

Chapter 2 Fact-finding

Introduction:

Turning a business idea into a company requires that the following questions be addressed:

- How is my company's product/service different from that of competitors?
- What is my company's competitive advantage? In other words, what characteristics give my company a good chance for success in a competitive market?
- How will my product be marketed and distributed most successfully?
- Who will supply the product or parts?
- What is the market and who are the target customers?
- How much money will be required to start and operate the business?
- How will the money be used?
- How will the business make money?
- Why will it succeed?

At this point, the answers to all of these questions are not known with certainty – they are **assumptions**. That is appropriate for this stage in a company's development. As you go forward with the business plan and with the company itself, the focus will be on **testing these assumptions**. Every successful test should be considered a milestone in the development of your company. Testing assumptions is how you determine that your idea is truly viable.

This chapter will elaborate on the Business Description written in Chapter One and add the next section of the business plan – the Opportunity. This chapter also will offer ways for you to gain insight into your own motivations for starting a company, and will set reasonable expectations you should have of your new business.

SELF-EVALUATION

A. *Personal Objectives*

Why are you starting this business? Is it to produce a regular income, to create a valuable development you can sell, to build a company that will grow and take on many projects, or to gain experience?

It is important to know why you want to start a business, since different objectives imply different business strategies or altogether different types of businesses. For example, building a rural energy services company supplying a product or service to many households is a way to create regular income. That type of business can be grown over time. However, if your business objective is to develop an energy project and then sell it for a one-time payment, a hydroelectric project supplying power to the national grid would be a better idea.

Think about your goals, and then review the following list of typical business objectives. As you develop the business idea, consider the basic guidelines provided next to each objective and how you can integrate those strategies into your plan.

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

**Exercise 2-1
Personal Objectives**

<u>Objective</u>	<u>Project Planning Impact</u>
Create a valuable business over time by growing it slowly	Use all available income to reduce debt and maintain the project's operating condition. Look for loans not investment partners. Be careful about the financial health of the company. Place emphasis on a smaller, easier to complete first project. Reduce pay out to owners and use cash flow to attract and reward key members of the team and for working capital to grow business.
Produce a regular income	Include a salary line in operating expenses. Keep debt to a minimum and thereby increase cash flow available for regular dividends to owners. Requires more equity and less debt.
Earn a one-time fee or lump-sum payment	Increase the value of the project with minimum cash outlays. Line up buyers early. Evaluate options for the best time to sell.

Improve the well-being of a particular community	Incorporate local training and capacity building into project cost. Include "buy-in" options to transfer responsibilities to local residents. Incorporate social benefits into businesses (ex: community water pump or solar refrigerator for community clinic).
Gain experience	Partner with an experienced firm, sacrificing a larger ownership stake for the chance to gain experience quickly and move on independently.
Be involved day-to-day	Include a position within the team, provided your qualifications match needs. If appropriate and needed, include a salary line in operating expenses.
Be involved only part-time	Include each required position and needed salary within the team. Recruit a qualified general manager. Organize reporting relationships but place emphasis on plan and policy approval combined with reporting systems, all of which must be funded. Consider owner-engineer or project manager to protect owner's interests.

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

B. What Are Your Strengths and Weaknesses?

Business development and implementation are tasks for entrepreneurial personalities. There are many variables in business development and implementation; an ill-suited personality can spell doom for a solid idea and lead to great frustration. Entrepreneurs need to take stock of their personality and their skill sets.

What are the characteristics that define an entrepreneur? This is a highly speculative and subjective topic – and certainly not a test – but some patterns seem to emerge:

- ❑ Entrepreneurs are usually given high marks for qualities involving high energy level and determination; independence and resourcefulness; originality, curiosity and flexibility.
- ❑ Other attributes, which are given lower but still important marks, are self-confidence and courageousness. Entrepreneurs tend to be self-demanding, self-starting and thorough.

Can a person lacking entrepreneurial characteristics be successful at developing an energy business? Of course, but the choice of business type combined with the choice of partners can be important. Some businesses, like a central supply business selling to the grid through a power purchase arrangement, are more straightforward than others, like, for example, installing household solar systems in hundreds of locations. Also, certain entrepreneurial shortcomings (a dislike of negotiation, a lack of long-term experience with the technology) can be overcome by selecting a certain type of business partner or hiring a certain kind of advisor. The crucial step is for the entrepreneur to understand his or her weaknesses and use the choice of project and team to balance the equation.

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

Now it is time to evaluate your personal strengths and weaknesses. This will help you to define the gaps that must be filled by your business team.

EXERCISE 2-2 SELF-EVALUATION

Answer the following questions, and be honest:

- What are my strengths and skills? (Examples include hard worker, good people skills, and technical capacity)

- What financial resources can I bring to a new business?

- Why do I think this will work for me?

- What is going to be the hardest part for me? (For example, writing a business plan, finding a location, accessing finance, or finding an honest partner)

- Why would these activities be hard for me?

- Can I overcome these obstacles? How?

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

C. **What Skills Will Your Business Require?**

Before you can start a business, certain skill sets must be acquired. All successful businesses have included people with the skills to do the following things well. Even if the skill sets do not exist at this stage, it is important to know what skills will be needed on the team to establish your business successfully.

- ❑ **Marketing and Sales:** Identify customers for the product or services of the business and develop a pricing, advertising and promotion strategy to attract them. A person needs to determine and make use of the business' competitive advantage;
- ❑ **Operation:** Operate and maintain the business in a cost-effective manner;
- ❑ **Distribution:** Select the most efficient and effective method of delivering your product or service to customers;
- ❑ **Financial Planning:** Estimate the financial requirements of a business and prepare a mix of financing alternatives, including financial analyses such as cash flows, income statements and balance sheets;
- ❑ **Management:** Oversee and coordinate all of the participants in the business, with respect to the company's mission, performance, schedule and budget;
- ❑ **Permitting, Legal and Regulatory Matters:** Understand and comply with the pertinent rules and regulations governing your business;
- ❑ **Negotiations:** Reach agreements with all of the parties with whom the business interacts—contractors, customers, government authorities, employees;

Bank and Investor Relationships: Raise debt and equity and build business relationships that result in cost effective capital sources for the project;

- ❑ **Management Reporting (Monitoring and Evaluation):** Maintain a system of performance measures and Evaluate performance against original plans and benchmarks; confer with lenders, investors and stakeholders regarding performance against this plan; and
- ❑ **Pre-operational** (these requirements are for grid-connected projects only)
 - ❑ **Design:** Set forth the requirements of a physical project or product and correlate available resources to achieve desired performance.
 - ❑ **Engineering:** Prepare the detailed civil, mechanical, structural and electrical specifications of a product or project and supervise its physical implementation in a way that achieves desired performance at reasonable cost.
 - ❑ **Procurement:** Buy equipment, products and services needed to implement a project in a cost-effective manner.
 - ❑ **Construction:** Prepare the site, install equipment and prepare for operations in accordance with the project's specifications, budget and schedule.

Whether proposing to produce electricity and sell to a national grid, or to start a small business providing energy services to individual households and businesses, **the quality of the business team** will most likely be *THE* critical piece of the business on which partners, lenders and investors will base their decisions. For some investors it will be absolutely essential that the team include someone with very direct experience – successful experience – in a closely related activity. For others it will be important that the team have substantial money at risk in the business from the very beginning. For others, these requirements may not be as crucial, but these will tend to be early stage lenders and investors who will provide small amounts of money on the basis of “one step at a time”. The message here is clear: You must assemble the best possible team to plan and implement the best possible business. As lenders and

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

investors are reviewing your business plan they will be evaluating the business team by looking for answers to the following types of questions. As an exercise go through the questions and answer them for your business idea.

Does Your Business Team Have All the Skills?

Technical - Are there specific engineering or mechanical challenges that require specific technical skills on the team on a permanent basis? What are these challenges and what are these skills? Can these needs be met through a contract relationship or must one of the core team be an expert?

Operation: How complicated is the day-to-day management? Are there many employees and partners to oversee?

Financial - What are the financial aspects of the business? How will the ongoing financial requirements be met over the life of the business? Can a chief financial officer be hired later or should the team include a financial expert from the outset? What are the accounting practices?

Negotiations and Sales - Are there ongoing business relationships, with suppliers and customers that require updating terms and conditions regularly? Will the business always be seeking new customers and relationships or will this be a one-time event?

Legal - Will the regulations and contractual relationships governing the business be fixed or will they change over time, requiring regular attention?

Political - Will regulations and policies affecting the performance be evolving and require attention and lobbying?

Funding – What is the minimum amount of funding needed to complete work underway and make the business attractive to lenders and investors? How much has the team spent already (time and money) and on what? What will be realistically needed to complete all of the tasks identified? Even then, how much cash equity is needed to assure that the team retains a substantial portion of ownership and control? How much cash equity does the team have? Is that enough to be credible when negotiating with lenders and investors? Is there an early stage financial source available to supply these funds? What will the team be giving up and gaining by taking a financial partner?

Entrepreneur Skill, Experience and Resources - Of the qualifications needed for the team, what skills does the team possess? Are there partners who round out this skill set? Are there advisors who can be hired to assure that all the skills needed are represented? Does the team have an experience base that will “impress” lenders and investors? If not, is there an addition to the team that could solve this problem? Is it possible to contract with an experienced party as part of the team? If not, how does the entrepreneur propose to convince lenders and investors that all the skills and experience needed are at hand? Does the team have the time and money needed to complete the work identified?

GATHERING INFORMATION = FACT-FINDING

The goal of your business plan is to convince the reader that your business objectives and strategy will succeed. In order to do this it is necessary to “get smart” about your potential customers and existing competition by acquiring as much accurate and specific information about them as possible. The type of customer and market assessment you will do depends on the type of business that you’re pursuing. Research is different for developing a small power station selling to a utility compared with a company selling solar dried food to retailers. Collecting this information on customers and competition requires physically going into the area you wish to operate and collecting the data. Additional information can be found in libraries or by telephone.

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

<p>Customer Data Collection Methods:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Phone Interviews <input type="checkbox"/> Face-to-Face <input type="checkbox"/> Mail Surveys <input type="checkbox"/> Large Group Meetings <input type="checkbox"/> Desk Studies - Information gathering sources include existing Studies, Libraries, Trade Magazines)
<p>Competition Data Collection Methods:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Store Visits <input type="checkbox"/> Test Goods <input type="checkbox"/> Competitor Reports <input type="checkbox"/> Desk Studies - Information gathering sources include the World Wide Web, Trade Magazines, Libraries, Chambers of Commerce, Boards of Trade
<p>Sources of Market and Political Information:</p> <ul style="list-style-type: none"> <input type="checkbox"/> The Economist – magazine or Internet <input type="checkbox"/> Library <input type="checkbox"/> World Wide Web <input type="checkbox"/> Financial magazines or trade reports

Successfully collecting market data is difficult and time consuming. Research shows that with mail surveys for instance, only 5% of the people respond. Traveling through villages asking questions can also take a long time and often the validity of the responses is questionable. However, it is still essential that adequate market research have been completed to convince a lender, investor or partner that the business concept has been analyzed and that you can defend why this business will work. There are several tactics to collecting information. For instance, a great deal of information can be gathered by visiting or telephoning competitors and asking them about the product or services they offer, what they charge, their guarantees, etc.

A successful way of organizing customer information is by developing a questionnaire. A questionnaire allows you to ask a sample of your potential customers the same questions in order to draw reasonable conclusions about the customers' demand for your product or service. It is likely that a lender or investor will ask you how you determined that your customers would be willing and able to purchase your product. Don't forget to site resources used in fact-finding. A sample questionnaire is included as **Annex C** of the toolkit.

The types of information that must be gathered can be divided into four categories:

1. **Market factors and trends** that are affecting the proposed area of operations or product. Consider macro-economic trends, energy plans and trends, government policy, and legal and regulatory issues. Summarize the major trends in the marketplace.
2. **Customer:** Who will you sell your product or service to and why will they purchase it? Compile demographic statistics such as how they **will and can** pay for your product or service ("ability and willingness to pay"), where they live, source and amount of income, age etc. As always, consider the direct and indirect benefits the customers will get from your product or service. Why will the customer be better off buying your products?
3. Estimate the total **size** of the target market for your product or service both in terms of numbers of customers and gross sales and units of product or service sold (from competitors if necessary).

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

4. **Competition:** Compare their product or service to what you are proposing in terms of quality, price, service, warranties, image, etc. Be sure to describe your direct competition, but don't forget your indirect competition. Your indirect competitors are the businesses that sell a product that is not the same as yours but could be used as an alternative by your customer. For example, if you want to sell solar lanterns for lighting to households near your village and they are currently using kerosene, an analysis of the kerosene market must be completed. Include estimates of their market share (do all customers buy from them, why or why not?) and your sense of their financial health (are they profitable or about to go out of business?).

Now, each of these categories is discussed in more detail to assist you in gathering your own data.

MARKET FACTORS

The proposed business must be aware of, and take into account, market factors in the target area and in the region or country

A business' likelihood for success is determined not just by factors under the business' control. It is important that general market factors – economic, commercial, political, social, and environmental – instill confidence in the stakeholders needed to run a business (lenders, investors, suppliers, contractors, insurers, etc.). The most important of the general market factors that need to be favorable to an investor or lender are the following:

- ❑ **Energy policy** – this is the government or international communities' overall interest and activities related to energy. Are there plans to extend the electric utility grid into your area of operations? When? By whom? How will they fund this activity? Are there plans to undertake or develop other non-grid connected energy projects in the operations area? Are there international or government supported programs underway? What impact will these have on the business's ability to sell its product? Are there plans to change the current energy sale and purchase policy (perhaps switching from a PPA arrangement to a wholesale market)? When is this to take place? What is the long-term outlook for the energy industry or proposed product/service?
- ❑ **Macro-economic** - inflation, general economic stability and growth, currency stability, and employment growth. While these conditions need not be perfect the general trend of the economy (improving versus declining) and the general perception of the regional and world economic community is important to assess. Sometimes – and this is very frustrating for an entrepreneur to hear – it is just better to put an idea aside and wait until conditions improve.
- ❑ **Commercial** - are the rules for doing business, establishing a company, making investments, recovering investments and importing goods and services clear? What are the appropriate banking, investing and trading laws and regulations? Is there a history of businesses, such as the proposed one, being successfully implemented from a commercial perspective? Are in-country banks and investors involved in such businesses? Is there a “commercial discipline” based on the general principles of socially responsible entrepreneurship and return on investment (versus top-down planning and state implementation)?
- ❑ **Politics** - this category includes the broadest possible definition of politics. Are laws and regulations transparent and enforced in a reasonable manner? Is power transferred between political parties or factions in an orderly and predictable manner? Are policies transferred from one political appointee to another or does every appointment of a minister or election mean that a business is back to the beginning of the development process? Is corruption – payoffs, favors and conflicts of interest -- part of the process of starting a business? Is there political support for the proposed business? Is it needed and will it be helpful (sometimes it is not)? What evidence exists of this political support, if needed and helpful, at the national or local level?
- ❑ **Social** - Will the target area benefit from the proposed business? What are the needs in the area? Is the business compatible with local conditions and plans? Is there social support for the business or product/service? How is this support demonstrated?

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

- ❑ **Environmental** – There may be requirements for environmental impact assessments (for grid connected projects), otherwise this information is important to the types of investors that are interested in energy projects and not to the viability of the project. In other words, this can act as a positive characteristic of the business and should be included in the 'Impacts' section of the final Business Plan. What is the environmental impact of your product/service? Does the product/service have a positive environmental impact? Is it displacing wood burning, kerosene, and/or candles? Is carbon use being mitigated?
- ❑ **General** – What is the trend in your industry? Is demand increasing or decreasing? What is the total size of your market?

Every business has its own characteristics. It is important to determine, at the earliest possible point, the complete list of permits required and conditions to be met to obtain approvals. It is not necessary to acquire them at this stage, but if they are necessary and not available it may be the end of the business idea. The following questions should be addressed to the appropriate government agency:

- ❑ Must the business be registered? With what entity or entities? Must share capital be at a certain level?
- ❑ What are the requirements to obtain environmental permits and approvals? Must the consent of local communities and neighbours be obtained? Must a formal environmental impact assessment be prepared? Is there a public hearing or consultation process?
- ❑ What permits and approvals are needed to use natural resources, undertake construction, operate a business, interconnect with the electric grid or build a local grid and sell energy (e.g.: generation and training permits or if a spot market permission from regulatory entity)?
- ❑ What licenses, permits or authorizations are needed to import equipment? What tariffs apply?
- ❑ Are there health and safety procedures to be followed? Must these be documented?
- ❑ Must the owners and managers register and report activities concerning their participation in the business?
- ❑ Must permission or a concession be obtained to provide energy services “off the grid?”
- ❑ Has the opinion of an independent qualified advisor been obtained to document that the list of permits and their requirements is complete?
- ❑ What, if any, restrictions exist to securing international investors? Can dividends be repatriated to investors?

EXERCISE 2-3
General Market Conditions

- ❑ Existing and Proposed Energy Plans and Projects
- ❑ Macroeconomic Conditions
- ❑ National, Local Laws and Permits
- ❑ Materials Used

Existing and Proposed Energy Plans and Projects

Type of Clean Energy (ex. solar, energy efficiency, biomass)	Description (current and future uses and development plans)
<i>Ex.: Solar</i>	<i>Example: International Funded solar energy project to begin January 2003 that will donate half of the cost of equipment to the customer.</i>

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

Type of traditional energy (ex. petrol, gas, diesel,	
National grid (if no, specify nearest location)	
Other (please specify)	

Macroeconomic Data – see Annex D for country-specific macro-economic information.

Country Size	
Population	
Per Capita GDP (in US\$)	
Per Capita Income (in US\$)	
Exchange Rate / \$US.	
Inflation (Annual)	
Interest Rates: Local Currency Deposits	
What has been the performance of the national currency in the past five years?	
What has been the performance of inflation in the past five years?	
Unemployment (urban data)	
Total Installed Grid Capacity (MW)	
Percent of Population Served by the Grid	
Per Capita Energy Consumption	
Energy Related Carbon Emissions, if applicable (mt)	
Local regulations for start-up energy companies (briefly describe legal norms and standards that apply to the energy sector, including taxes and incentives –such as subsidies – to small and medium enterprises):	

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

Laws, Regulations and Required Permits

Permits Needed to Start a Business:

Title	Issuer	Process and Requirements	Comments

Permits or Permissions Needed to Study a Project or Undertake a Feasibility Study:

Title	Issuer	Process and Requirements	Comments

Permits needed to obtain a Concession or Right to Use Natural Resources:

Title	Issuer	Process and Requirements	Comments

Permits Needed to Construct:

Title	Issuer	Process and Requirements	Comments

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

Permits Needed to Assure Environmental Compliance:

Title	Issuer	Process and Requirements	Comments

Permits Needed to Produce, Sell or Distribute Energy:

Title	Issuer	Process and Requirements	Comments

Permits Needed to Operate a Project:

Title	Issuer	Process and Requirements	Comments

Other Permits:

Title	Issuer	Process and Requirements	Comments

Cite Materials Used

Region name researched:	
Author, source and date of energy studies:	

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

Author, source and date of economic studies:	
Author, source and date of social studies:	

CUSTOMERS

For energy businesses there are basically two types of customers: businesses selling products or services to *multiple customers* (households and other businesses) and businesses serving a *single or a small number of customers* (national utility or a large industrial company). There are far more types of energy businesses with multiple customers. The following is a list by product or service showing more examples of businesses that serve multiple customers:

- Solar home systems for individual households,
- Solar hot water systems for individual households,
- Energy efficient cook stoves for households or to be sold wholesale,
- Energy efficiency lighting products for sale to individuals, industries or wholesale,
- Small wind turbines for a household or community,
- Community water pumping or mini-hydro,
- Alternative cooking briquettes for sale to individuals or wholesale,
- Food products made from solar drying, cooking or freezer technologies for sale to individuals or wholesale, and
- Products produced from technologies that use alternative energy as the input (such as nuts, oils, etc) for sale to individuals or wholesale.

Businesses Selling to Multiple Customers:

The rationale is that for these types of businesses the product or service will be sold directly to a household or wholesale to another business such as a supermarket or export market. In all of these cases it is imperative to conduct market research that will prove that a market exists for your product (now as well as in the future) and you are capable of carving out a niche for your business. As referenced previously, **Annex C** is a questionnaire that can be used for conducting research for multiple customers in an effective manner and should be completed by all prospective entrepreneurs.

The primary goal of customer research is to collect data to prove to your audience that customers are willing and able to pay for your product or service. One way to do this is to find out what they are doing now to meet their needs and how much they pay for it. Then ask yourself, how will their life change if your business fulfills this need? Is it more or less expensive than what they previously used? Is it as reliable, available, and accepted? Would my new service or product require a major behavior change for the customers? If so, what systems do I have in place to make that change easier for them? Will my product or service be technologically complicated for the end-user?

The following types of questions will help you to address these issues:

Customer Questions:

Types of customer targeted (individual, household, local government or community that may sell to households or individuals, industry)	
Total estimated # of customers to be interviewed (ex: 100 households, 5 communities, 20 industries):	

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

What is the average customer's source of income?	
Does income generation fluctuate through the year?	
What do customers spend most of their income on?	
How much do they spend on energy needs?	
How do they fulfill their energy needs?	
How do they fulfill their water needs?	
How are the customers currently filling the need your business hopes to fill?	
How much does it cost?	
Are they satisfied with the other source?	
How much are they willing to pay for your product or service?	
What sort of behavior change, if any, would be required for customers to use your product?	
How will your business ease the behavior change for them?	

Business Selling to Single Customer

The second category is a business serving a single (or a few) customer usually under a contract for service. Examples of such customers are electricity utility companies and large industrial firms with a significant demand. These types of businesses generally do not require significant research of potential customers because the single most important part of determining whether the business idea will work or not is finding and securing the buyer, rather it is assessing demand. The most common type of agreement between businesses and these types of customers is a power purchase agreement, referred to as a PPA. PPAs are contracts through which the buyer (usually the local utility or industrial facility) formally commits to purchase a specific amount of electricity at an agreed to rate for a stated period of time.

Most PPA agreements pay for the purchase of capacity and energy separately. "Capacity" is the assured supply of the project (measured in kilowatts or megawatts) being sold to the utility or industrial firm. "Energy" is the actual output of the project, measured in kilowatt-hours or megawatt-hours actually produced and delivered. As electric utility companies become more competitive through the elimination of monopolies, long-term power purchase agreements are being replaced with Wholesale Market Mechanisms, which buy the energy output from projects based on its price when compared to other energy projects supplying the same electricity system (or grid) at the same time. Regardless of the size of the utility or industrial customer, it must be determined that this customer can and will pay for the capacity and energy provided. Many utility companies are technically bankrupt and depend on government subsidies to meet their obligations. These companies (and others) tend to be very poor payers. Therefore, it is essential to determine that the buyer of energy and capacity can and will pay for the service provided over the life of the contract. The basic message here is this: Just because the

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

buyer is a large company do not assume that it will be a good payer. Some of the things to check are as follows.

- What is the potential client's core business?
- Is information about them public or private?
- What is the buyer's net worth (the excess of its assets over their liabilities)?
- How much money does it owe (compared to its gross revenues and its total assets) and how has this changed in the last 5 years?
- What is their revenue and profit performance over the last few years?
- How well is their core business doing?
- What is their track record in borrowing and paying back loans?
- How much has it been able to borrow in the last five years? In the case of a utility owned by the government has this debt been guaranteed by the government or is the credit of the utility itself good enough?
- In order to make a reliable assessment of your buyer's ability to pay, you may contact local banks or the local World Bank or IFC office. Local offices of well-respected international accounting firms or bilateral Chambers of Commerce are also good sources of information.

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

- If you are dealing with a private company that does not publish information, ask the company to supply information and ask them to let you speak with their bank.

- What is their credit rating?

- Have they been involved in any similar projects? What do these other projects have to say about their performance?

- How secure might a potential contract with these large customers be?

- What external factors may negatively affect the company's or utilities profitability?

COMPETITION

Whether proposing a rural energy business supplying electricity to a house, business, community or national electric grid, or starting a business selling fruit dried by the sun a smart and easy way to conduct research is to find one or two similar businesses that have received financing or are operational and collecting revenues and study them. **Investors are not pioneers if they can avoid it.** And most choose to avoid it. Lenders are almost never pioneers. So a good place to begin in the business development process is to answer the question, "Have others done this before?"

This is easiest, of course, if one or two businesses similar to what you are proposing *have* been started. You need to do some research and document what happened and when to your competitor. While everyone wants to think their business is unique, uniqueness is definitely not an asset when trying to convince others to make loans or an investment.

If nothing like the proposed business has been built – and all too often this is the case – then the entrepreneur needs to build as many arguments as possible to reduce the perception of "pioneering risk" (when an investor funds a business for the first time).

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

4. What have you learned from their operations? from their advertising?
5. What are their strengths and weaknesses?
6. How does their product or service differ from yours?
7. From where/whom do they source their product?
8. What is the sales price of their product or service?
9. How far is the nearest competitor from where you hope to sell your product or service?

BUSINESS RELATIONSHIPS

In Section 1 of this chapter we discussed the types of skills that a business needs to succeed. These skills can be included either through hiring someone as an employee or through a contractor or supplier relationship. Remember some relationships can be solidified later but it is not advised to wait to find suppliers and contractors.

Good suppliers and contractors have choices as to the markets they serve. With both large and small businesses the availability and reliability of suppliers is crucial. Whether a company needs to buy 50 PV panels a month, 20 water pumps a year, 300 batteries every six months, ceramic liners for gasifiers and stoves, or a 25 MW hydroelectric turbine generator set, sources of supply are crucial. A components inventory and supplier network needs to be established as soon as practical and back-up sources identified. The inability to get replacement or spare parts on a timely basis can destroy a company trying to establish itself in the marketplace.

Suppliers will provide quotes for credible business proposals, thus getting as much fact-finding and feasibility analysis work documented as possible, and presenting it well, will get the attention of suppliers and contractors. Be cautious not to commit to purchasing anything until the financing is secured. The exercise at the end of this section suggests calling several possible suppliers and determining their availability, terms, costs, etc.

For businesses with a single client, lenders and investors will want to avoid "Completion Risk." That is, once a construction has commenced, the lenders and investors want assurances that the project will be

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

completed and will commence operation. Contracts known as EPC, EPC-lump sum, Fixed Price or Turnkey are attractive to lenders and investors. “EPC” stands for engineering, procurement and construction, which is a type of contractor that pulls together all the tasks needed to design and build a project according to a set, pre-quoted, price to deliver the project fully operational. In these cases, the completion risk belongs to the EPC contractor and is secured by something called a Performance Bond. The EPC Contractor, in turn, contracts with sub-contractors and co-ordinates all the tasks involved. As an alternative to this, the business team itself can act as the prime contractor (the role of the EPC), hiring all the engineering, procurement and construction contractors. However, it needs to demonstrate conclusively that the project will be completed and that funds exist to handle cost overruns. A third choice is for the business team to hire a Project Management firm to co-ordinate the project; again, overruns need to be funded and completion assured.

On a larger project it is often a requirement that an operating and maintenance company be employed to run the project once its construction is completed.

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

**Exercise 2-5
Supplier Research**

Write down a components inventory – what you need to purchase to sell your product.

Components Inventory:

What types of materials or products do you need to purchase for the sale of one product?

From which possible suppliers? Where are they located?

Which currency do they accept?

Write down possible suppliers and contact them to understand their terms, availability and process.

Supplier 1: supplies _____

Name: _____

Location: _____

Product type(s): _____

Sales price: _____

What are the payment conditions? (30-day credit, 90-day credit, in advance):

Payment is made in what form? (check, wire, money order, dollars, local currency)

When can the product be shipped? How long will it take to arrive?

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

Supplier 2: supplies _____

Name: _____

Location: _____

Product type(s): _____

Sales price: _____

What are the payment conditions? (30-day credit, 90-day credit, in advance):

Payment is made in what form? (check, wire, money order, dollars, local currency)

When can the product ship? How long will it take to arrive?

Supplier 3: supplies _____

Name: _____

Location: _____

Product type(s): _____

Sales price: _____

What are the payment conditions? (30-day credit, 90-day credit, in advance):

Payment is made in what form? (check, wire, money order, dollars, local currency)

When can the product ship? How long will it take to arrive?

TECHNOLOGY AND ENERGY RESOURCE ISSUES

This toolkit deals with four types of natural resources – wind, water, biomass and sunlight. The goal of this section is to explain how you must prove to partners and investors that the technology you plan to use is proven and appropriate and that the resource exists in sufficient quantities.

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

When an investor or lender reads the business plan they must be comfortable that you have answered the following questions and that the source of the information is reliable.

- ❑ **Water** – What data exists regarding the flow of water and the “head” (proposed elevation drop)? For how long has this data been collected? By whom? How has it been documented? Has the water data been independently evaluated? Have seasonal and year-to-year variations been estimated? Have the site conditions been studied and integrated with the water data? What documentation exists to prove that sufficient water resources exist?
- ❑ **Biomass** – What is the proposed biomass source? Has the biomass source been evaluated for its energy (BTU/joule) content, moisture levels, collection, transport and storage characteristics? What quantities of this biomass source are available? Are there seasonal variations? How have the energy characteristics and quantities been documented? Has this biomass source been used before in this region in the manner proposed?
- ❑ **Sunlight** – What solar insolation data exist for the proposed project area? Have solar panels and balance of systems been operated in the project area? Is there any documentation of performance? Are there seasonal variations or extended periods of sub-optimal performance? How is the information documented?
- ❑ **Wind** – What wind speed measurements have been made? What data exist? For what period of time? Are the measurements site specific, using reliable equipment and accepted techniques? Have the results of these measurements been examined by a qualified and independent professional? What documentation exists to prove that sufficient wind resources exist?

Having established that natural resources exist in sufficient quantities, the next step is to determine if the wind, water, biomass or sunlight can be converted into energy at the proposed project site at the scale envisioned. In other words, the technology is appropriate given the business assumptions.

- ❑ What type of technology will be used?
- ❑ Has this specific technology been used with this particular energy resource (e.g. rice husks)?
- ❑ Is the technology available at the targeted location? If not, can it be imported?
- ❑ Have suppliers of the basic conversion technology – wind turbine manufacturers, hydro turbine manufacturers, biomass conversion equipment manufacturers and PV systems integrators -- reviewed the wind, water, biomass and sunlight data and confirmed that their equipment can produce the desired energy output?
- ❑ What other components are needed to assure energy output?

It is not enough that sufficient natural resources exist. In the case of water and biomass energy projects the right to use these resources must be assured generally through a contract¹, either with fuel suppliers or with the government through a concession for water rights.

- ❑ **Water** – What agreements are needed to secure the use of water at the proposed project site? Will a payment be required? What are the conditions of such a contract? For example, what percent of water flow is allowed to be diverted? What is the term of the contract? What is the expiration date of this contract if the project is not operational within the term? What other related contracts are required?
- ❑ **Biomass** – What is the length and terms of the proposed contract(s)? What percent of the project’s biomass requirement will be met by this contract(s)? What assurances exist that the biomass supply will be continuous? What is the financial condition of the supplier and the underlying soundness of

¹ It is possible to buy biomass in an open market at the then current “spot” price but most lenders and investors are uncomfortable with the uncertainty this implies.

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

the industry²? What penalties exist for the buyer and seller for non-performance? What backup and supplementary supplies are available and on what terms?

In order for a business idea to become an opportunity, the choice of technology and energy resource must be justified. Answer the applicable questions above and verify the technical information from a qualified technical source. Suppliers may be a source for this information or may be able to direct you to other sources.

SUMMARIZING WHAT HAS BEEN LEARNED

Is the information in this chapter too much to ask for? There is little point in proceeding with planning a business until this degree of specificity exists. At this point all exercises should be complete and ready to be assembled into the first two sections of the Business Plan

What have you learned thus far? Chapter 1 was an introduction to a Business Description, which is the section of the business plan where you convince your reader that this is an excellent business opportunity. You should be improving your business description throughout the entire business plan writing process. The next chapter started by explaining characteristics often found in an entrepreneur. An exercise was provided to test your own qualities. Next, the reasons for collecting sufficient amounts and high-quality data were outlined followed by a list of the types of data to collect (market, customers, competition, business relationships, and technology). At this point you should stop reading and collect as much data as possible pertaining to your idea. Then, you can move on to the final section of this chapter and compile your information into a comprehensible format that will be incorporated into the final business plan.

Before starting on your business plan, complete the following checklist to identify gaps where all of the information has not been collected. For each question, put a checkmark for items that have been completed. For items that are incomplete write what needs to be done still, how it will be completed and when.

Fact-finding Checklist

Has information on energy plans and other energy projects at the national/regional/local level been collected?

All the information has been collected. ____

The following information is still needed. _____

Has data on the macroeconomic, legal and political situation been researched?

All the information has been collected. ____

The following information is still needed. _____

² For example, a sugar mill may be able to supply all the bagasse needed for a co-generation project, but the mill may not be competitive due to factors linked to the world market for sugar rather than productivity within the mill itself.

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

How much is known about the quantity of natural resources – wind, water, biomass, sunlight – proposed to be used?

- All the information has been collected. ____
- The following information is still needed. _____

Is the information gathered on what is required to obtain the exclusive use of water or biomass for the project?

- All the information has been collected. ____
- The following information is still needed. _____

Is the information regarding the use of the land on the site(s) known?

- All the information has been collected. _____
- The following information is still needed. _____

Have all the permits needed been identified?

- All the information has been collected. ____
- The following information is still needed. _____

Is the research completed on whether the technology is appropriate?

- All the information has been collected. ____
- The following information is still needed. _____

Have customers been identified? Have their particular characteristics (in terms of ability and willingness to pay) been assessed?

- All the information has been collected. ____
- The following information is still needed. _____

Has information on possible direct and indirect competition been collected?

- All the information has been collected. ____
- The following information is still needed. _____

Has an examination been made of the skills needed to implement this project and has this been compared with the skills and experience of the project team?

- All the information has been collected. ____
- The following information is still needed. _____

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing

Now you are ready to assemble all the relevant information into the first two section of the business plan.

What should be included in these sections? Answers to the exercises and issues raised throughout the chapter should be organized in a convincing way and presented in each section of the study. One way to organize it is as follows. Also, Annex B includes examples. *Remember*, this is a research document, there is no analysis of the demand for your product or service or the business opportunity until Chapter 3.

Business Plan Outline

1. **Title page** with Business Name, physical and postal address, sponsors name and contact information, and the date.
2. **Business Description** – review the business description from Chapter 1 considering the additional data collected (especially on customers and technology). Update the description and ensure that the information presented is convincing and detailed enough. Remember everything after this part of the business plan will prove why this business description is a good idea. Your description should cover information about the following:
 - ❑ Company
 - ❑ Location
 - ❑ Product or Service
 - ❑ Technology and resource
 - ❑ Customers

In addition to what you have already written add two new topics based on information and instructions provided in this chapter.

- ❑ Market Factors: For example permits acquired or needed, country specific business, legal, social and environmental factors.
 - ❑ Business Relationships: Who are the potential equipment or product suppliers? Contractors? What are the required business relationships with the equipment or product suppliers or contractors? What are the terms for purchasing from equipment or product suppliers? Cost of freight and shipping?
3. **Opportunity** – write a section including information about your customers and competition. The goal is to illustrate that this is a good business opportunity. *Customers* - who will buy your product or service and why. This section can be completed by taking the exercises in the Customers Section and completed questionnaires (Annex C for example) and turning the data into a written document. Be clear and convincing. The goal is to show that you understand your customer's ability and willingness to pay. *Competition* - again turn the exercise in the Competition Section into a written document. This should be an overview of your direct and indirect competition.

Congratulations!
You have completed the first two sections
of your Business Plan.

Chapter 1	Chapter 2		Chapter 3				Chapter 4		
Business Description	Opportunity	Marketing	Operations	Technology	Finance	Schedule	Risks	Impacts	Executive Summary & Closing