000	2000		2000		2000
C	**Total direct costs**	**6200**	**6200**		**6200**		**6,900**
Indirect costs	Managers salary	2000	2000		2000		2000
	Rent	300	300		300		300
	Transport	200	200		200		200
	Equipment	500	0		8000		0
	Marketing	0	0				
	Loan repayment	0	0		1660		1660
D	**Total indirect costs**	3000	2500		12,160		4,160
E	**Total outflows (C + D)**	*9200*	*7700*		*18,360*		*11,060*
F	**Net flow return (B – E)**	***2800***	***3300***		***3640***		***940***
G	**Final cash flow (A + F)**	**2800**	**6100**		**9740**		**10,680**

5.4.4 Prompt loan repayment

Loan repayment is what shows the health of a business at the time. Proper loan repayment is helpful as it adds credibility to the entrepreneur. The good will attained can be very helpful in future endeavors.

Advantages of prompt repayment:

- The entrepreneur can easily raise more resources. Financial institutions can lend an entrepreneur who pays well more money as they are deemed low-risk clients.
- Less stress for the client. The client will not be worried about the financial institution so they will run their business better.
- More trust. When an entrepreneur pays their loan very well, they attain a 'good credit history'. This helps them when they want to borrow from any other bank or financial institution. They get better treatment and sometime better interest rates.
- Security of collateral: The entrepreneur has better security for their collateral when they pay their loan well. This can be very bad when the collateral is borrowed or when it is critical to the survival of the business

Discussion question

What enterprise financing mechanisms are available in your Country?

Activity: A review of the financing options discussed

Rank the various sources of financing in order of importance and give reasons for your choice.

Module 6

Marketing and Branding

OBJECTIVE

The module discusses the marketing activities that could be employed by an energy entrepreneur. It also highlights the importance of branding an energy business and discusses concepts in business positioning.

TOPICS IN THE MODULE

1. *SME marketing*
2. *Understanding the SME energy market*
3. *SME market targeting*
4. *SME market positioning*
5. *SME branding of energy products*
6. *Marketing plans*

Introduction

Marketing of products and services is a central activity to any business. Goods are produced or bought for sales and services rendered to specific market in exchange of income. There is no business without a market. Entrepreneurs' motivation to do business is that in the process of solving societal problem through selling a product or rendering a service in return they make a profit.

Marketing is concerned with identifying, anticipating and meeting the needs of customers in such a way as to make a profit for the business (enterprise). Meeting customer requirements then involves applying a relevant marketing mix i.e. providing the right product, at the right price, through the right distribution channels (place) and supported by the most suitable promotional and advertising activity.

In this module, the focus is on discussing SME marketing approaches, marketing limitations and challenges, market targeting and positioning, branding and marketing plans that entrepreneurs in the energy sector can develop to grow their businesses.

6.1 SME Marketing Approach and Challenges

6.1.1 Marketing defined

Marketing is concerned with identifying, anticipating and meeting the needs of customers in such a way as to make a profit for the organization. Meeting customer requirements then involves applying a relevant marketing mix i.e. providing the right product, at the right price, through the right distribution channels (place) and supported by the most suitable promotional and advertising activity.

The focus of all marketing tasks is the customer: identifying and fulfilling their needs and encouraging loyalty from them to the product. Marketing is about how a company and its products are perceived by the general public, as well as the methods by which the company encourages consumers to buy its products.

Market development is a marketing technique aimed at increasing a company's market in order to widen the customer base for the purpose of selling more products. There are several approaches that can be used to expand a market. They range from capturing customers of rival companies to expanding to a previously un-served segment of the market. Customers who are not buying an energy product or service at all are a potentially untapped market. Market development can focus on introducing customers to energy products like charcoal briquettes to get them interested so that they will become customers. Developing a strong market development strategy is an important aspect of helping an enterprise grow.

6.1.2 The marketing mix

Marketing mix (also referred to as the 4 Ps of marketing) comprise of decisions that generally fall into the following four controllable categories:

- ***Product.*** This refers to tangible, physical products as well as services. Some of the decisions include brand name, functionality, styling, quality, safety and packaging
- ***Price.*** Pricing decisions to be made include pricing strategy, suggested retail price, volume discounts, wholesale pricing and seasonal pricing.
- ***Place (distribution)***. Distribution is about getting the products to the customer. Decisions to be made include distribution channels and centers, market coverage, specific channel members, inventory management, warehousing and transportation.
- ***Promotion***. Promotion represents the various aspects of marketing communication, that is, the communication of information about the product with the goal of generating a positive customer response. Marketing communication decisions include: promotional strategy (push, pull, etc.), advertising, personal selling and sales force, sales promotions, public relations and publicity

The 4 P's of marketing represent parameters that the entrepreneur (acting as marketing manager) can control, subject to the internal and external constraints of the marketing environment as depicted in Figure 11 below[2]:

Figure 11: The 4 Ps of marketing

6.1.3 SME Challenges in Marketing Energy Products

SME marketing is haphazard and informal because of the way the owner/manager conducts business; they make most decisions on their own, respond to current opportunities and circumstances and so decision making occurs in a haphazard and apparently chaotic way, according to personal and business priorities at any given point in time. In many cases the owner performs all the roles.

The following are some of the challenges that SMEs in energy sector face:

- **Limited resources such as finance, time and marketing knowledge to carry out marketing activities.** There is very little effort put to advertise and promote new energy products like improved stoves, gasifier etc.
- **Lack of specialist expertise in marketing.** The owner-managers tend to be generalists rather than specialists. There do not value the roles of marketers in their businesses.

[2] Adapted from http://www.netmba.com/marketing/mix/

- **Limited information about energy products, their use and benefits to environment is available.** Potential energy customers come across new products largely by accident or by word of mouth from other users of such a product.
- **Limited impact in the marketplace due to consumption in small quantities.** For example, advertising efforts by a small-scale entrepreneur to advertise his/her energy products in a local vernacular for radio may create some increases to sales of his/her products but the impact is insignificant to the national consumption level.

6.2 Understanding SME Energy Market

6.2.1 Market research

One challenge an entrepreneur has to grapple with is to understand the business dynamics within a chosen field. At times, it is taken for granted that entrepreneurs knows a lot about their businesses and are capable to see opportunities or business potential naturally. This is not the case. There is need for substantial information needed; about the past, present and the future. This information ought to be searched more frequently to remain relevant in the market.

Market research is thus an important element of marketing because this is the process involved in finding out what customers want. Research is a crucial part of all marketing activity, whatever the size of a company. At the outset of a new business or a new product, research into the target market needs to take place to determine:

- ✓ What energy product or service this market consumes and when
- ✓ What it is that they are looking for in the energy product
- ✓ What messages resonate with them
- ✓ What colours, designs and logos work with them

For SMEs in the energy sector, market research would be relevant in identifying customer preferences, market sizes for various energy products, market niches and how to bridge the gaps that may exist. The research may not be elaborate and professionally structured but systematic enough to collect information that helps the entrepreneur to identify who and where their customer is, what are their product preferences and how they would like the product delivered to them.

In addition, a feedback system will be essential to communicate back the customer satisfaction levels and areas of improvement in the products as well as the delivery process.

6.2.2 Competitor Analysis

SMEs operate in competing environments dealing in similar products and targeting similar customer base. When a customer buys from one of them, he or she is not able to buy from the other business. Therefore, for a small business to succeed there is need for the owner to know almost as much about his/her competitors as they do about their own business and customers. Unfortunately, many small business owners make the mistake of waiting until a competitor has opened up shop across the street and is cutting into profits to find out who and what they are up against.

A competitive analysis allows the entrepreneur to identify his/her competitors and evaluate their respective strengths and weaknesses. By knowing the actions of competitors, the entrepreneur will have a better understanding of what energy products or services to offer; how to market them effectively; and how to position his/her business.

Competitive analysis is an ongoing process. It involves gathering information about what is happening in the market place and could be sourced widely. Below are some of the steps that an entrepreneur in the energy sector could follow to analyse the competition:

- ***Step 1: Identify competitors.*** Competitors are those businesses that offer similar energy products to the same target market.
- ***Step 2: Analyze strengths and weaknesses of those competitors***. In which areas are they strong or weak in?
- ***Step 3: Look at opportunities and threats.*** Are the opportunities and threats similar?
- ***Step 4: Making comparison between the enterprise and competitors***.

This analysis should result in understanding the business's competitive position in the energy sector market. Each business would try to capitalize on the competitors weaknesses by using their own strengths to take advantage of the prevailing business opportunities. The other strategy is to avoid or minimize weaknesses and exposure to threats as much as possible.

6.2.3 SME Networking

Identifying similar small businesses in the energy sector may be needed. A new concept that seems to help deal with the challenges of size and impact on the market is where SMEs network for marketing purpose. Marketing by networking is enhanced and improved with the advent of experience and shared resources amongst the players.

SMEs will use their strengths to overcome their inherent weaknesses, learn from mistakes and assess what went wrong in order to avoid such mistakes in the future, learn from successes and assess all of the circumstances that contribute to success especially where they are targeting a bigger market jointly.

There are more benefits for SMEs in energy sector to network, from associations and market their products together especially if they target an external market.

6.3 SME Market Targeting

6.3.1 Definition of Market targeting

A target market or target audience is a group of customers that the business has decided to aim its marketing efforts and ultimately its merchandise. A well-defined target market is the first element to a marketing strategy. The target market and the marketing mix variables of product, place (distribution), promotion and price are the two elements of a marketing mix strategy that determine the success of a product in the marketplace.

Target markets are groups of people separated by distinguishable and noticeable aspects. For energy sector, a target market could be users of renewable energy sources like solar for lighting, heating and cooking.

Target markets can be separated into:

- **Geographic segmentations** (i.e. their location). Rural areas could benefit from solar installation and therefore form a market segment.
- **Demographic/socio-economic segmentation** (gender, age, income occupation, education, sexual orientation, household size, and stage in the family life cycle). For example, low income groups could be targeted with improved cooking stoves that uses cheaper source of fuel and readily available but more efficient.
- **Psychographic segmentation** (i.e. similar attitudes, values, and lifestyles). The higher income group could be sensitized to the concept of green energy and be targeted solar solutions that could include changing the construction of their houses and appliances they use.
- **Behavioural segmentation** (i.e. occasions, degree of loyalty),
- **Product-related segmentation** (relationship to a product). Dairy farmers could easily be linked to biogas digesters that utilize animal waste to give them fuel for cooking and lighting as well as fertilizer.

6.3.2 Market Target Selection

Target marketing tailors a marketing mix for one or more segments identified by market segmentation. Target marketing contrasts with mass marketing, which offers a single product to the entire market. Many SMEs dealing with energy products are also dealing with other products and are tempted to use mass marketing. This affects the size market for energy products and eventually limits the income that could have been generated from sales of such products.

Two important factors to consider when selecting a target market segment are the attractiveness of the segment and the fit between the segment, and the enterprise's objectives, resources and capabilities.

1) Attractiveness of a market segment

The following are some examples of aspects that should be considered when evaluating the attractiveness of a market segment:

- ✓ Size of the segment (number of customers and/or number of units)
- ✓ Growth rate of the segment
- ✓ Competition in the segment
- ✓ Brand loyalty of existing customers in the segment
- ✓ Attainable market share given promotional budget and competitors' expenditures
- ✓ Required market share to break even
- ✓ Sales potential for the firm in the segment
- ✓ Expected profit margins in the segment

Market research and analysis is instrumental in obtaining this information. For example, buyer intentions, sales force estimates, test marketing, and statistical demand analysis are useful for determining sales potential.

2) Suitability of market segments to the Enterprise

Market segments also should be evaluated according to how they fit the SMEs objectives, resources and capabilities. Some aspects of fit include:

- ✓ Whether the firm can offer superior value to the customers in the segment
- ✓ The impact of serving the segment on the firm's image
- ✓ Access to distribution channels required to serve the segment
- ✓ The firm's resources vs. capital investment required to serve the segment

The better the SMEs fit to a market segment and the more attractive the market segment, the greater the profit potential to the SME. Therefore the entrepreneur in the energy sector should identify and choose those energy products whose market is attractive and best suits his/her business objectives.

6.3.3 Market Target Strategies

There are different target-market strategies that may be followed. Targeting strategies usually can be categorized as one of the following:

- ***Single-segment strategy -*** also known as a concentrated strategy. One market segment (not the entire market) is served with one marketing mix. A single-segment approach often is the strategy of choice for smaller enterprises with limited resources. For example, choosing to serve the residents of Arusha Town with solar panels.
- ***Selective specialization –*** this is a multiple-segment strategy, also known as a differentiated strategy. Different marketing mixes are offered to different segments. The product itself may or may not be different - in many cases only the promotional message or distribution channels vary.
- ***Product specialization -*** the firm specializes in a particular product and tailors it to different market segments. For example choosing to deal with briquettes for different locations.
- ***Market specialization –*** the firm specializes in serving a particular market segment and offers that segment an array of different products. For example choosing to deal with rural for schools and institutions offering them solar products, biogas digesters and improved cooking stoves.
- ***Full market coverage -*** the firm attempts to serve the entire market. This coverage can be achieved by means of either a mass market strategy in which a single undifferentiated marketing mix is offered to the entire market, or by a differentiated strategy in which a separate marketing mix is offered to each segment.

6.4 SME Market Positioning

6.4.1 Defining Market positioning

Market positioning has been defined as "*identifying a market niche for a brand, product or service utilizing traditional marketing placement strategies (i.e. price, promotion, distribution, packaging, and competition)*"[3]. It involves efforts to influence consumer perception of a brand or product relative to the perception of competing brands or products[4]. Market positioning is, therefore, the manipulation of a brand or family of brands to create a positive perception and preferred position in the eyes of the public towards that product.

[3] Definition adapted from: http://en.wikipedia.org/wiki/Positioning
[4] Sourced from business dictionary: http://www.business.dictionary.com

If a product is well positioned, it will have strong sales, and may become the go-to brand for people who need that particular product. Poor positioning, on the other hand, can lead to bad sales and a dubious reputation.

6.4.2 Product positioning process

Market positioning is a tricky process. It is a continuous process requiring constant observation. SMEs adopting market positioning strategies need to see how consumers perceive their product, and how differences in presentation can impact perception

As defined above, positioning is the process by which marketers try to create an image or identity in the minds of their target market for its product, brand, or organization. Then *re-positioning* involves changing that identity of a product, relative to the identity of competing products, in the collective minds of the target market. De-positioning involves attempting to change the identity of competing products, relative to the identity of your own product, in the collective minds of the target market.

Generally, the product positioning process[5] involves:

1. Defining the market in which the energy product or brand will compete (who the relevant buyers are)
2. Identifying the attributes (also called dimensions) that define the energy product 'space'
3. Collecting information from a sample of customers about their perceptions of each energy product on the relevant attributes
4. Determine each energy product's share of mind
5. Determine each product's current location in the energy product space
6. Determine the target market's preferred combination of attributes
7. Examine the fit between:
    - The position of your product
    - The position of the target market's preferred combination of attributes
8. Position.

[5] Process adapted from: http://en.wikipedia.org/wiki/Positioning

The diagram below shows how an SME can position itself in the minds of its target customers in meeting market needs through its offering and using its organizational capacity. This is a mental perception that is created in customers minds as a customer responsive SME.

Figure 12: Market Positioning

It is important to note that for the SME to achieve sustained growth there is need to create an impact in the target market. Creating an image in the minds of customers helps in creating loyalty to products or services being offered.

6.5 SME Branding for Energy Products

6.5.1 Defining Branding

Branding is defined as "*the marketing practice of creating a name, symbol or design that identifies and differentiates a product from other products*". A brand is the sum of all the associations, feelings, attitudes and perceptions that people have related to the tangible *and* intangible characteristics of a company, product or service. Put differently, a brand is a company's promise to its customers. A brand could be a name, term, design, symbol, or any other feature that identifies one seller's goods or services as distinct from those of other sellers.

A brand is a complex symbol that can convey up to six levels of meaning[6]:

- **Attributes:** A brand brings to mind certain attributes. The brand assigned to an energy product must bring with it certain attributes.

[6] Philip Kotler Source: Marketing Management, Eleventh Edition, 2003, Prentice Hall

- **Benefits:** Attributes must be translated into functional and emotional benefits. For example, the attribute "durable" could translate into the functional benefit "I do not have to buy another solar panel for several years."
- **Values:** The brand also says something about the producer's values. Mercedes stands for high performance, safety and prestige. So should the brand assigned to the branded energy product or company.
- **Culture:** The brand may represent a certain culture. Using briquettes could say "we need a cleaner environment".
- **User (Primary Target):** The brand suggests the kind of consumer who buys or uses the product.

6.5.2 The 7 "musts" of branding

SMEs wishing to develop a winning brand strategy should bear in mind the following (musts):-

1) The first thing to focus on is differentiation. The best strategy in developing a powerful brand is to create the perception of difference. For example the energy product being brought into the market (like BP Solar panel) should be seen to be both different and better than the competition.
2) Claim a share of heart. Achieving "share of heart", other than "share of wallet", by delighting customers will produce loyal customers and transform those happy customers into an effective sales force. In short, share of heart leads to share of wallet.
3) Develop brand charisma. Emotion sells are short-term in nature but these can be converted to loyalty by building a strong brand personality – using values that consumers like and can relate to.
4) Remember to build a brand culture. Those working for the SME need to be trained to both appreciate the energy brand and what it stands for, and to contribute in their daily work to brand development.
5) Install a brand management system. This means tracking and monitoring customer experience on the branded product to ensure that the total brand experience a person has is consistent and appropriate. This involves changing strategy, systems, technology, processes, services, products and even physical premises to engineer a great customer experience.
6) Balance consistency with change. When modernizing or introducing new products and services, the SME must assure consumers it is keeping the brand name and values constant. This adds reassurance and trust.
7) SMEs must treat branding as an investment as not a cost. The returns for building branded energy product would yield returns over a period of time though a high cash outlay may be spent to bring it up.

6.5.3 Importance of branding energy products

An effective brand strategy gives a business a major edge in increasingly competitive markets. The brand is a SMEs promise to target customer. It tells them what they can expect from your products and services, and it differentiates your offering from that of your competitors. The brand is derived from what the SME is, what it wants to be and who people perceive it to be.

The SME's brand strategy is how, what, where, when and to whom it plans on communicating and delivering on the brand messages. Consistent strategic branding leads to a strong brand equity, which means the added value brought to SMEs energy products or services, that allows the SME to charge more for the brand than what identical, unbranded energy products command.

Branding for SME is very important as it helps to differentiate its services and makes the organization stand out in the crowd. It goes a long way to create a positive image and perception in the eyes of the customer. Branding is essential for promotional activities where SMEs are concerned.

6.5.4 Creating a successful brand for in energy business

Defining the brand is like a journey of business self-discovery. It can be difficult, time-consuming and uncomfortable. It requires, at the very least, that entrepreneur to answer the questions below:

- ***What is the mission of the enterprise?***
- ***What are the benefits and features of the energy products or services?***
- ***What do customers and prospects already think of enterprise?***
- ***What qualities do you want customers to associate with the enterprise?***

6.5.5 Communicating your brand message

The brand message must be communicated to the audience. The audience include customers (present or potential), SME employees and distributors.

In the box below is the proposed procedure of communicating the brand message:

- Get a great logo. Place it everywhere.
- Write down the brand messaging. Every employee should be aware of your brand attributes.
- Integrate the brand. Branding extends to every aspect of the SME business - like how phones are answered, dress code for sales people etc.
- Create a "voice" for the SME that reflects the brand. This voice should be applied to all written communication and incorporated in the visual imagery of all materials, online and off.
- Develop a tagline. Write a memorable, meaningful and concise statement that captures the essence of the brand.
- Design templates and create brand standards for the marketing materials. Use the same colour scheme, logo placement, look and feel throughout.
- Be true to the brand. “Customers will not return to you--or refer you to someone else--if you do not deliver on your brand promise”.
- Be consistent.

Remember branding facilitates a company to get an identity of its own which further allows a company to compete in tough marketing conditions and to bond a strong relationship with their customers to create loyalty.

Branding aids promotion and an effective brand promotion can help a SME to get a broader view in the potential market. Once the branding is achieved or established then the goodwill would be achieved simultaneously. Then the SME GROWS!

6.6 Marketing Plan for SMEs in Energy Product

All the activities discussed in this module require action. These actions and budget for them is contained in a market plan. A *marketing plan* is therefore defined as a written document that details the necessary actions to achieve one or more marketing objectives.

It can be for a product or service, a brand, or a product line. A marketing plan may be part of an overall business plan. It represents the marketing strategies or "game plan" by which marketing objectives will be achieved.

This marketing plan is concerned with the 8 Ps as listed below.

1. **Price** - The amount of money needed to buy products
2. **Product** - The actual product
3. **Promotion (advertising)-** Getting the product known
4. **Placement -** Where the product is located
5. **People** - Represent the business
6. **Physical environment** - The ambiance, mood, or tone of the environment
7. **Process** - How do people obtain your product
8. **Packaging -** How the product will be protected

Since the marketing plan is supposed to be an actionable document it must therefore be:

- ✓ **Clear** - They should be an unambiguous statement of 'exactly' what is to be done.
- ✓ **Quantified** - The predicted outcome of each activity should be, as far as possible, quantified, so that its performance can be monitored.

- ✓ **Focused** - The temptation to proliferate activities beyond the numbers which can be realistically controlled should be avoided.
- ✓ **Realistic** - They should be achievable.
- ✓ **Agreed** - Those who are to implement them should be committed to them, and agree that they are achievable.

Content of the marketing plan

A marketing plan for a SME can include among other things:

1. Description of the product or service, including special features
2. Marketing budget, including the advertising and promotional plan
3. Description of the business location, including advantages and disadvantages for marketing
4. Pricing strategy
5. Market Segmentation

In addition, it can include the level of demand for the product or service and the strengths and weaknesses of competitors. Further suggestions on how SME can prepare a simple but useful marketing plan is provided by SME Toolkit[7] as adapted and shown below:

[7] Adapted from SME Toolkit Kenya website: http://kenya.smetoolkit.org

Tips in Marketing plan

The six major elements to creating a successful marketing plan are listed below. You may only need a sentence or two per section... or you might want to break each down into a few succinct bullet points.

- The Purpose
- Your Target Customer
- The Benefits of Your Product or Service
- Your Positioning
- Your Marketing Tactics
- Your Marketing Budget

When preparing and implementing your market plan, keep the following tips and hints in mind:

- ✓ Keep your marketing plan simple.
- ✓ Write your marketing plan down (as opposed to thinking about it and keeping it in your head).
- ✓ Be direct and be clear.
- ✓ Don't build in too much flexibility.
- ✓ Review your marketing plan often - quarterly or even monthly.
- ✓ Finally and more important....never stop marketing!

Activity: Action plan on preparing a marketing plan

Prepare your marketing plan and how you will incorporate branding activities

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THIS TRAINING MANUAL HAS BEEN DEVELOPED AS A MODULAR TRAINING PACKAGE TO ENABLE MICRO, SMALL AND MEDIUM ENTREPRENEURS TO ACQUIRE SUPPLEMENTARY KNOWLEDGE IN ORDER TO EXPAND THEIR ENERGY BUSINESSES.

THE MANUAL PROVIDES GUIDELINES ON BUSINESS DELIVERY MODELS, BUSINESS AND FINANCIAL MANAGEMENT, AND THE SOURCES OF BUSINESS FINANCE. IT IS EXPECTED THAT THIS TRAINING MANUAL WILL ASSIST ENERGY ENTREPRENEURS TO BE FAVOURABLY POSITIONED FOR LINKAGES TO SUITABLE SOURCES OF FINANCE.

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