Chapter 3: Feasibility Analysis

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INTRODUCTION

The purpose of a Feasibility Analysis is to assess the viability of a business. In Chapter 1 you collected information about your business idea and wrote your first draft of the Business Description. Chapter 2 explained why data collection was important before writing a Business Plan and then provided methods for gathering vital information. In this chapter you will analyse the data from Chapter 2 in order to determine if the business will work. This will help you to see if your expected revenues will fall short of, meet or exceed your costs. To address this issue, you will develop a marketing plan, operational strategy, schedule, and initial financial calculations.

FEASIBILITY DEFINED

What are the characteristics that indicate an energy business is feasible?

When land, fuel, technology, team, customers and permits are available and when putting these ingredients together makes financial, social and environmental sense, then a business is feasible. Determining the feasibility of a business doesn’t guarantee that it will be funded or implemented-too many other things outside of your control can go wrong-but it does set the stage for presenting the business to reasonable people for technical and financial participation. The goal of a Feasibility Analysis is for you to demonstrate that the pieces of the business can be put together well enough to present it to others.

OPPORTUNITY ANALYSIS

In Chapter 1 you defined your potential customers and gathered information about them. This included details of their location, income, ability to pay, needs, and usage. The goal of this section is to prove that there are sufficient customers willing and able to buy your product. In order to prove this, it is necessary for you to analyse the data you collected and then draw reasonable conclusions. The following exercise takes you through the process:

1. How much do potential customers currently pay to meet the need you will fill? List the need.

__________________________ per _________________________ for _________________________

Example: US$10 per month for candles, kerosene and battery charging.

2. How many customers said they would be willing to purchase your product or service? What is the total market size?

__________________________

Example: 75 households (equal to 25 per cent of those interviewed) said they could afford my product. There are 1 000 households in the proposed area of operation.

3. How much do potential customers say they can afford to pay for your product or service?

__________________________ per _________________________ for _________________________
Example: US$12 per month for a 50-watt solar home system for 3 years. This is equal to a total of US$432 without interest for providing the system on credit.

From the estimates you have, you can project your total potential sales. Start by multiplying the percentage of customers that said they would buy your product by the total number of households or customers in your area of operation. The result is an estimate of the number of customers to whom you can sell. It makes sense that not everyone in your area of operation is a potential customer, and it is important to have an idea of what percentage of nearby residents might buy your product.

Then, multiply that estimate of your potential customers by the average price customers would pay for your product to obtain a rough estimate of your total potential sales. This is a very early estimate but it will be useful later on, when we discuss pricing in the next section.

Total Potential Sales estimate: _________________

MARKET ANALYSIS

Many people associate marketing only with advertising. Though advertising is a part of marketing, there are other important elements in a marketing strategy besides promotion, including pricing, placement (distribution) and product. Collectively, these are called ‘the four P’s,’ and every new business has to have a strategy for each ‘P.’ Since you have already decided on the product, this section covers pricing, placement (distribution) and promotion.

Pricing

How much to charge for a product or service is a difficult question. If priced too low, you give up potential revenue that would help pay your expenses. If priced too high, your customers may buy from a competitor. There are several ways to determine an appropriate price for your product, but keep in mind that businesses change their prices often as market conditions change.

The first thing to do is to compute the costs of your business-overhead, labour, capital equipment-so that you have an idea of how much you need to earn to avoid being in debt. The point where your company is neither losing money nor making a profit is called the ‘break-even point’. It is an important milestone in the development of a new company.

Below you will find definitions of terms that you need to know to develop your price and eventually to prepare your financial analyses. Lenders and investors will expect you to be familiar with these terms:

Cost of Goods Sold
The Cost of Goods Sold, also called the Cost of Sales, refers to the cost to you of purchasing materials or products from suppliers for resale or manufacturing. The cost of freight and delivery charges should also be included in this estimate.

Operating Expenses
Operating expenses include the following:

- Labour expenses, which are the hourly fees or salaries paid to employees of your company. Payroll taxes and benefits, such as medical insurance or vacation time, should be included here.
- Professional services, which are fees paid to people who do not work for the company, e.g. contractors, consultants, attorneys, accountants, etc.
- Overhead expenses, which are all of the recurring costs incurred in operating the business. Typically they include all or some of the following:
  - Rent
  - Utilities
  - Vehicles
° Travel and Entertainment
° Maintenance and Repair
° Equipment leases
° Supplies
° Packaging and Shipping
° Insurance
° Permits and Licenses

**Capital Costs**

This is the amount of money required to purchase equipment to start and maintain operations for a period of time. It also will be used to determine how much Depreciation your company will incur each year on equipment that lasts longer than a year. Depreciation simply means that an item of capital equipment—e.g. a machine, a piece of furniture, a computer, a building, etc.—loses value over time. For example, a computer you buy today for US$500 is worth less than US$500 after three years. Depreciation, which is an amount listed in your company’s financial reports, accounts for that gradual erosion of value.

If you are starting a new business, Capital Costs generally include office equipment, manufacturing equipment, vehicles, etc. *Remember to keep receipts for all of your equipment purchases so you are able to calculate your depreciation expenses. This is important for your accounting records and for tax purposes.*

The following exercise will help clarify the total costs of starting and running your company. It will provide you with insight into what is often called your ‘cost structure’.

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**Calculating your Operating Expenses**

1. **List your labour expenses per month and annually**

<table>
<thead>
<tr>
<th>Staff Name</th>
<th>Cost per month</th>
<th>Cost per year</th>
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<tr>
<td>Total</td>
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2. **List your professional expenses per month and annually:**

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<thead>
<tr>
<th>Professional Service</th>
<th>Cost per month</th>
<th>Cost per year</th>
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<tr>
<td>E.g. Accountant</td>
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<td>Total</td>
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3. List your overhead expenses per month and annually

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<tr>
<th>Expense</th>
<th>Cost per month</th>
<th>Cost per Year</th>
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<tr>
<td>Rent</td>
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<td>Utilities</td>
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<td>Vehicles</td>
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<td>Travel and Entertainment</td>
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<td>Maintenance and Repair</td>
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<td>Equipment leases</td>
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<td>Supplies</td>
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<td>Packaging and Shipping</td>
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<tr>
<td>Insurance</td>
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<tr>
<td>Licenses and Permits</td>
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<tr>
<td>Other</td>
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<tr>
<td><strong>Total</strong></td>
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4. List items of capital equipment necessary to start the business and their costs:

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<thead>
<tr>
<th>Item name</th>
<th>Cost</th>
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<tr>
<td><strong>Total</strong></td>
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</table>

**Calculating your Cost of Goods Sold**

What is the average total purchase cost of your products based on quotes from suppliers you contacted? Or what is the average cost of materials if you manufacture your product or service?

E.g.: US$350 for a 50-watt solar home system.

5. List the Cost of Goods Sold per month and then annually—ensure that this correlates with your assumptions and findings in the Opportunity Section.

<table>
<thead>
<tr>
<th>Equipment Name/Type</th>
<th>Amount purchased per month</th>
<th>Cost per month</th>
<th>Cost per year</th>
</tr>
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<td></td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
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</tbody>
</table>
Insert the total of labour, services and overhead items here: US$ ........................................................

Insert the cost of the goods sold here: US$ ...............................................................

Add the two numbers. Your eventual sales price must cover at least this amount, but remember loan and interest payments, depreciation and taxes are not built into this number.

Sales Projections
The next price-related element to be developed is an estimate of the amount of your product or service you expect to sell during the first 5 years. The aim is to be able to define, for example, how many systems you will sell per month and then show why this is reasonable. The projected sales for at least the first 5 years of business (depending on when your business will be profitable and has repaid any debts) must also be calculated.

Start with your estimate for the ‘Total Potential Sales’ from the ‘Opportunity Analysis’ section above. Since it would be impossible to sell to the whole market within the first year of your company’s life, estimate realistically how many products you think you can sell each month for the first year.

If you have little direct experience in doing what your company will do, competitors can, once again, be a good source of information when making these estimates. Refer back to any notes from conversations with competitors in Chapter 1. Their figures can be used as a starting point or a measuring stick. For example, if a direct competitor is selling 150 products per year, it would not be reasonable to assume your business will sell 600 per year. Other sources of information are suppliers and target customers.

Like many estimates in this chapter, it is possible, even likely, that your sales estimate will not be accurate. That is to be expected—the aim here is to get you to think critically about your market and your company, and to gather enough information for you to make sound business decisions.

Task: Think about how many products you can sell per month for the first year and annually thereafter. Base your projection on number of staff, availability of stock and parts, customer demand, and seasonal changes in your business.

You are now ready for the fun part! Pricing. Four methods of pricing are presented below with examples of when they should be employed. Examine these pricing strategies, and determine a price for your product or service. It is likely that the sales price you choose will change as you complete the Business Plan, however use this price as a starting point.

Cost-plus Pricing
This type of pricing computes the total cost of the product or service to your business, which includes cost of materials, purchases, labour, overheads, etc., and then adds a desired profit margin to determine the sales price. This method has the advantage of being simple, but it does not take into account what your competitors are charging.

The following is an example:

| Cost of Goods Sold (PV module plus balance of system): | US$400 |
| Cost of labour (installation included): | US$50 |
| Overhead: | US$50 |
| Total Cost: | US$500 |
| Desired Profit (15%) | US$75 |
| Required Sales Price: | US$575 |

Competitive Pricing
If there is a significant amount of competition in the market it is wise to keep the price of your product near the market price. Research has already been completed on each competitor, so the price of your product should be known.

Does this price cover your Cost of goods sold and overheads? If not then your business structure is not feasible. Some research should also be done into the willingness of the customers to pay more for the product. Under what conditions would they pay more?
Mark up Pricing

Some manufacturers, wholesalers and retailers simply add a set amount (the markup, usually expressed as a percentage of cost) to the cost of a product to reach the final price.

Value-Based Pricing

Value-based pricing is a useful strategy if your customer is going to either save money or be able to earn more money as a result of the product or service you provide. In other words, the customer will find financial gains in your product or service. The easiest way to price using a value-based strategy is to estimate the amount of money your product will enable the customer to save or earn, and then price your product below that amount so that the customer has a financial incentive to buy from you.

For example, if you sell solar power systems for homes, and the electricity produced from your solar panels powers a sewing machine that enables someone to generate US$10 per week in revenue, that would help you set your price. Of course you would want to charge less than US$10 per week for your product, but how much less would be your decision. If you sell into a competitive market, if you want to get more customers quickly, if you want to generate favourable word-of-mouth for your product or service or if your costs are fairly low relative to how much revenue the customer generates from your product, then you should charge lower prices.

Here are three basic rules about pricing:

1. Prices must be set to cover costs. Never price ‘below cost’.
2. The simplest and most effective way to help you lower sales prices is to lower costs.
3. Prices must be evaluated and changed as necessary to reflect constant changes in cost, demand, changes in the market, and responses to competition.

After you have come up with a sales price, you are now ready to determine your Gross Margin and Markup using the following important formulas:

Gross Margin

The gross margin is defined as the difference between total sales and the Cost of Goods Sold during a given time period. Use estimates for your first year of business. The Gross Margin must be sufficient to cover all of your business expenses (the costs of labour, services, overhead and promotion) and hopefully also provide you with a profit.

The gross profit margin can also be expressed as a percentage. Simply subtract Cost of Goods Sold (which is the same as ‘cost of sales’) from total sales and divide that number by total sales.

\[
\frac{(\text{Total Sales} - \text{Cost of Sales})}{\text{Total Sales}} = \text{Gross Margin.}
\]

Profit Margin, also called Net Margin, is similar to Gross Margin with one important difference. To find your Net Margin, you subtract all of your business’s expenses from your total sales. The remainder is your profit, which you can either reinvest in the business, distribute to the company’s owners as dividends or both. Profit Margin also can be expressed as a percentage:

\[
\frac{(\text{Total Sales} - \text{Total Expenses})}{\text{Total Sales}} = \text{Net Margin.}
\]

Markup

This number is also similar to Gross Margin, but slightly different. The difference between Gross Margin and Markup is that the Gross Margin is computed as a percentage of your total sales, whereas Markup is computed as a percentage of the price you paid for the goods.

\[
\frac{(\text{Total Sales} - \text{Cost of Sales})}{\text{Cost of Sales}} = \text{Markup}
\]
You can make some assumptions from these calculations. For example, if your business requires a 40 per cent margin in order to make a profit then your average Markup will have to be 66.7 per cent. So, although the two calculations refer to the same monetary value, they are two very different concepts with different meanings. If you assume the two are the same it will be impossible to reach your expected profits.

Margin: ___________________
Markup: ___________________

Placement (distribution)

Now that you have a sense of how many products you will sell in a given period, you should consider how you will distribute them to your customers. Distribution is the process of moving your product from the manufacturing site to the customer. The distribution channel you choose will depend on your projected sales and the characteristics of your business. Consider competitors’ distribution strategies as a starting point and decide if they would be right for your business or if something else would be more appropriate. Examples of some distribution channels for energy businesses are:

Direct Sales: The simplest and most effective way to distribute if you are selling directly to customers is to have your business sell the product. An example is selling solar water heaters directly to households for cash or credit.

Salespeople: Salespeople will sell your product or service on your behalf. They often sell a variety of products and divide their time between them. This is also an effective way to distribute a product. An example includes selling a newly designed freezer using solar panels to a solar PV company’s in-country distributor.

Wholesale Distributors: A manufacturer sells a product to a wholesaler who in turn sells it to a retailer for further distribution to customers. Selling solar dried food products to an export company which in turn sells it to a retail chain is an example of this distribution channel.

Retail Distributors: Another highly effective channel if the end-user is the general public, retail distribution involves selling bulk product directly to a retail store. An example is selling dried food to a grocery store.

At this point in the business planning process you should do some research on the distribution channel(s) of interest. Specifically, find out how you would go about distributing your product. For example, if you plan on selling to a retail chain, call a few and find out their criteria and process for accepting new products. Talk to competitors, both direct (those doing what you do) and indirect (those selling a complementary product).

When selecting the distribution strategy best suited for your business, consider the channels used by your competition, the successes and failures, personal strengths and weaknesses and the location of your business and customers. Transportation methods and costs are critical issues to think about.

Task: Think in detail about how to best serve your customer given your abilities and constraints. Clearly develop the idea for your distribution channel and strive for a higher quality of service compared with your competitors. You will have to describe this in writing in the Feasibility Analysis.

Promotion

Once you have considered and researched various distribution channels, the next step is to develop a promotion strategy for selling your product. The primary goal of promotion is for the public to learn about the benefits your product or service would provide.

For example, if your company sells solar power systems, in your promotion you should emphasize all the ways customers can benefit (lighting, etc.) from having solar panels. Promotional materials and advertising should be focused on customer benefits. This is a strategy that many entrepreneurs ignore, choosing to promote their company and their
product rather than promoting the ways their product benefits the customer. Those entrepreneurs rarely succeed. There are several standard options for promotion. Each should be considered, and then you should decide what sort of promotion mix would give you the most benefits for the costs involved. Examples of some marketing strategies are described below:

Advertising: This is loosely defined as any promotional activity you pay for. It includes print advertisements, radio interviews, television advertisements, or billboards.

Packaging: If you are selling your product retail, you should think about its packaging. Does the product need to be packaged to attract customers? If so, what do you say on the packaging?

Marketing Materials: This includes materials such as brochures, handouts, and mailing pieces.

Sales Promotions: Strategies used to support the message such as demonstration events, special sales, discounts, contests, and awards.

Another related issue is designing a logo. Companies often create logos to differentiate their products from those of competitors. Design a few logos and test them on friends and family-insist on an honest opinion!

Every company must have a marketing plan and must consider marketing as a priority. If you are starting a new business or expanding the products or services offered, it is always advisable to plan a marketing effort or event to launch the new business. For example, plan an event where you will demonstrate your product and hand out brochures or offer discounts, or organize a raffle with a free product as the prize. Appropriate day-to-day marketing differs from company to company and country to country. Some experimentation may be necessary to devise an appropriate marketing strategy for your business. Testing various options is often more efficient and less costly in the long run.

Marketing is extremely important, but it can be costly. Consider in great depth which types of marketing are necessary, and why and how the marketing will influence the customer to buy the product or service. Try to keep the costs down.

Task: Make a list of strategies you will consider, of their desired outcomes and of how each strategy will achieve the result. Think of a competitor’s strategy and evaluate its success. Research the costs-call some media sources, printing companies, etc. Do not estimate the costs yet, as the figures must be incorporated into your early stage financial analysis. Put together a plan for testing whether the marketing plan works before rolling out a large production.

ANALYSIS OF COMPETITION

Lenders and investors want to make sure that you are going to be able to sell your product or service. Two ways for them to accomplish this are (a) to test how reasonable your assumptions in the ‘Opportunity Analysis’ section are and (b) to look at how you define your competitive advantage. For the purposes of this Business Plan, competitive advantage should be thought of as certain skills, aptitudes, assets and/or strategies that will give your company a unique advantage in its market. Remember, competitors can be both direct (they sell the same product or service as you) or indirect (different product or service that meets the same customer need).

The competition section of the Business Plan should start by introducing your primary competition. Discuss the products or services they offer, their location, price, management and skills, history and marketing strategy. If there are several competitors, it isn’t necessary to discuss all of them-just say how many there are, select a few, and then compare your business with theirs. This analysis can easily be done in a chart that presents the information clearly. Again, compare your prices, distribution, quality of the product, skills and management, and marketing strategy. The following exercise gives an example of the type of chart that can be used.
Write your business name in the first column. Define up to three of your primary competitors and list them in the first three columns. Discuss the strengths and weaknesses of your company compared to each competitor for each of the assets and skills defined.

<table>
<thead>
<tr>
<th>ASSET/SKILL</th>
<th>YOUR COMPANY</th>
<th>COMPETITOR #1</th>
<th>COMPETITOR #2</th>
<th>COMPETITOR #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>E.g. The president of the company has been in this line of work for 15 years. Dedicated support staff.</td>
<td>E.g. Started business with only 2 years experience and all other managers are new to the company.</td>
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<tr>
<td>Technical Capacity</td>
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<tr>
<td>Product(s)</td>
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<td>Distribution Channel</td>
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<td>Price(s)</td>
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<td>Promotion</td>
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<td>Advertising</td>
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**OPERATIONS PLANNING**

The ‘Operations’ section of your Business Plan will describe how you intend to implement your business strategy. Furthermore, it presents the structure of the business in terms of management and employees and their functions. At the end of this section, lenders and investors should be able to describe how your business will achieve its mission, from both a day-to-day sales and longer-term perspective.

**Operations**

The ‘Operations’ section can be as complex as your business. If you will have only a few employees and one or two locations, this section is simple. If you have 50 employees and several locations then this section will be more detailed. The goal is to describe to lenders and investors what each department of your business will do. Depending on the type of business, the headings below can be used to for this purpose. Remember, one employee may fill more than one role or position in the company. Under each heading list key functions, names of personnel, responsibilities of each person and their relevant work experience.

**Product Development**

Regardless of whether you manufacture or purchase your product, you need to give a clear presentation of the process by which the product is developed or acquired. You have already collected data about suppliers. This is the place to describe how your business will interact with them. Use the information from the ‘Business Relationships’ section of the Fact-finding study (Chapter 2). In addition to describing the process, state how many people work in the department and their skills.

**Manufacturing**

If you will make your product rather than purchase it, describe the manufacturing process here. Present the process step-by-step in order to keep the description simple. Say where you get your materials from, how long it takes, what are the costs, what are the skills involved, and who are your staff. Describe your manufacturing facilities and include the costs of the entire process.

**Stock and Distribution**

Once you have purchased or manufactured your product where will you store it and what are the details for distributing it? Will you own or rent a warehouse? How much stock do you expect to have on hand? Some of this section can draw from the distribution strategy you developed earlier in this chapter.
Offices and Sales
The method by which customers will interact with your business is an important part of your Business Plan. Much of the information on your strategy for reaching customers was developed in the ‘Marketing’ section, you must now give details of how you will actually make that possible.

Will you have one office centrally located or several? What is the purpose of your office? Who will work there and what will they do? Will your sales team go to customers’ houses to make sales? If yes, will you have company vehicles? How many? How often will your sales people be in the field? How will revenues be collected? How often? At the point of sale, monthly or in advance? Also, what sort of system will you have in place to account for sales and to manage your company’s revenues and expenses?

Technical
This part only needs to describe how your technical team will operate. What do technicians do? How will they reach and interact with the customers? How often? How many customers is each technician expected to service? How long does it take for the technician to complete an average job?

The question of product guarantees is also an issue that relates to operations and to the marketing of your product. Will you offer support or maintenance to customers after the initial sale? Will you charge for this service? How will customers contact you? Does your supplier (if any) guarantee the product?

Organization Structure
This part of the Business Plan should be straightforward and simple. It should include an organization chart with a short introduction, and short biographies of the core management team. The organization chart should include all department heads and managers, with names and titles, and only the number of support staff for each department. Be sure to include the names of the managers or department heads or if they have not been hired and include a sentence saying when they will be hired.

Full resumés or CVs should be included as the attachments to the Business Plan. If you have a Board of Directors or advisors, a paragraph should be included about each of them as well. The Business Description of the Business Plan gives information about the management team in order to reaffirm that your team has the necessary skills to run the business successfully.

Task: Draw up an organizational chart indicating positions that are filled, positions to be filled before starting operations, and positions to be filled over time. Write a draft of your Operations Plan—what will each department or division do, and what do they require to do this job.

TECHNICAL DETAILS
From a technology standpoint, an energy-business idea is feasible when natural resources are available in predictable and sufficient quantity and can be converted to energy using available proven technology. The only mention of the technological aspects so far has been in the Business Description where you described the type of resource and technology to be used and other minor details. The ‘Technology’ section of the Business Plan defends the technology choice. It addresses the following questions: Is machinery available for the type of energy technology your business will use? What is the acquisition process? Why is the project of the designated size, and how will all of the important processes (e.g. collection, transport and storage of fuel) be handled? How will the handling and conversion of fuel to energy happen? How will the energy be distributed to customers? Describe details of the type of energy resource to be used and, if possible, review what types of resource data exist and who compiled it during what period of time.
This section should provide a more thorough description of the technology, going into detail about how the technology and process will actually work. If the type of business you are proposing has been implemented and successful and if the technology itself is simple and proven, then this section will be short. For example, if your business distributes solar home systems and the PV technology is proven, this section would only include details of the types of panels and balance of system components being offered, the costs, supplier guarantees, etc. Then a paragraph affirming that the solar insolation is sufficient in the location of operation to charge the battery a certain number of days per year.

For a more elaborate business with a more complex technology process, such as a hydroelectric or biomass cogeneration project, the ‘Technology’ section will be extremely important to investors because they will use it to evaluate their risks. As stated previously, lenders and investors do not want to be pioneers, so if your company is proposing an energy project of a type that has not been implemented on a commercial basis either locally or successfully, then this section must provide a thorough explanation of how the technology will work.

Lastly, when the success of the business relies on a new or risky technology working, it is often necessary to have an expert analyst conclude that the proposed technology and energy resource will reach the business objectives. This analysis is typically included as a technical annex to the Business Plan.

**INTRODUCTION TO FINANCIAL ANALYSIS**

In earlier sections you calculated your Cost of Goods Sold, Overhead Expenses and Capital Cost in order to help you determine the sales price of your product. In your Business Plan, however, the marketing section will not be as detailed—it will state what you will charge customers and then describe your marketing and distribution. The financials (i.e. financial statements) used to support your pricing decision will be included in the ‘Finance’ section of your Business Plan. For the Feasibility Analysis the only necessary financial information is a report of how much money you need to start your business, a description of what that money will be used for, and your business’s revenue projections in the form of an Income Statement. The final Business Plan will include more figures and financial statements, such as a Balance Sheet and Cash Flow Statement, explained in Chapter 4. In addition, Annex E provides an introduction to basic financial terms and concepts.

**How Much Money Do I Need?**

Once the ‘Marketing’ and ‘Operations’ sections are complete, it should be clearer what capital goods need to be secured and what people need to be hired to start the business. Put together a list of the items to be purchased and their costs as well as a figure for operating expenses, employee salaries, professional fees, and taxes per month. Remember, planning and pre-operations need to be covered by invested capital, whereas the operating expenses need to be covered by revenue.

There is a relatively simple way to determine how much capital you need. First (using the table below), you must estimate all of your costs before you will receive cash from customers. These costs will include the payment of salaries and contractors and the purchase of goods needed in the planning of your enterprise, in its Pre-operations or Construction Phase and during its Operating Phase until revenues cover the daily-weekly-monthly expenses. You will borrow some of this money and you will put some of this money in as equity, but you need to know how much is required. Entrepreneurs too often simply estimate the cost of buying their product and equipping their facilities and forget that bills need to be paid until cash comes from customers. The amount of this Working Capital requirement can be crucial in the success or failure of a business. Bear in mind that you must have sufficient funds to pay your bills until the customers pay you, which may be 30, 60 or even 90 days after you bill them. For instance, you may order equipment, furnish your office, and market your product for 6 months before your first sale. It will then take another 8 months to sell enough products to break-even. Furthermore, when you borrow funds you are required to at least begin paying interest within about 6 months. It is possible to use borrowed funds to cover initial operating costs.

---

1 If your business sells several types of products or services a revenue section should be included in addition to an Income Statement to clearly present how you generate your revenues and over what period.
### Working Capital Requirement

<table>
<thead>
<tr>
<th>Phase</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>° Planning:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>° Pre-operations/construction:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>° Operating:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td></td>
</tr>
</tbody>
</table>

There is a simple way to see if you are borrowing enough using the Cash Flow Statement, one of the key financial statements that businesses rely on to give managers and investors a clear summary of what is happening at the company. You will learn about the Cash Flow Statement in Chapter 4, and you will then be able to play with your borrowing figure to see the effect on your payments, and profit or loss.

Financial statements—of which the most important, the Income Statement, is introduced here—are not as complicated as they might seem. Although they can be intimidating at first, you’ll soon see that they are straightforward and extremely useful for getting up-to-the-minute information on your business’s situation, for making projections, and for communicating with others.

**Income Statement:**
The purpose of an Income Statement is to present the business’s performance during a given period in an organized fashion. To do this, the Income Statement lists the company’s total revenue as its first line and then subtracts different expenses until arriving at profits, or ‘the bottom line.’ If profits are negative, then the business generated a loss during the period.

On the way from the top of the Income Statement to the bottom (from total revenue to profit), you will find your Gross Margin (the same as the one you computed earlier in the chapter), and ‘Operating Income,’ which is another important measure of a company’s health. The Income Statement contains the information listed below, given here with definitions of each of the items:

- **Gross Revenues:** All of your business’s dollar sales for the listed period of time. Also referred to as Gross Sales, Total Revenue or Total Sales.
- **Returns:** The cost to your business of any damaged or returned products.
- **Net Revenues:** Difference between Gross Revenues and Returns. Sometimes called Net Sales.
- **Cost of Goods Sold:** The cost to you of purchasing materials or products from suppliers for resale or manufacturing. Commonly referred to as Cost of Sales.
- **Gross Profit:** Calculated by subtracting Cost of Goods Sold from Net Revenues.
**Gross Margin:** Calculated by dividing your Gross Profit by Net Revenues.

**Operating Expenses:** All of your business costs including labour, capital equipment expenses, overhead, professional services, promotional costs, etc.

**Net Operating Income:** Calculated by subtracting Operating Expenses from Gross Profit. This represents your earnings before you deduct Interest, Taxes and Depreciation. It is a number investors will be looking at to see if your business's core costs are paid for by revenue.

**Depreciation:** Even though Depreciation is listed on your Income Statement like a regular expense, it is not the same sort of expense as salaries or rent. Depreciation is a method for re-valuing your capital goods (machines, vehicles, buildings, etc.) as they lose value with age. To determine the dollar-amount of Depreciation, take the original cost of the asset, spread out that cost over a number of years (see below) and, for each year, list that amount as your Depreciation expense. One benefit of Depreciation is that it reduces the profit your business ends up reporting, which reduces the amount that the business has to pay in income taxes.

The number of years over which you depreciate your capital assets is up to you. Generally, it is between 10 and 30. The number of years should be the same as your estimate of the ‘useful life’ of the asset. For solar-powered water pumps this could be 10-20 years. For a cogeneration business it could be 15-30 years.

**Interest:** Calculate the interest paid on loans over the given period of time. When putting together a forecast, this estimate is rather rough, but it should be finalized before presenting to a potential lender or investor.

**Taxes:**

Calculate all Taxes the business must pay including employee and income taxes. At the business start-up level it is therefore only important to provide an ‘allowance’ for income taxes from the business on a simplified basis.

**Net Profit (or Loss):** Also called Net Earnings or Net Income, this is the total profit after Interest, Taxes and Depreciation are subtracted from Operating Profit.

**Net Margin:** Divide the Net Profit by Net Revenues to understand how much profit you are making in comparison to your sales. This is expressed as a percentage.

---

**Example of an Income Statement**

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Income Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>For the period from DATE to DATE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gross Revenues:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Returns</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Net Revenues</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Goods Sold:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gross Profit:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Margin: (percentage)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operating Expenses:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Professional Services:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Overhead:</td>
<td></td>
</tr>
<tr>
<td>Rent</td>
<td></td>
</tr>
<tr>
<td>Utilities</td>
<td></td>
</tr>
</tbody>
</table>
Vehicle
Travel and Entertainment
Maintenance and Repair
Equipment leases
Supplies
Packaging and Shipping
Insurance
Licenses and Permits
Other

**Total Operating Expenses:**

**Net Operating Income**
Depreciation
Net Profit Before Interest
Interest
Net Profit Before Taxes
Taxes
**Net Profit (or Loss)**

**Net Margin:** (percentage)

The above Income Statement is for the first year of operations. An income statement for what you expect (or 'project') to achieve in the coming years must also be completed. This type of Income Statement is called a Pro-forma Income Statement. The pro-forma statement should be presented in the same format but with additional columns for each year. Title the column according to the year.

Preparing financial projections is tricky because you must make assumptions about the future. Lenders and investors usually want to see your business grow but, for most businesses, that is not as simple as just increasing revenues each year. You must ask yourself what will be the ratio of increased expenses to increased revenues. For example, if you want to sell 150 units in year 1 and 250 units in year 2 how many more employees will you have to hire or how many additional vehicles will you need to purchase? Perhaps, your business will get more efficient in the future so you will not need to increase your expenses the same each year.

**Task:** Complete a worksheet detailing the funds you require, draw up an Income Statement for your business for year 1 and a Pro-forma Income Statement for years 2 through 5. Include these in your Feasibility Analysis.

**PUTTING IT TOGETHER**

Below is a list of characteristics your business should have. Before going to the next chapter, review them and make sure each one is addressed by the information you have gathered so far in this process.

<table>
<thead>
<tr>
<th>A renewable energy business makes sense and is feasible when:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The energy product produced can be sold to one or more credit-worthy customers.</td>
</tr>
<tr>
<td>2. A strategy has been developed to meet sufficient demand for the product or service.</td>
</tr>
<tr>
<td>3. A practical and efficient marketing and operation plan has been developed.</td>
</tr>
<tr>
<td>4. The business is compatible with local and country energy plans for energy service delivery.</td>
</tr>
<tr>
<td>5. The commercial, political and social setting of the business will instil confidence in suppliers, contractors, investors, lenders and insurers.</td>
</tr>
<tr>
<td>6. The team has sufficient experience and skills to design, build and operate the business.</td>
</tr>
<tr>
<td>7. Qualified suppliers, contractors and consultants are available and have expressed interest in the business.</td>
</tr>
<tr>
<td>8. Natural resources-wind, water, biomass, and sunlight-are available in predictable and sufficient quantities.</td>
</tr>
<tr>
<td>9. The available natural resources can be converted to energy using available proven technology.</td>
</tr>
<tr>
<td>10. Contractual rights to use these natural resources (water and biomass) can or have been obtained.</td>
</tr>
<tr>
<td>11. Land needed for the business (manufacturing site or generation site) can or has been secured and access to the site assured.</td>
</tr>
</tbody>
</table>
12. All the permits needed to design, build and operate the business can be obtained in a timely manner.
13. Reasonable estimates have been made of all revenue, capital and operating costs, including contingency allowances and taxes.
14. Revenues are sufficient to pay operating costs, repay loans and provide adequate returns to investors.
15. There is local or international interest in providing loans and investment capital.

When land, energy resource, technology, team, customers and permits are available and when putting these ingredients together makes financial, social and environmental sense, then a business is feasible.

The purpose of this chapter was to take the facts gathered in Chapter 2 and your business ideas and to then demonstrate that they are appropriate and feasible. It should now be clear whether you can sell your product for a competitive price and sell a sufficient quantity to be profitable. The next step is to continue putting all of the information together in a coherent, organized fashion that can be shared with lenders, investors and partners.

The final step in the feasibility study is to present the information in a Business Proposal. This will form the backbone of your formal Business Plan, to be completed in Chapter 4.

The Business Proposal should be organized as follows:

a. Cover and Table of Contents
b. Business Description-take from Chapter 2, review and improve if necessary.
c. Opportunity-take from Chapter 2, but explain why the customers outlined in your Business Plan will be willing and able to purchase your product or service.
d. Marketing-what is the price of your product or service and how did you arrive at this figure, what is your proposed distribution process and how will you market your product or service.
e. Competition-state who are your competitors, what they do and how you will compete against them.
f. Operations-present the organizational structure of your business and say what each of its departments does.
g. Technology-describe the technology and energy resource including the process, appropriateness and track record.
h. Finance-detail the funds required to start and run the business and provide an Income Statement and Pro-forma Income Statement.

CONGRATULATIONS!
YOU HAVE COMPLETED A BUSINESS PROPOSAL
Chapter 4: Business Plan

Introduction
Lender and Investor Points of View
Financial Planning
Schedule of Activities
Risks and Mitigation Measures
Impacts
Summary of What Has Been Learned
Detailed Outline of an Energy Business Plan

INTRODUCTION

The Business Plan is the fundamental road map for any new business. This chapter presents the remaining topics to be included in your final Business Plan and provides a structure for presenting the material in a coherent form to potential lenders, investors and partners.

To reiterate, a good Business Plan does the following:

- Shows that the proposed business is a serious initiative, undertaken by capable entrepreneurs who understand and have control of the essential elements that will ensure success.
- Increases the chances that an entrepreneur will be able to attract investors, lenders, partners, strategic allies, suppliers and key staff.
- Forces the entrepreneur to collect, in one place, all of the thinking and research that has gone into the development of a proposed business.

LENDER AND INVESTOR POINTS OF VIEWS

It is important to differentiate between lenders and investors.

Lenders (usually bankers) make loans (debt) with the expectation of receiving a very specific set of payments over time. Their requirements are usually well defined in terms of conditions that must be met in advance and over the course of the loan. Lenders do not want to take risks and they do not generally enjoy any benefits of a business being profitable. Lenders want to be repaid and, if the business cannot make that repayment, they want to know that others will make the payment or that assets of equivalent value are available to reimburse them.

Investors make equity investments in businesses. They expect a higher return than lenders and are willing to take more risk, but this should not be confused with being risk-takers. They are equally clear about what they are willing to do or not do. Their interests are in seeing a business succeed and in earning a return on their investment. If they become significant participants in a business, they tend to establish very specific (and stringent) targets to make sure that things are going well. When things are not going well, investors often have the ability to make significant changes in a business, including replacement of the management team.

It may sound as though the interests of lenders and investors are the same: to get paid. Sometimes this is true, especially when things are going well and especially in the early stages of a business. However, very few businesses
go exactly as planned and ‘course corrections’ are needed. Depending on the degree of correction, the interests of lenders and investors may become very different.

Why do Investors Invest? Investors provide equity to a business for a variety of reasons. It is important that entrepreneurs understand the goals and objectives of investors before going too far in discussions. Investors provide equity to:

- Produce income in the form of cash dividends (often in a particular pattern as in the case of an investment fund that has promised returns to its investors over a specific time period).
- Achieve capital growth (with or without specific time constraints; a traditional equity investor-partner is involved over the life of a business whereas a fund investor, as noted above may have a contractual obligation to liquidate its investment in 6, 8 or 10 years).
- Enter a market (and thereby avoid the start-up and market research costs and problems of entering a market alone, preferring instead to join forces with a business already developed).
- Sell a product (especially equipment).
- Form a partnership and thereby grow quickly (similar in appearance but substantively different from making an investment to enter a market).

In contrast, why do lenders make loans? The list of reasons tends to be shorter, but it is equally important, especially in a new field such as renewable energy, to understand the motives of a lender. Taking it for granted that all lenders make loans because that is an important part of their business and a source of profits, there are other reasons to consider. Lenders make loans (provide debt) to:

- Build relationships with clients who will be a source of future business.
- Enter new business areas that can expand their loan portfolio profitably and provide a competitive advantage to the bank.
- Contribute to economic and social growth and thereby stimulate greater lending activity.

It is important to note that many banks simply do not lend for ‘projects’ (bankers separate project finance—which includes loans secured by the infrastructure project itself—from corporate finance-in which the activities and assets of a company guarantee a loan-and many do not lend to groups without substantial experience and assets). Being aware of the interests of banks in advance can save a great deal of time.

What do lenders and investors look for? There are different degrees of emphasis placed on the following factors, but both lenders and investors look for:

- Strong sponsor (experience, credibility, skills, commitment of time and money).
- Solid business fundamentals and assumptions (raw materials, process, outputs).
- Clear competitive advantage and business strategy.
- Risk assumption by others (completion of business both from the standpoint of time and money, insurance for accidents, guarantees of performance of equipment).
- Clear legal and regulatory framework (energy sector, banking and investment sectors, tariffs, taxes, and incentives).
- Country stability (political, economic and disasters, especially climate driven).
- Exit mechanisms (for bankers: repayment backed up by security and guarantees; for investors: sale of assets or shares to third parties, buy-back by business, re-financing, dividends).

**FINANCIAL PLANNING**

In Chapter 3 you took the first step in preparing the Financial Statements to be included in your Business Plan—the Income Statement and Pro-forma Income Statement. Now it is time to prepare the Balance Sheet and Cash Flow Statement, the two remaining elements of your financial analysis.

**Balance Sheet**

The balance sheet is a financial presentation of what your business owns and what it owes at a specific date. It differs from the Income Statement in that it is like a snapshot of your assets and debts at a given point in time, whereas the Income Statement measures the flow of money in and out of your company over a given period.

Anything that your business owns is an Asset and anything your business owes is a Liability. The Balance Sheet traditionally splits a page into two columns, one for Assets and one for Liabilities. Broadly speaking, assets are anything...
that will create future financial benefits for the company.

The company’s assets are presented in order of **liquidity**, which is defined as the ease by which the asset can be converted into cash without a loss in value. For example, cash your company has in the bank would be listed before a building your company owns, because cash is a liquid asset and real estate is not. More generally, assets are divided into three categories:

**Current Assets:** includes any items that can be converted easily into cash over the next 12 months. Examples include cash, inventory, short-term investments and accounts receivable (which is the amount of money you are owned by customers, partners, etc., but that has not yet been paid).

**Non-Current Assets** any items that cannot be easily converted into cash within 12 months. May include land, buildings, equipment, furniture, and vehicles. Non-Current Assets are also referred to as Fixed Assets.

**Long-term Investments:** any commitments the company has made in terms of long-term investments. For example, if you own equity in another company, or if your company has made a loan to another company, that would be listed here as an asset.

**Total Assets:** The total of your company’s Current and Fixed Assets.

Liabilities are promises or commitments by your business to pay some amount at some future date. Similar to the Assets section, the Liabilities section of the Balance Sheet is presented in the order in which the liabilities come due. It includes:

**Current Liabilities:** debts and monetary commitments payable within the next 12 months. This includes accounts payable (money you owe to suppliers and employees), short-term debt, interest and taxes.

**Non-Current Liabilities:** debts and monetary commitments payable over a period longer than 12 months, including taxes.

The Liabilities column also has a section called Owners’ Equity. The Owners’ Equity section keeps track of how much money the founders have contributed to the business, and also keeps track of how much money the company has earned and then put back into the business. Money invested by the founders is called ‘Contributed Capital,’ and money generated by the business and reinvested in the company is called ‘Retained Earnings.’

**Owners’ Equity:** this is the owners’ investment in the company. Break into separate lines if there are multiple owners or shareholders. Also include a line for Retained Earnings if necessary.

It is imperative that your company’s **Total Assets equal your Total Liabilities plus Owners’ Equity.** This is commonly known as the Balance Sheet Equation.
Although it might sound complicated, it’s actually quite simple. For example, if you invest US$1000 in your company, the value for Contributed Capital in the Owners’ Equity section will be US$1000, but, on the Asset side, the value for cash will also be US$1000. Thus the equation holds, and the balance sheet ‘balances’. In another example, if you take out a loan to buy equipment, the Liabilities side will show the value of the loan and the Assets side will show the value of the equipment. Again, the balance sheet balances.

An example of a balance sheet is given below.

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Assets</strong></td>
<td><strong>Current Liabilities</strong></td>
</tr>
<tr>
<td>Cash</td>
<td>Accounts Payable</td>
</tr>
<tr>
<td>Accounts Receivable</td>
<td>Short-term Debt</td>
</tr>
<tr>
<td>Inventory</td>
<td>Interest Payable</td>
</tr>
<tr>
<td>Short-term Investments</td>
<td>Other</td>
</tr>
<tr>
<td>Other</td>
<td>Other</td>
</tr>
<tr>
<td><strong>Total Current Assets</strong></td>
<td><strong>Total Current Liabilities</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Non-Current Assets</strong></td>
<td><strong>Non-Current Liabilities</strong></td>
</tr>
<tr>
<td>Building</td>
<td>Long-term debt</td>
</tr>
<tr>
<td>Equipment</td>
<td>Taxes Payable</td>
</tr>
<tr>
<td>Land</td>
<td>Other</td>
</tr>
<tr>
<td>Long-term Investments</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td><strong>Total Assets (Current + Non Current)</strong></td>
<td><strong>Total Liabilities (Current + Non Current)</strong></td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
<tr>
<td></td>
<td>Contributed Capital</td>
</tr>
<tr>
<td></td>
<td>Retained Earnings</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td><strong>Total Liabilities + Owners’ Equity</strong></td>
</tr>
</tbody>
</table>

**Cash Flow Statement**

You now have all the information needed to prepare a Cash Flow Statement, which is basically designed to explain the change in your company’s cash amount during a given period. In some ways, the Cash Flow Statement is similar to the Income Statement—both measure flows of money over time. But the Cash Flow Statement specifically deals only with cash transactions the company has completed. Money that the company owes but has not yet paid will not appear on the Cash Flow Statement, but will often appear on the Income Statement.

It is recommended that you prepare two Cash Flow Statements. The first should be monthly and should cover a year of operations. A monthly Cash Flow Statement illustrates when you generate revenue and whether or not you can pay your expenses each month. The second Cash Flow Statement should be annual and cover a five-year period or a period long enough to show that assets are used or that loans are paid. An annual Cash Flow Statement shows that you can pay your debts and gives a lender or investor an idea of how your business grows and what return they can expect for their money.

The easiest way to compile your first Cash Flow Statement is to look at your Income Statement and start with your Net Profit (or loss). Then:

Add back Depreciation: For the Income Statement, you deducted Depreciation but it was not a cash expense, so it must be added back to calculate your cash flow.

Add back Debt Payments: Deduct payments on loans because they were cash outlays.

Net Cash Flow: The total of Net Profit plus Depreciation and minus Debt Payments.
Internal Rate of Return: This calculation measures the extent to which investors earn money for their initial investment. The simplest way to calculate this is using Microsoft Excel or other software. The concept is explained in more detail below.

**Example of a Cash Flow Statement:**
*Company Name*
**Statement of Cash Flows**
*From DATE to DATE*

<table>
<thead>
<tr>
<th>Cash Flow</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Profit/Loss (From Income Statement)</td>
<td></td>
</tr>
<tr>
<td>Add back Depreciation Expense (From Income Statement)</td>
<td></td>
</tr>
<tr>
<td>Subtract all Debt Payments</td>
<td></td>
</tr>
<tr>
<td>Net Cash Flow</td>
<td>See below</td>
</tr>
<tr>
<td><strong>Internal Rate of Return</strong></td>
<td><strong>See below</strong></td>
</tr>
</tbody>
</table>

**Internal Rate of Return**

The point of completing a Cash Flow Statement is that it helps you determine your company's Internal Rate of Return (IRR). IRR measures how much financial return you make on your company's investments. IRR is a critical number, because if your company’s IRR is less than the interest rate it pays for loans, clearly the business will not be able to pay its debt. If your IRR is higher than the interest rate you pay on loans, that's very good.

Based on cash flow projections it is relatively easy—with the aid of a financial calculator or spreadsheet software—to determine the business’s IRR. *See Annex E* for a guide.

**Combined with a few pieces of additional information it will be possible to decide whether or not a business is generally sustainable from a financial perspective.**

Once you know the business's IRR, answer the following questions:

* What is the current interest rate charged for loans in the local market?
* What is the current or projected interest rate for loans from outside the current market?
* What are investors demanding as a rate of return to make their funds available to business as equity?

If a business’s IRR is 16 per cent and the cost of borrowing money in the local market is 20 per cent then there is little reason to borrow in the local market unless a large portion of the business capital will come from the entrepreneur or others who are willing to receive a low rate of return.

There are cases where lower-interest loans are available. Generally, concessionary finance programmes by governments or institutions offer loans at 'below-market' interest rates. Also, companies sometimes offer low-interest financing on the sale of their equipment or services. Such financing can serve to lower your company's ‘hurdle rate,’ which is the IRR a business needs to meet to be feasible.

When is a business not feasible from a financial perspective?

* If a business has a negative IRR.
* If a business's IRR is too low for even the entrepreneur to invest his or her available cash.

* Assuming the entrepreneur does not have all the capital required, if the business IRR is too low to attract other equity investors to supply cash.

You should read *Annex E-Basic Concepts of Financial Analysis* for a review of the terminology and methods presented here.
The Hardest Task
This is the stage of analysis where many well-intentioned entrepreneurs refuse to see the reality staring at them from the numbers they have prepared. If your IRR is too low, the business idea, as it stands, is probably not viable. There is hope in ‘financial engineering’, higher revenues than estimated, lower costs, eliminated contingencies, subsidy programmes, lower loan costs, value increases and so on. It is OK (and normal) to refine estimates, but there is a point at which only the entrepreneur can determine if he or she is deluding himself or herself. It is easy to change assumptions and improve the IRR. There is an old saying that statistics do not lie; only statisticians do. Notwithstanding the ability to manipulate data-and with the help of spreadsheets it is as easy as ‘point and click’-the entrepreneur needs to decide if refining the estimates and financial plan really makes sense.

At this point in the business analysis there should be a great deal of room for error. If the business is just barely financially feasible, if the business absolutely depends on convincing others to make loans and equity investments, if the business estimates have been gone over and over mostly to make the result better, if the entrepreneur has sought the opinion of others and it is still a very close call, then continuing with the business is probably a bad use of the most valuable commodity an entrepreneur has: his or her time.

SCHEDULE OF ACTIVITIES

If you’ve made it this far, the rest of the Business Plan is easy. Now it’s time to put together a schedule, or timeline, of when you will implement the business strategies. The key milestones, such as hiring employees, receiving approvals for permits, acquiring stock, expansion activities and reaching profitability should be included here. Again, be thorough but keep it clear and simple.

A schedule helps you and your audience to understand how the business is planning to accomplish the goals and deliverables presented throughout the document. It shows that you have thought through the implementation, that you are organized and that you understand how to launch operations. A simple approach is to divide the schedule into the following categories: Planning, Pre-operations/Construction and Operations.

Start a draft timeline using the following table. Include a description of each activity under each category. Estimate a date when the activity will be pursued.

<table>
<thead>
<tr>
<th>Category</th>
<th>Activity</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Operations/Construction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expansion</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

RISKS AND MITIGATION MEASURES

Every business, start-up or expansion has risks. This section of the Business Plan should present the risks and appropriate mitigation measures. A mitigation measure is a strategy for how your business will address a risk. Not every risk can be avoided and it is important to demonstrate that you are aware of this and have thought of how you will attempt to protect your business. There is no benefit in hiding risks, as lenders and investors will do their own research, called ‘due diligence’, and uncover them anyway. By not including them the investor may think the risks have not been considered, which may make the entrepreneur seem less knowledgeable. Types of risks facing an energy business are given below. For a more detailed analysis, see Annex F-Final Risk Checklist.
IMPACTS

For energy businesses, this section of the Business Plan should highlight the positive impacts of the business. Many lenders and investors are looking to invest in businesses that are very profitable. Others, however, are looking for profitable businesses that benefit the environment or community. For example, delivering energy services to households which lack reliable access to such services may improve their quality of life. Improved cook stoves are more efficient than traditional metal stoves and use less charcoal or wood, thus helping to conserving these non-renewable resources. There are lenders or investors that will support businesses that have positive impacts, so it is advisable to highlight those impacts in your Business Plan. They can be competitive advantages for your company as you seek funding.

The impacts of the business should be analysed from a social, environmental and economic perspective. Social impacts affect the customers or people of a community or region. Examples can be income generation, reduced time fetching water or wood, access to education or reading, etc. Economic impacts are a result of an increase in income to the customers or community. An example is selling a lantern or solar home system to shop owners so that they can stay open in the evening and thus increase their sales. Finally, positive environmental impacts are those that preserve the environment. All renewable energy businesses have environmental benefits because the technology used is environmentally-friendly relative to traditional energy operations. Projects and services that offset or reduce dependence on wood or charcoal preserve forests and combat desertification, providing an important positive environmental impact.

It is not necessary for every business to have each of these three impacts. However, any positive social, environmental or economic impacts should be clearly expressed in the Business Plan as they are an asset.

SUMMARY OF WHAT HAS BEEN LEARNED

The aim of this Toolkit has been to break the Business Plan into building blocks to make the task of writing it less daunting. This chapter has introduced the final necessary elements of the Business Plan and all sections of the Business Plan and their contents have been covered. It is now time to compile all your written material into the Business Plan. The final step is to review the outline of the Business Plan format below, and compile your information into a descriptive, organized document that can be presented to possible lenders, investors or partners. Annexes G, H, I and J provide helpful examples and information to assistant you in this final stage.
A good Business Plan is built on solid information. That information can be organized in many different ways but the essential ingredients remain the same. These are listed and then described in more detail below. While certain businesses may require additional content, most business information can fit within this structure.

- COVER and TABLE OF CONTENTS
- EXECUTIVE SUMMARY
- BUSINESS DESCRIPTION
- OPPORTUNITY
- MARKETING
- COMPETITION
- OPERATIONS
- TECHNOLOGY
- FINANCE
- SCHEDULE
- RISKS
- IMPACTS
- CLOSING, which describes the business’s proposed capitalization plan and what is being requested from lenders and investors
- A set of ATTACHMENTS, which provide details concerning some of the points made in the Business Plan

Cover and Table of Contents
- Business Title, Location, Technology, Size
- Contact Information
- Contents by Section and Page Number
- Disclaimer and Confidentiality Statement

Executive Summary
This tells the business’s story in one page, providing a brief introduction of what's to come. It should present the most compelling aspects of your company and make potential investors want to learn more.

Section 1-Business Description
In this section of the Business Plan the product or service to be sold is described as well as the location. The goals for starting the business are presented. Finally, the business structure—retail, wholesale, manufacturing, project development—should be explained, as well as the ownership structure. How are profits to be distributed? Any permits or licenses that have or need to be acquired should also be presented. The section need not be long or detailed; concentrate rather on making it clear and concise. The Business Description completed in the Feasibility Analysis can be used in the Business Plan.

- Business location and Setting
- Product or service to be offered
- Goals and Objectives
- Business legal and ownership structure
- Permits and licenses

Section 2-Opportunity
Describe the customers that will buy your product or service and explain why they will do so. The goal of this section is to prove that there are sufficient customers that are willing and able to buy your product.

Section 3-Marketing
This section gives a detailed presentation of the strategy for selling the product or service. It should have been completed in Chapter 3 and presented in the Feasibility Analysis. Include the following:

- Pricing Strategy
- Distribution Plan
- Advertising and Promotion

Section 4-Competition
This section provides the opportunity to explain why there is and will continue to be demand for your product or ser-
vice in light of the competitors. It is also extremely important for you to understand your competition and it helps you learn about the market. Use the section created for the Feasibility Analysis, including the following:

- Names and description of competitors
- Strengths and weaknesses
- Competitive advantage

**Section 5 - Operations**
This section describes how the business will operate. It describes your organizational structure and then how each department will operate. Again use the completed section from the Feasibility Analysis.

- Organization Structure
- Operations

**Section 6 - Technology**
This section describes in detail the technology and energy resource to be used. Explain the process, appropriateness and track record. Use section completed in Feasibility Analysis.

**Section 7 - Finance**
In this section all of the financial features of the business are presented. The most important financial assumptions of the business are shown, the proposed financial plan is described and an analysis is made of the impact of various changes to the basic financial assumptions.

- Worksheet of funds required
- Income Statement
- Balance Sheet
- Cash Flow Statement

**Section 8 - Schedule**
Present a schedule and timeline of major milestones to be reached.

**Section 9 - Risk Factors**
This section describes the risks that the business faces and how the business plans to deal with these risks. Include the risks with possible mitigation measures.

**Section 10 - Impacts**
Social, economic and environmental benefits of the business’s implementation, and any other special features of the business, are described in this section.

- Local employment
- Economic activity stimulated
- Improvements to physical assets
- Social benefits
- Protection of environmental quality
- Pollution avoidance or elimination
- Greenhouse gas (carbon) benefits

**Closing**
The Closing section of the Business Plan summarizes the business’s proposed capitalization plan and what is being requested from lenders and investors.

**Attachments**
- Complete financial statements
- Summary of technical and market studies
- Copies of authorization letters and permit approvals
- Detailed background and financial information about the sponsor

**Annex G** includes sample Business Plans for a:
• Grid-connected hydroelectric business;
• Solar enterprise selling both product and services to rural communities; and,
• Company providing income generating equipment dependent on energy supplies and efficiency.

You are done with the Business plan.

Congratulations and Good Luck!