Internationale Weiterbildung und Entwicklung gGmbH
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Intelligent Energy Europe

GETTING IT RIGHT -

PLANNING FOR BUSINESS SUCCESS

The INSABA
practical business planning toolkit

adelphi research
BOTEC Botswana Technology Centre — Delivering Tommorrow's Solutions Today
CEEEZ Centre for Energy, Environment and Engineering Zambia Limited
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"Getting it Right" INSABA Toolkit

Project Overview

The project "Integrated Southern Africa Business Advisory" (INSABA) falls under the European Commission's Intelligent Energy – Europe programme and aims at the establishment of a high profile business advisory network for renewable energy (RE). INSABA has a unique, two-pronged approach in that it aims on the one hand to train a broader base of advisers in appreciating the RE economics and on the other hand to use this advisory base to identify more RE applications from the supply side. In order to improve sustainable capacity, local partner organisations are being trained to act as intermediaries to allow for continuation of activities post the life cycle of the INSABA project.

The overall objective of INSABA is to strengthen productive application of renewable energy in southern Africa. INSABA will help to build a critical mass of human capacity with up to date knowledge and expertise in energy planning and project financing, as well as in the latest technologies and best practices available for increasing the productive use of renewable energies.

The project focuses mainly on small and medium sized enterprises (SME).

The project aims at increasing the utilization of renewable energy alternatives

There is a wide range of tools for developing small businesses and RE projects available in the donor and NGO communities internationally. These consider RE productivity and RE financing options and can have broad application in assessing the funding of RE based projects. Examples include the recently published World Bank Toolkits for RE projects[1] and AREED[2]. Then there are toolkits for small medium enterprise (SME) development, such as the International Finance Corporation (IFC) SME Toolkits that provide 'technology solutions for small businesses in emerging markets'.

[1] *REToolkit, available at www.worldbank.org/retoolkit/*
[2] *UNEP'S African Rural Energy Enterprise Development Initiative with similar initiatives for Brazil (BREED) and China (CREED)*

INSABA (Integrated Southern African Business Advisory) is a capacity building programme aimed at stimulating RE for productive use as a key concept in small medium enterprise (SME) development in southern Africa. The four countries participant to this programme (Botswana, Namibia, South Africa and Zambia), face either issues of cheap fossil fuel based electricity (primarily available from the Eskom powered grid) and/or lack of access to energy. Programmes such as the already mentioned AREED, focus on rural entrepreneurs through the development of new sustainable energy enterprises that use clean, efficient, and renewable energy technologies to meet the energy needs of under-served populations. Whilst there are parallels between INSABA and other described programmes, there are some key distinctions, which the tools and guidelines in **Getting it Right** aim to address. These include:

- **Better utilisation of renewable energy resources in delivering goods and / or services to market**
- **Building capacity in entrepreneurs and their advisory base to assess business opportunities using renewable energy technologies (RETs)**
- **Bringing the supply and demand side for energy services together in southern Africa**
- **Tackling the poverty alleviation agenda by providing advisory services for businesses using RET, for example for water conveyance and treatment, communications, food processing and commercial heat**

Evaluating INSABA based opportunities requires reference and answers to a specific, consistent and common set of questions. Some of these questions have to do with the financial viability of the RE technology proposed and a key objective of **Getting it Right** is to guide the user through a process in ***finding, documenting and using these answers*** through the lifecycle of INSABA and beyond the business development cycle.

OUTCOME - Getting it Right!

The Getting it Right Toolkit contains these main parts:

- **A set of excel sheets with 4 categories of tools** for use throughout the INSABA business development cycle which cover an initial evaluation and market assessment, planning and feasibility phases. The tools are color-coded and individually numbered for clear identification. An introductory, glossary and project development outline accompany the tools.

- **Guidelines to using the tools** – a manual to guide the user through the application of the tools. The guideline manual includes practical examples of tool application and reporting formats.

- **A set of work-sheets and check-lists** for the market assessment and survey part and for the market strategy and business plan development.

Getting it Right – Planning for Business Success
– Tools in the INSABA Project Cycle –

CATEGORY OF INSABA TOOL	TOOL / WORKSHEET NAME AND NUMBER	WHEN TO USE THEM	WHO MIGHT USE THEM
Screening	1. The Entrepreneur 2. Business Description 3. Preliminary Economic Analysis 4. Sensitivity Analysis and Income Streams	Scrutinizing business ideas for INSABA	Integrated Advisors with entrepreneurs, Sub Contractors
Market Assessment	5. Cost of Technology & Parameters Analysis 6. Product / service analysis 7. Sample market survey questionnaire 8. Market Survey response analysis 9. Competitor analysis 10. Market assessment evaluation	On successfully screened projects	Sub Contractors, Suppliers and experts Integrated Advisors with entrepreneurs
Business Planning and Full Feasibility	11. Market Strategy 12. Cash flow forecast 13. Cash flow model 14. Profitability and Balance Assessment	On projects that withstand market analysis	Entrepreneurs, Sub Contractors, Integrated Advisors

TABLE 1

CONTENTS OF THE TOOLKIT

LIST OF ABBREVIATIONS AND ACRONYMS

AREED	African Rural Energy Enterprise Development Initiative
BOTEC	Botswana Technology Centre
BREED	Brazil Rural Energy Enterprise Development Initiative
CEEEZ	Centre for Energy Environment and Engineering Zambia Ltd
CREED	China Rural Energy Enterprise Development Initiative
ENTR	Enterprise Director General for the European Commission
IAT	Inter-Disciplinary Advisory Teams
IFC	International Finance Corporation
INSABA	Integrated South African Business Advisory
P&L	Profit & Loss
PV	Photovoltaic
RE	Renewable Energy
RET	Renewable Energy Technologies
ROI	Return on Investment
SC	Sub contractors
SME	Small and Medium sized enterprises
SWH	Solar Water Heated
USD	United States Dollars
W	Watt

1. INTRODUCTION

Discussion of RE project development

Rapid global growth in population and energy consumption along with dwindling resources is sending the world energy supply situation disintegrating. Among those least prepared for the conflicts to arise are the countries with already weak energy systems, also in Southern Africa.

The good news is that renewable energy options are existing in most of the threatened countries with the technology ready to operate as reliably as any. For many years the RE technology has been subsidized for operational demonstration and for macro-economic benefits like environment protection, rural development and decentralization. Such subsidies will run out and cannot drive the required energy shift.

But there are productive uses of RE application emerging, which can pay the investment and offer a sustainable income. With RE technology becoming constantly more affordable while conventional energy is getting constantly more expensive, the productive RE-use is sure to increase in number and applications.

The INSABA project is set to identify those productive RE applications and show where successful development is emerging.

The project is not offering financing or special terms on its own, so proposals have to satisfy the terms and conditions of suitable financiers. For all countries involved, the project commissioned a survey on the financiers and instruments available and suitable.

One of the results was that SMEs often are shy to approach financiers and and that those presenting a proposal often are turned down because of a lacking consistency and economic quality of the presentations. On the other hand, commissioning a commercial consultant to prepare a high quality viability study often is beyond the financial means of an emerging SME.

For this reason, INSABA devised a set of tiered tools which will assess the business proposals in useful steps, thus early and at minimum effort identifying shortcomings and using a stop/go process in focussing only on the most promising ventures.

This tool set is supported by an equivalent set of computation tools provided as excel sheets. This manual describes how to use and analyse those computations.

2. GUIDELINES TO USING THE TOOLS

Overview

These tools aim to assist the entrepreneur and his advisory base in developing a dynamic business plan ***that is appropriate to the size and scale of the proposed business*** that utilises renewable energy. There are a number of steps involved, but firstly, ***what is the purpose of the business plan?***

- **To enable the entrepreneur to effectively deploy his or her resources – it is important that the entrepreneur takes ownership of the business plan**
- **To communicate the strategy and viability of the project to investors (including the entrepreneur), donors, customers, suppliers, employees and other stakeholders**

Both are important. Often, the entrepreneur will be more concerned about the second - seeing the business plan as a necessary evil and a ticket to external financing, rather than an integral part of the entrepreneurship process. Thus the business plan becomes a pure marketing tool, rather than a realistic appraisal of capabilities, opportunities and strategy. However, the "pure marketing" approach rarely works - a large proportion of financing (including the entrepreneur's money or that of family, friends or partners intending to support him) may be squandered, as there is no realistic plan and priorities to focus spending.

Why this manual?

This manual guides the user through a simple, integrated business planning approach that is applicable at any business level and enables the user to identify the assumptions behind the business concept and to develop a process for testing these assumptions. It further aims to support INSABA in the sourcing and identification of RE for productive use projects that are viable businesses and to assist in the business planning process.

How to use this manual

It is recommended that you read the guidelines before using the tools. ***Not all the tools will be applicable to your project and reading the guidelines will help you to select the most appropriate tools for your project.***

GETTING IT RIGHT

- GUIDELINES TO USING EVALUATION TOOLS -

This manual has a guidelines section, followed by a set of tools. The tools are colour coded and numbered in sequence to make ONE set of tools, numbered 1-14.

Providing Context: Four Critical Success Factors

There are a number of critical success factors in establishing any successful business. An understanding of what these are early on is crucial to identifying a good business opportunity and then conducting the analyses required to putting a business plan together to support the concept. Simply, a successful business ***is a combination*** of the following critical success factors:

- A qualified and committed **entrepreneur**
- A sound **business model** that fits in its **market context**, and
- Realistic **financing** and financial projections

INSABA is further interested in supporting businesses that tackle the poverty agenda and thus projects that also display a

Positive (or neutral) **environmental and social** impact

These four critical success factors can be split into a total of 10 sub factors as per the following table, which acts as a guideline to completing **tool 2**, assessing the business indicators:

#	Requirement	What this means
Related to the entrepreneur		
1	**The entrepreneur/ management is qualified**	The entrepreneur/-designated management has been in operation more than 3 years with experience that will enable him/her to handle finance and keep books, operations and marketing. He/she employs more than 3 staff and he/she has secondary education. **Understanding the strategic impact of renewable energy in the overall energy context of the proposed business environment is key as is innovation.** The entrepreneur's fixed assets/collateral are in proper relation to the required investment, qualifying him for financing. In addition, the qualified entrepreneur will be located close to market and major business centres. and is an individual owner, not a cooperative.
2	**The entrepreneur is committed and has identified what he/she wants from the business**	The entrepreneur is personally and financially committed to the success of the venture, as indicated by e.g.: • Being fully / partially invested personally and / or • Drawing only a low salary (financial reward to flow from future profits) and • Close involvement with the business planning process Also, the entrepreneur has established what he / she wants form the business in return for that commitment and this is realistic, for example: • Creating value over time through slowly building the business • Creating early value – i.e. establishing and selling • Creating a steady income stream • Creating employment (self, staff)
Related to the business model		
3	**There is a clear market**	There is a **demand for the product/ service**, sufficiently large to absorb the capacity added by the new business. Also, there is a sufficient supply of adequate raw materials**.** *For example, a honey based business will assure sufficient / constant supply of the raw material to keep the business in operation*
4	**The product/ service is competitive:**	The product/ service has a **competitive advantage** compared to existing offerings and/or can be sold at a lower price. Note that it is generally always preferable for new entrants to compete on the basis of higher quality rather than lower price on its own. New entrants are seldom able to compete in an established market purely on a cost basis.
Related to the financial projections		
5	**The cost of making sales is known:**	The direct manufacturing or service delivery costs are identifiable. The product or service can be produced at a competitive cost.
6	**The margins are attractive:**	The business can withstand a level of drop in sales volume and/or price from budgeted projections. In other words, direct costs over revenue do not exceed 30%
7	**The business demonstrates ability to support an overhead**	The business generates sufficient cash flow to carry overhead costs, such as salaries, rent, communications, etc.
Related to the environmental and social impact		
8	**Environmental and social impact is not negative**	The business has a net positive environmental and social impact in terms of monies paid out to community, environmental benefits (e.g. of renewable energy), conditions of workers and skills developed.
9	**The business model is scalable and replicable**	The environmental and social impact achieved in 8) is acceptable, in relation to the commercial, technical and financial assistance provided. Generally, this will require the business to be scalable, either by the entrepreneur him/herself or by others as well.
10	**Capital can be sourced on realistic terms**	Sufficient investment is committed or likely to be committed to make the business financially viable, i.e. not run out of cash. The terms of such investment are not unacceptably onerous to the entrepreneur/ stakeholders, e.g. in terms of interest/shares

TABLE 2

It is unlikely that all of these factors would be in place from the outset. Typically, a business will start out as a combination of an entrepreneur and a loose idea about a business model – or even just as an INSABA – driven idea about a business model, without any entrepreneur yet committed.

However, over the duration of the business planning process it is the role of the INSABA team – with the help of the entrepreneur where there is one from the outset – to investigate these factors and ensure that they are in place, or can be put in place. If the team is not convinced that this is the case, it should raise serious concerns about the viability of the business and/or its suitability for support under the INSABA project.

The same 10 factors identified and explained in *the above table* can be used as a "checklist" throughout the business planning process in **Getting it Right.**

Assess: **INSABA Preassessment of Project Proposals**

Tool1 Assess: **The Entrepreneur**

As explained in item 1 of the *the above table* it is not the intention of the Insaba Project to create entrepreneurs from formerly unemployed or self-employed proponents, but focus on experienced business people. This decision is based on SME studies conducted under the project in Botswana and Namibia which report a very high failure rate of SME-businesses because of lacking entrepreneurial talent, business skills and financing. As the introduction of RE technology in the business concept is likely to pose another uncertainty, the risk can only be minimized when an otherwise already successful entrepreneur is chosen.

Objective:

To present the proponent and his/her abilities to successfully run an RE based business. This includes education and entrepreneurial background, core data of the currently run business and qualification to satisfy loans.

What it means (tasks and considerations):

Using the **check list** below, describe the proponent as entrepreneur. Remember that anyone will assume that the proponent will describe himself to the best of his abilities, so being convincing and truthful here will also suggest to be convincing in presenting the product on the market.

Personal Data	Indicate detailed address and contact by phone, e-mail of the proponent or the proposing enterprise.
Curriculum Vitae	List education, degrees obtained, any other relevant training or certification, and professional career particularly in entrepreneurial function
Current Business	Describe current subject and size of business, details to registration, bank contact, and number of employees with formal contract. SMEs are often shy to register, but a minimum indication of a formal and liable business is required, at least a bank account. Employment is often informal with family and friends on an "as needed" basis. Formal contracts indicate sustainability, including health care and social fees.
Loan History	Indicate whether financing has been sought / approved before and whether the loan has been paid yet. In case of disapproval give the reasons. Mention any running financial obligations. Any financing sought must be in sound relation to the existing fixed assets. A satisfied loan therefore is a strong recommendation to the possible financing volume, just as other on-going loans reduce this volume.
Experience in cost calculation / business plan	State whether the current business does cost calculations on a regular basis and whether it has an underlying business plan which is regularly verified. Since the Insaba projects require regular monitoring, experience in maintaining business plans is a strong asset.
Practice in maintaining/ operating equipment	If your business is using technical equipment like generator, machine, transporting devices, state whether you are doing the necessary service and maintenance. If this is any renewable energy related equipment, please emphasize. RE-Equipment like any other machinery need regular maintenance which might be far and difficult to access if the operator is inexperienced in doing basic service on site.

TABLE 3

Also, use page **Assess** provided in the Excel-sheet, to give the key data from the table 3 above. Here, numbers are used to replicably describe the proponent´s profile. Such data may change over time and can be compared with those of other proponents, should there be more candidates.

Proponent name, contact	Indicate "none" if the business idea has no formal applicant yet.	
Years of experience as owner of business		5
Number of employees w/contract		4
Proponent uses bank account	(no=0, yes=5)	5
Experience with formal loan	(received=5, applied=3, no=0)	5
Experience in cost calculations, business plans	(no=0, several=5)	5
Practice in maintaining/operating equipment (RET)	(none yet=0, regularly=5)	3

Tool2 Assess: Business Description

Here comes the key statement on whether idea, person, location and time combine to a successful endeavour. Often a decision maker will already determine from this description whether it is worthwhile to look further into the proposal.

Objective:

To obtain a clear understanding of what the business idea has in place and to understand the gaps in the business idea information currently available.

What it means (tasks and considerations):

Using the **check list** below, describe the business idea and its key factors. Taking the objective above into careful consideration, define the business goal and its strengths and weaknesses.

Business Idea Description	Provide an executive summary **(3-5 sentences)** of the business idea
List Key Business Factors	**List** the **key business factors** such as what the product / service mix is, the business location, raw materials required and supply availability, the customer / consumer, energy and water requirements and any other **key** factors that may be peculiar to your project.
Identify Renewable Energy Resource / Technology	**Name the Renewable Energy resource / technology** identified and provide a brief justification (max. 3 sentences) of why this will give competitive advantage
Justify RET Selection, identify the energy alternative and the cost of alternatives	Consider other possible RE solutions and the conventional energy supply options with its advantages/shortcomings and describe the economic advantage
Identify and state the key objectives / goals of the business and the Entrepreneur.	What does the entrepreneur expect from the business and what does the business want to achieve?

TABLE 4

Also, in page **Assess** provided in the Excel-sheet, the following key data identify a proposal

Country:	Give nationality of business
Region:	Region or town of operation
RE Technology:	Briefly describe the renewable energy technology
Business Idea:	One key sentence on the business goal

Tool3 Assess: Preliminary economic analysis

This is the first step of the tiered Insaba evaluation process where a formulated business idea will be supported by figures. It forces the proponent to identify to his best knowledge key data on cost, price, turnover and production cycles. At this stage, no costly viability study, no detailed loan and interest data are required, often data may even be based on experience and an educated guess. Only if satisfactory, data will then be counter-checked and verified by a person more specialized on the subject.

Objective:

To provide a simple and inexpensive way to **check the viability of a business** idea based on a minimum of key data. To show the influence of varying data in a replicable way and to present a return on investment indicator for comparison with other solutions.

What it means (tasks and considerations):

Using page **Assess** provided in the Excel-sheet, enter **six input values** into the spreadsheet and it will respond with a computation of cost analysis ratios, the return on investment **ROI**, and a **sensitivity analysis**.

To complete the preliminary viability calculation you will need to be able to estimate items such as sales volumes costs of sales and running costs for the business. You will also need to be able to estimate the cost of technology and the related energy costs. Be sure the data on cost, price, investment, turnover are as accurate and realistic as possible and that they have a common time base (mostly years)

The definitions for each calculation item are given in Table 5 below, along with sample values. Only the input values may be changed in the excel sheet. The computing fields show the formulas an give useful **Analysis Ratios**

It is helpful, for example to know the gross margin is sufficient to carry at least the fixed costs in your business. Another is the Return on Investment which tells whether or not the entrepreneur is getting a better return on his capital from the business investment or from say interest in the bank. As these data are yet excluding the cost of financing, currency changes and market price fluctuations the result has to carry a risk premium, i.e. must be on the safe side. The desired result therefore is an **ROI better than 30%**

This initial calculation serves as a **stop/go indicator**: If the ROI is too low, the proposal will not be further considered at this point, thus saving unnecessary expense and effort. Only if the ROI is satisfactory, the process may continue with page **Verify** provided in the Excel-sheet where special effort is given to validate the input data and to assess this RE solution against competitive RE options or alternative energy costs, such as grid electricity for example.

Calculation of ROI	Example	Definition
Investment Capital	2.000	Input data: Total cost of technology investment directly related to the income stream (incremental) in the same currency as the cash flow
Investment Lifespan	10	Input data: Lifetime of the technology - i.e. period before it must be replaced. This is not the investment time. The time unit must be the same as for production, mostly years
Production	2.500	Input data: Units produced per time unit (typically year, but may also be per day, per season) as in lifespan
Price /unit	3,00	Input data: Sales price per unit produced and sold
Revenue	**7.500**	Computed data: Sales price multiplied by number of units sold
Variable cost /unit	1,50	Input data: Direct cost per unit produced e.g. raw material, processing, packaging, handling by staff. Will be zero if production is halted
Total fixed costs	2.400	Input data: Indirect costs per time unit for the entire business, such as rent, telephones, transport, repair&maintenance, taxes, bookkeeping and office operation, salaries of staff and owner. Will continue even if production stops
Amortization /unit	0,08	Computed data: Amount needed per unit to cover investment in lifetime
Direct costs /unit	1,58	Computed data: Variable costs plus amortization
Gross Margin /unit	1,42	Computed data: Sales price per unit less the direct costs per unit
Fixed costs /unit	0,96	Computed data: Total fixed costs divided by the number of units produced
Total costs	2,54	Computed data: Total direct costs plus total fixed costs
Net Margin	1150	Computed data: Profit=Revenue less total costs
ROI	**58%**	Computed data: Return on Investment = net margin divided by capital investment Should be sufficient to cover the cost of capital (e.g. loan costs) and include a risk premium (the money is safer in the bank at say a 7% return) therefore should include the 7% plus the risk factor of say 20%, meaning an ROI > 27%
Payback period	**1,48**	Computed data: capital investment divided by cash flow until initial expenses are compensated by the net margin. Will be longer if financing is involved.

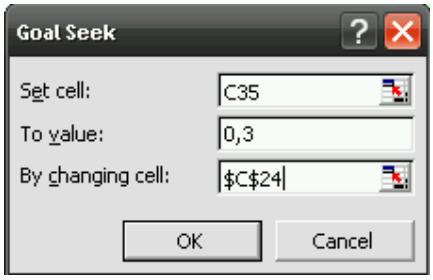
TABLE 5

Example: Honey Processing
Extracting honey by means of a PV driven centrifuge requires an investment of 2000$ (1300 centrifuge+400PV system 50 W+300 e-drive) Clear honey is assumed to earn 2 $/kg, buying raw honey from farmers at 1,5$/kg. A 50 Wp solar panel produces ca.200 Wh daily, the centrifuge consumes 80 W for about 20 min per extraction of 5 kg, enough for 8 extractions daily or 40kg. The annual cost for the operator and for repairs is 2400$
The unit is not continuously operated as honey comes in seasons. Even if used for 2 months only (61 days) the 2500 kg/year produced give a sufficient ROI of 58%.

Variations

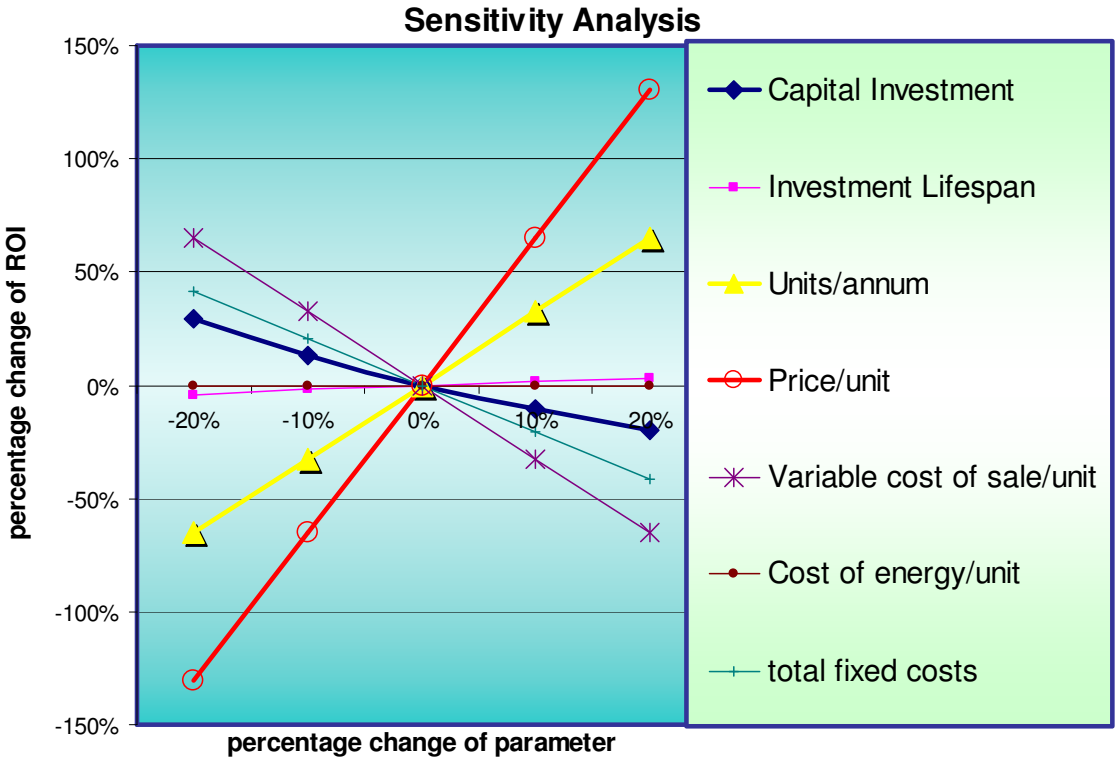
Sometimes the data may not lead to the desired ROI value. The calculation sheet then serves as a valuable tool to determine by various inputs what cost, turnover etc has to be targeted to reach profitability.

Excel offers an elegant way to do this, using the "*goal seek*" function in the *tools* menu : Setting the ROI to 30% by changing the unit price, finds that the price can be down to 2,78$. Alternatively, the investment may be as high as 3370$ This way the border values for all production data may be determined.



Tool4 Assess: Sensitivity Analysis

Another helpful tool in assessing the business proposal is the sensitivity analysis included with page **Assess** provided in the Excel-sheet. It shows how much the ROI changes when an input parameter is changed. If reducing the price by -20% makes the ROI drop 130% the business is extremely sensitive to price changes. At the same time, the influence of the investment life is very low.



This way, weaknesses of the business can be determined and improvements can be considered for parameters where it matters.

Income Streams

Business proposals sometimes comprise of various income streams, i.e. they manufacture different products or offer various services.

1- Where the business gets income from activities which are RE-related and **non RE-related**, the RE-related stream should be scrutinized separately. A farmer for example, who earns from raising pigs and who wants to irrigate plants with a PV pump, should separate the piggery from the irrigation stream.

2- Where the business income stems from different **streams which all use RE**, the tool can be helpful in identifying the more profitable stream within the overall proposal. A phone shop for example, which offers internet access and telephone service, could show the following income streams (see also the excel sheet compilation "INSABA Tool Examples) :

	Internet+Phone	Determination of parameters	Internet	Phone
Investment Capital	9.993	Total cost of equipment with PV system	9.673	1.276
Investment Lifespan	3	Estimated average equipment lifetime	3	3
Production	300	working days per year	300	300
Price /unit	67,5	daily revenue	37,5	30,0
Revenue	20.250	US$ income per year	11.250	9.000
Variable cost /unit	0,00	No variable costs	0,00	0,00
Total fixed costs	7.080	Provider flat rate, rent, insurance, maintenance, replacements, salaries	7.080	7.080
Amortization /unit	11,10	A phone shop in an unelectrified town offers internet and phone call services. It is powered by a PV array. Line access from provider is on a 300$ flat rate basis. 2 staff are employed. The **internet services** are provided by 5 laptop-PCs which use little energy and minimum batteries, but still require a 300 Wp array. At 5 h/d usage and 2,5 Cents/min they earn 37,5 $/d The **call services** from 2 phones use very little power. At 2 h/d usage and 12,5 Cents/min they earn 30 $/d **Only the phone stream is viable**	10,75	1,42
Direct costs /unit	11,10		10,75	1,42
Gross margin /unit	56,40		26,75	28,58
Fixed costs /unit	23,60		23,60	23,60
Total costs	34,70		34,35	25,02
Net Margin	9839		946	1495
ROI	**98%**		**10%**	**117%**
Payback period	**0,76**		**2,32**	**0,66**

TABLE 6

While the overall business looks good, separating the cost and income for the incorporated income streams shows that in fact the profitable phone business subsidizes the poor internet branch. So any smart competitor would only invest in the call service.

GETTING IT RIGHT

GUIDELINES TO USING MARKET ASSESSMENT TOOLS

Overview

The pre assessment component of the Business Planning process focused on a high level analysis of the viability of the business and ensured that the entrepreneur assess the sales volumes, energy costs and pricing structure required to sustain the business entrepreneur. Testing these assumptions against the reality of the market is crucial and falls within the second common success factor identified:

A sound **business model** that fits in its market context

Market conditions and information required, include:

- Verification of **technology design** and the related investment cost
- Price **competitiveness** – will the entrepreneur be able to produce this product or service at a cost that allows for competitive pricing? A number of input factors need to be considered here e.g. given that these are renewable energy utilization businesses, an **energy cost analysis** (considering the cost of the alternate energy resource) is essential – as covered in page **Verify** provided in the Excel-Sheet which will be validated in application of the market study tools.
- **Need** for and affordability of the product or service to the customer base
- Size of the **customer base** and potential sales volumes
- Existing and potential **competition** for the product or service in the market
- Understanding of the potential **market barriers** that exist or that could emerge. These are barriers that would impact negatively on sales and therefore in cash-flow and business sustainability.

Examples of market barriers

- General price increases to the extent that the customer has to prioritize as to how he disposes of his income. This could mean that consumption of the product decreases
- Significant fuel price increases may result in rising transport costs increasing the price of the product to a level the customer can no longer afford = a direct impact
- Severe drought which would impact on a business that solar dries food products from non irrigated land = a direct impact
- Subsidized conventional energy costs which outcompetes an otherwise viable RE option

Tool 5 Verify: Verification of technology parameters and costs of technology

Economic viability should show not only if the RE technology is viable and a realistic alternative to conventional energy as demonstrated in the **pre feasibility**, but also that the technology specifications and platform is **available** and **appropriate**.

Available means that firstly it has proven to operate reliably and that it is available and maintainable in the envisaged region. An invention or novel solution may be tried in an established company, but cannot be the core of a new SME business.

Appropriate would mean that the resource is available (like sufficiently regular wind for a wind generator, or sufficiently regular water for a hydro scheme or a PV pump) and the size fits the production requirements (like an oversized pump would be both expensive and drawing down the water table)

This information could well represent a stop/go decision today but might change in future. If a "go" then the design and investment cost assumed in the pre-assessment can be finally established. It will also inform the rest of the market study and help to clarify how big the market needs to be for the venture to be viable.

As example, the honey production case described in Tool 3 above was originally presented as a factory with a newly imported centrifuge capable to process twice the entire country's honey production, thus failing the appropriateness.

With these data available the economic computation assess is transferred for a verified viability assessment to the page **verify** provided in the Excel-sheet.

Verify: Investment Capital and Design

A simple verification tool for the cost and output of the frequent RE applications of PV and Solar Water Heater is provided in the excel sheet compilation "INSABA Tool Examples" :

Solar PV Generator Output		
Generator Power	**50**	**Wp**
System Price	8,00	$/Wp
investment	**400,00**	**$**
Solar irradiation	5,00	kWh/(m²*d)
Power Factor	0,84	
generator energy	**210,0**	**Wh/d**
load per unit produced	27	Wh
daily production	7,88	load/d

Solar Water Heater Output		
Collector Area	**25**	**m²**
System Price	750	$/m²
investment	**18.750**	**$**
Solar irradiation	5,00	kWh/(m²*d)
total system efficiency	0,42	
energy per area	52,5	kWh/(m²*d)
temperature difference	30	k
specific heat capacity	4,20	KJ/(kg*K)
hot water produced	**1.500**	kg/d
hot water used per room	40	l/d
number of rooms	38	

The goal of this computation is to find the size of RE-source which will match the demand. Using common costing figures for stand-alone PV systems and flat plate type SWH the computation considers the average daily solar irradiation (not sunshine-hours!) to come up with an energy yield. To compute the production, this value is then divided by the load. When the production is acceptable, then also the RE unit is known from size and general cost.

Example:
The PV example describes a honey centrifuge, which consumes 80 W for a 20 min extraction=27 Wh and thus can do up to 8 spins a day.
The SWH example describes a lodge where in each room 40 liters hot water are used each day, so 38 rooms can be served daily.

For other or more complex applications technology experts and suppliers may need to be called for design proposals and cost figures. Relevant questions to be answered in addition to **price and lifetime** include:

- Is your chosen technology in ***the most appropriate***? And is it indeed the only one? Considerations will e.g. involve the availability of the renewable resource on the site, like regular solar, wind or water regime.
- Is there an **economy of scale** i.e. how much cheaper comes my technology in big sizes. As RE applications like PV often are modular, it can even prove economic to start a business in smaller size, thus reducing cost and risk, and ramp up gradually as required.
- What kind and **size buffer** is recommended to overcome irregular resources.
- What **repair costs** have to be considered and what back-up is then recommended
- What are the **capacity requirements** of your selected technology? If for example you have chosen solar water pumping for the irrigation of crops, you now need to specify what size pump will be required for the amount of hectares you want to plant. Specific plant´s irrigation needs and rainfall data determine the volume of the water required which would influence the size of the pump as well as overall height the water must be liftet. This is where you may need an expert to guide you and to help in establishing the availability of the equipment and cost of buying it and having it installed.

TABLE 7 below will take you through typical questions you may need to ask in order to get the realistic costs necessary for selecting the right technology for the project. These realistic costs will now be entered and reviewed in the page **verify** provided in the Excel-sheet. These costs then also need to be tested against a range of sales scenarios. ***It may be that at high volumes the technology is affordable and conversely if sales volumes are not high enough, it will not be financially viable.***

Examples of questions for the technical expert / supplier

	Solution 1	Solution 2
Function required	Pump water 60 m³/day in dry season over 40 m static head	Pump water 60 m³/day in dry season over 40 m static head
Renewable Energy options	PV pump	Wind pump
Technology requirement	Unshaded location	Average windspeed > 4m/s
Size of equipment	1600 Wp	600 W
Equipment supplier	Grundfos	Southern Wind
Cost of equipment	9640	4670
Cost of installation	1250	1350
Average annual repair cost	95	195
Back up recommended	GenSet	GenSet
Life span of technology	15	5
Storage required	water tank	water tank

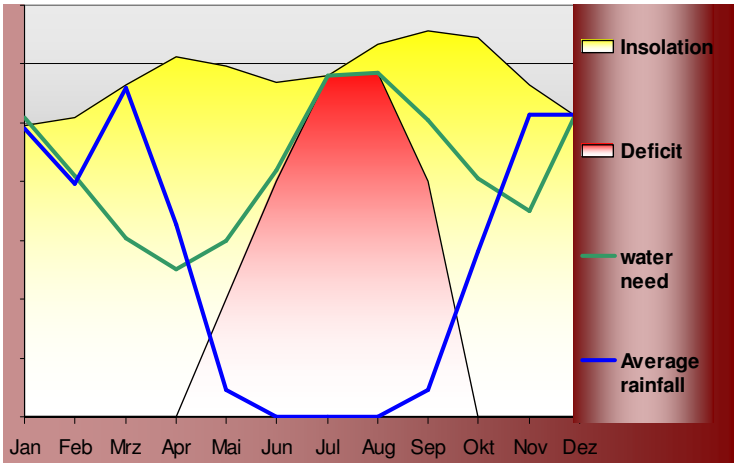
TABLE 7

At this stage it will be useful to not only verify the costs of the RE technology, but also all the other costs in the production process, which have been assumed during the pre-assessment. On the technology side, this may be maintenance and repair cost and time required for operation. On the production side, this will include fixed costs for office and salaries and variable costs for handling, packing and transporting the product.

Verify: Production

The sizing for an application is defined for one case, often the worst case or a typical average. Renewable energy output however, changes in the course of time as does the demand. It is important to distinguish between production and demand.

In particular RE based technologies follow availability patterns which do not necessarily match the time of demand. In the above example, the honey centrifuge will only be used twice a year during the honey season and most of the time may be out of (productive) use. The hot water demand in a lodge will depend on the seasonality of guests but will also have to consider that particularly during cold, overcast weather hot shower demand will be higher. In agriculture the demand e.g. for irrigation comes in season, of which some may be rainfed. The graph below shows a Zambian situation where pumping is only required during one season. Consequently, only the harvest with the PVPump can be attributed to the production side.



Competing technologies often have the advantage of flexible adaptation to demand. A petrol irrigation pump will not consume fuel in rainy season, an electric geyser needs no electricity when there is no guest. RE technologies like solar, hydro, wind for this reason are most efficiently employed in year-round applications.

Verify: Market Price

Even if the market price is closely prescribed by competition, additional value always justifies higher price. Often a market survey can provide an understanding of the price the goods or services may fetch on the target market. RE based products will have a strong case, if they can justify a **premium price** for that renewable edge. While it is not likely that customers pay more just because an offer is "solar" a premium can often be justified for **enhanced quality**: "solar dried" goods may be cleaner and tastier than even "sun dried", an eco lodge is quieter and environmentally benign than one operated by diesel, bio-fuel smells less and is less hazardous, and a phone shop can offer more reliable service when others suffer power-cuts. All this must be considered with caution as it will fluctuate in a supply/demand market, but RE based products generally only have a chance if they aim at the **upper price bracket**.

Verify: Production Cost

Other than selling higher quality, RE based products need to show **lower production cost** as they use free energy for operation. To emphasize this, and to allow for adjustments at rising energy prices, the page **verify** provided in the Excel-sheet. has an entry field for **cost of energy**. Here, the fuel or electricity need of a competing solution should be itemized. This considers not only the direct manufacturing, like gas saved for drying herbs, but also the reduced fuel consumption in transport, when herbs are dried in the field and then have less tara, thus making the product less vulnerable to fuel prices.

Verify: Fixed Cost

These indirect costs must include a realistic composition of overhead like office operation, repairs and salaries. Even a single-person enterprise must compute for the entrepreneur's income as there is a need to live. This cannot be left to the "profit" of the business calculation as this is a risk buffer for financing, tax, and other emros.

RE based business can show favorable cost aspects in a number of ways: Repair and maintenance e.g. for electric geysers often are so high they off-set the cost of the solar water heater. Added the damage from broken geysers and the insurance premium. The same is true for fuel-operated generators. Office rent in the unelectrified province will be less than in the capital, and staff may require less expenses.

Verify: Alternatives

All the above size and cost values will be required for the proposed technology and also for the likely **competing technology**. The consideration of competitive renewables often is straightforward, since favourable wind or hydro schemes are not always available where a business wants to settle. Grid electricity mostly is a strong competitor, particularly if it is subsidized. Rarely however, there is no competition. A fuel or gas based solution is mostly possible as is muscle power. E.g. irrigation has for ages been the domain of muscle power. Also today, treadle pumps offer an economic solution, petrol pumps give more power and more comfort, and a PV pump has to compete with all of the above.

Once those necessary data have been identified, reviewed and entered in the two columns of page **verify** provided in the Excel-sheet a comparison between the proposed and the competing technology allows to make a stop/go decision as to whether the proposal is technically and economically competitive and whether to proceed with the business concept development.

Calculation of Competitiveness

Calculation of ROI	Apple Drier		Stove Drier		Description of Alternative
Investment Capital	650		500		Dry apples in electric stove
Investment Lifespan	5		5		stove lifetime
Production	520		520		20 kg fresh apples per day can also go in stove
Price /unit	19,50		19,50		The current market price
Revenue	10.140		10.140		Euro
Variable cost /unit	8,00		8,00		Cost of fresh apples:10x0,55 €/kg=5,5 €/kg (sales price of 0,55 €/kg is relevant as this is the opportunity cost of the farmer);Cost for packaging: 0,5 €/kg; preparation cost: 10 kg are prepared in 15 minutes and hourly wage is 8 € : 2 €/kg
Cost of energy /unit			2,20		drying of 10 kg lasts 10 h, stove needs 2 kW, price of power is 0,11 €/kWh, therefore costs for power are 2,2 €/kg
Total fixed costs	1.000		1.000		Cost for display, handling
Amortization /unit:	0,25	130	0,19	100	Although the ROI for a solar drier is good, the competition with electric stove can produce cheaper. If we are satisfied with the same margin, the solar drier may cost up to 6.215 €, if we want to achieve the same ROI, the goal-seek function tells us to look for a drier at about € 649. Production reservation: The solar drier may be able to produce more than the stove, but it may fall back during bad weather.
Direct costs /unit:	8,25	4.290	10,39	5.404	
Gross Margin /unit	11,25		9,11		
Fixed costs /unit	1,92		1,92		
Total costs	10,17	5.290	12,32	6.404	
Net Margin	9,33	**4.850**	7,18	**3.736**	
ROI	**746%**		**747%**		
Payback period	**0,13**		**0,13**		

TABLE 8

The example in Table 8 shows that an electric competition can be met if the RE technology can be manufactured at sufficiently low cost and if the electricity price is reasonable.

Tool 6: Product / Service Analysis & Market Context

After reviewing the technology and its costs another stop/go decision must be made. A product which may be viable as itself but meets an unsurmountable competition is always in economic peril. You may seek to improve the product or see under which conditions the economic competition can be overcome. Otherwise halt your efforts.

If the product´s viability is confirmed in **Tool 5**, it is the time to have a closer look at the position of the product/service in the market.

Using the check list **Tool 6**, provided further below define the product or service offering:

Objective:

- To understand what the **key differentiators** of your product / service are and WHY these will make your product or service sell
- Justify the use of renewables and not **conventional energy**?
- Identify **competitive products** / services

What it means (tasks and considerations):

- **Define** the product / service taking the objective above into careful consideration.
- List all the **competitive products** / services and all existing providers. Note that having no competitive product / service can be an opportunity – but it can also be a disadvantage. If a consumer, who has limited income is not used to purchasing your proposed goods / service, your product or service will then compete with other necessities that consumer spends income on.
- Define the **key differentiators** of your product / service – what makes your product or service unique and is this factor attractive to your customer base?

Tool 6 also takes you through a process of defining the market context in which you sell your product:

- Identify the **market need** for your product / service
- Define the **economic environment** in which your product / service will sell
- Assess **growth** opportunities
- Identify market **sensitivities**

Consider as well the **general factors**, which influence the market but are outside of your control:

- Political: - would a change of Government impact on your business? Would government support your business? What are the tender requirements if applicable?

- Energy environment: - Policy; energy access issues; financial support structures from government (e.g. subsidies for solar water heaters); regulatory incentives such as tax rebates for biofuels utilization; anticipated trends, policies and related enabling environment
- Macro-economic – inflation levels. Economic growth and stability; employment / unemployment levels
- Commercial: - Local interest rates; technology availability and support; import tariffs and logistical requirements. How are other similar businesses supported and financed in your area?
- Social and Environmental: - Will the local community / rural area / peri urban area / benefit from the business? Is there social support for the goods / service? Is there a need to conduct an Environmental Impact Assessment? What are the environmental impacts of your product – e.g. burning fuel?

Tool 7: Market Survey

For the experienced entrepreneur often the market opportunities, demand pattern and price fluctuations are known. In a wholesale or contractor´s market, a few enquiries will provide the necessary information.

For a new product/service however, a market survey may be useful, particularly when it is offered to the end consumer. Such a survey can be time consuming and expensive, but it ***should be seen as a promotion tool as much as a market survey tool.***

Objective:

To understand the motivations and limitations of the envisaged costumer group.

What it means (tasks and considerations):

- From the product definition and key differentiator description done in **Tool 6** prepare a brief **description** of the project using **key words** on customer value and price worthiness. Mention incentives if there are (like tax rebate provided for by Revenue Services on any business that uses a percentage of Biofuels in their production facilities)
- Prepare a **questionnaire**. Questions should be non-suggestive and result in clearly distinguishable answers which can be easily evaluated. Multiple choice questions, yes/no answers or numerical answers have the advantage that they can be statistically evaluated. Make sure to ask questions that give answers on the following KEY issues (refer to **Tool 7)** :
  - **Price**: Will the consumer accept the price you need for your offering?
  - **Need**: Will the consumer buy / pay for your product / service? If yes, how frequently?

- **Affordability**: Can your consumer afford to pay, and on which terms (cash/credit)
- **Competition:** Where does the consumer get the product / service from at the moment? If not at all, why not? If yes, why would they change loyalties and buy from you?

As a template, use the questionnaire provided as **Tool 7** further below, adapt this if necessary. You will also find there the example of a survey and the corresponding evaluation done for a phone charge project in Namibia.

- Select a market survey methodology. It is recommended that the survey is conducted on a personal interview basis as opposed to telephone survey or sending out questionnaires as 'flyers'. This means that the questionnaire acts as a guideline and a prompt for the interviewer. An interviewer can explanation the product better and can react on questions or inaccuracies. The quality of the survey however may also vary with the talent of the interviewer.
- Select the sample size i.e. the number of contacts to be interviewed. The sample should represent the different income level groups in the potential market and the size should be in proportion to the size of the potential market. Minimum sample size is about 30.
- RE based products tend to small and focused markets, so a small number of focused and well targeted face-to-face market interviews are likely to be appropriate in most cases.

Tool 8: Analyse Survey Results

Immediately after the survey, the questionnaires have to be checked for completeness and plausibility. Incongruent results have to be expelled, not modified. Numerical or multiple choice answers can be evaluated statistically. Free formulations have to be analysed for common denominators and trends.

The check-list provided as **Tool 8** further below shall help as evaluation form. A carefully drawn conclusion should answer who will need how much of the product under which terms.

Tool 9: Competitor Analysis

In assessing the competitive environment, we have been looking at the technical competition (e.g. using a solar drier or an electric stove) and we found out about competing products (e.g. dried apricots and banana go well in the dried fruit market, dried vegetables access the gastronomy business) Now we are looking at **competing enterprises**.

As long as a business is viable, there will be competition. This is true for **established goods** and services where the RE proposal seeks to offer a competitive advantage (e.g. dried fruit). Here, competition, market behaviour and market segments may well be known and can be gauged.

But also for a **new offering**, competition will likely emerge and assuming who the likely competitors will be and how they will operate is a necessary exercise (e.g. dried homeopathic herbs).

Sometimes it will also be useful to look at the **indirect competition**, which may affect the base of the proposed business (e.g. producers of direct juice compete for the same raw material than apple chips driers)

Objective:

To understand what the competitors are offering, at what price and in what quantities.

Identify their market segment and market perspective, and the corresponding strategy.

What it means (tasks and considerations):

- Identify existing or potential competitors. Don´t be satisfied with "there is nothing else out there" unless you realize that there may be no or little market for what you are offering
- Collect information material and observe their business presentation. Sort them in terms of market penetration, sales volume and customer segment.
- Find out about heir supply base, sales structure and price range
- Talk to suppliers and customers about the company's ability and image
- Enter the information obtained using the check-list provided as **Tool 9** further below. This matrix serves to provide you with a picture of your competition and information about competitors that may influence your business planning and modelling decisions as well as valuable information as to how they price their services / goods, what their service levels are and how their customers react to them.
- Analyse those information, data and seek to learn where the strengths and successes of the market are.
- Finally, identify gaps and opportunities which your offering could fill and describe how you would do that.

Tool 10: Market Assessment Evaluation

Having done the market assessment work under **Tools 6- 9** you know now more about the business than anyone else and you have to communicate it – to customers, to business partners and most of all to financiers. This is best done in brief abstracts with conclusive results. Detailed supporting material can always be annexed.

For your own overview, the check-list provided as **Tool 10** further below reviews the most crucial parameters of the market research and allows you to gauge the strengths and weaknesses of your offering. This tool allows you to consolidate the market study information

and to obtain a “snapshot” view of whether or not favourable market conditions exist for the development and growth of your business.

In order to complement the one page market information **Verify** provided in the Excel-sheet complete also the “market context” section provided there. Table 9 gives an example for the market analyses given for an assumed apple drier business :

Market Context	
Market Size & Potential	naturally dried fruit are increasingly popular, domestic demand justifies the investment, international market survey may justify further expansion
Market Need, Risk	market is not short of dried fruit, may even reject if contamination happens. For producer drying is important for surplus harvest, which else will rot or go to juice. Risks: Cheap import, extended bad weather
Competitor	DuPlessis with sun-drier is much cheaper, with electric stove still can produce cheaper
Competing Technology	Electricity (subsidized)
Appropriateness of RET	natural production and natural processing go together. "Sun-dried" gives better aroma, sells higher
Market Segment	competition goes for bakery market, drier targets small package consumer market
Main Differentiator	solar dries faster than open air, less risk, environmentally superior to electric
Sustainable Production	incresed production might require chemical/radiative stabilization

TABLE 9

GETTING IT RIGHT

GUIDELINES TO BUSINESS PLANNING & FEASIBILITY

11. Market Strategy

From the conclusions drawn through the market assessment work, you can now develop a strategy as to which market segment you target, at which pricing terms and under which growth rate. Use **Tool 11** provided further below to describe your market strategy in that way.

Market Strategy & Customer Analysis / Sales Plan

- Compile and collate information obtained in the 3 steps outlined above
- Define a market strategy
- Define customer target groups and types
- Assess average income levels of customer groups and payment reliability

Objective:

To define a marketing strategy and plan for business implementation, with clear goals and targets.

What it means (tasks and considerations):

- Using completed tools and with careful consideration to your competitor analysis and market survey results, prioritise your approach so that you start your business tackling the potentially most successful segments. For example, you may have established during the competitor analysis that your competition is stronger in some areas than others. This could mean that you sell into their weakest point first, establish your base and reputation and then go and tackle them where they are stronger.
- Redefine your product / service offering statement if your survey results indicate unclear response. Your offering statement should be clear and make sense to those buying.
- Determine your final pricing structure for the initial roll-out of your product / service. Establish the growth areas and the potential thereof and assess the pricing strategy (e.g. increase over time) for the first 3-year period of your business.

12. Cashflow forecast

The ROI based viability assessment introduced in page **Assess** provided in the Excel-sheet provides a simple yet powerful tool to establish the profitability of the proposed product/service and to understand the influence of the basic business parameters.

The market assessment part in page **Verify** provided in the Excel-sheet describes the competition and market environment, leading to the definition of your market position and strategy.

Now, the page **Cashflow** provided in the Excel-sheet introduces the timeline and financing aspects because your market strategy entails a growth pattern over time and the infusion of financing to fuel that growth.

Example:
The apple chip drier example led to the decision, to start the business instead with a large, expensive dryer capacity rather with a smaller, locally manufactured unit which does not give too much initial financial burden, and buy more driers later from the income earned. This way the competition of a cheap electric stove can be overcome.

The preparation of the cash flow sheet is fairly simple as it requires only to insert cost and prices and a series of sales quantities over time. It also provides for the insertion of overhead cost like salaries and rent over time. As time frame the detailed figures for the first twelve months and the overall figures for the next two years are considered.

The overall cash inflow and cash outflow data, the operating result and finally the cash flow are computed from these data.

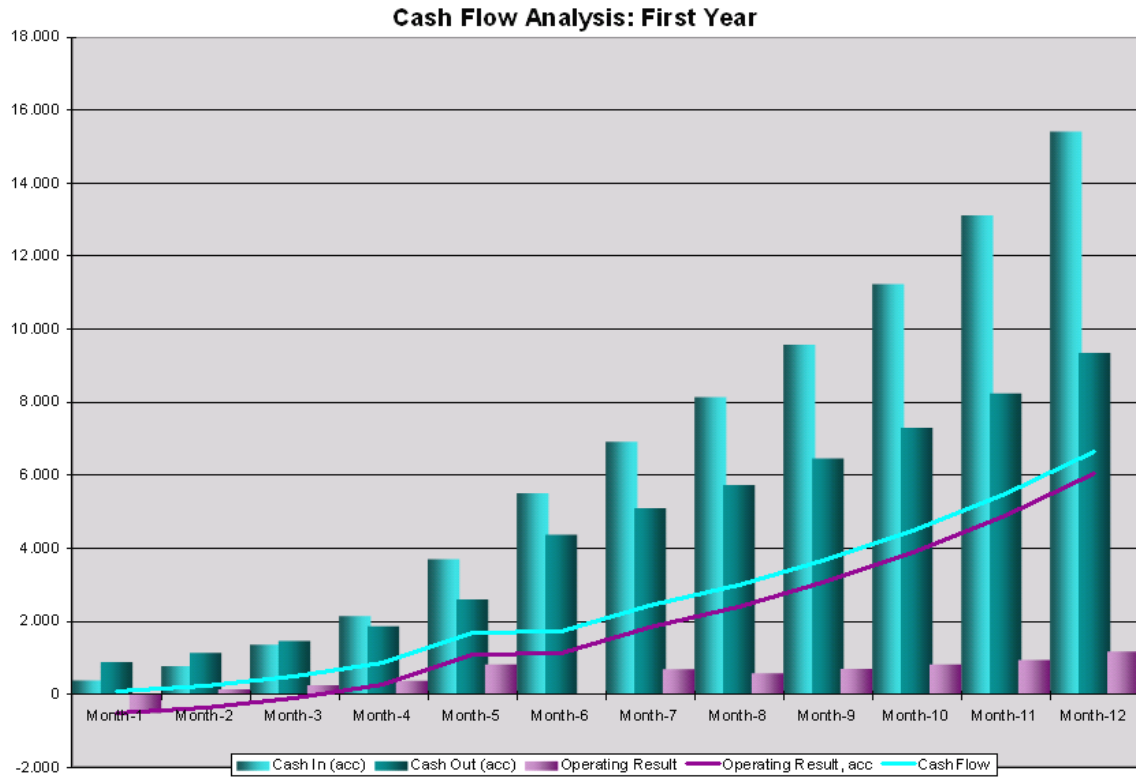
For monitoring the success of your business, it is recommended to make an extra copy of this page and insert the real business results as the company progresses. This way, deviations can be identified early and remedied if necessary.

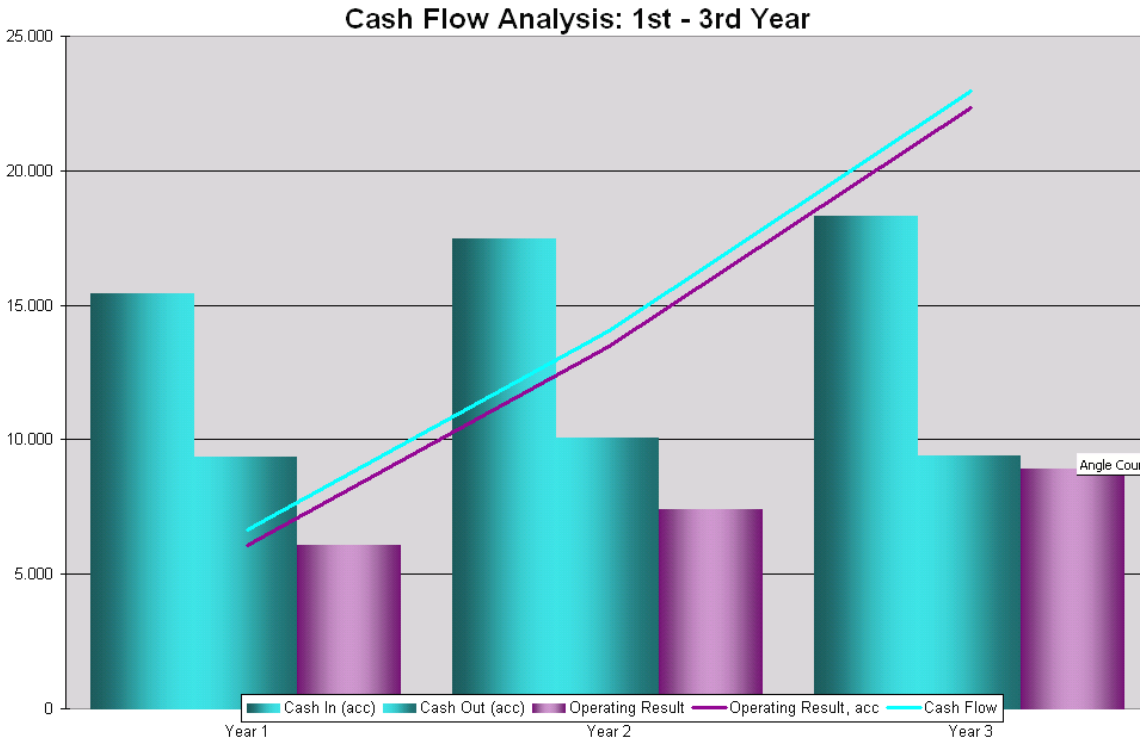
Financiers usually would want this cash flow analysis along with a profitability forecast and an estimated operational balance sheet. For this reason, the page **Cashflow** provided in the Excel-sheet computes also the data used for page **Balance** provided in the Excel-sheet which will tell a financier how soundly based the business is.

The following pages show examples for a cash flow analysis and balance sheet.

Cash Flow Analysis

		Month-1	Month-2	Month-3	Month-4	Month-5	Month-6	Month-7	Month-8	Month-9	Month-10	Month-11	Month-12	Total
		Year 1	**Year 1**	**Year 1**	**Year 1**	**Year 1**	**Year 1**	**Year 1**	**Year 1**	**Year 1**	**Year 1**	**Year 1**	**Year 1**	**Year 1**
Products	***Sales***													
Applechips	kg	20	20	30	40	80	70	50	40	40	40	40	50	520
Bananachips	kg	0	0	0	0	0	20	20	20	30	40	50	60	240
Product 3		0	0	0	0	0	0	0	0	0	0	0	0	0
Cash Inflow														
Turnover	***Price***													
Applechips	19,50	390	390	585	780	1.560	1.365	975	780	780	780	780	975	10.140
Bananachips	22,00	0	0	0	0	0	440	440	440	660	880	1.100	1.320	5.280
Product 3		0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL Turnover		**390**	**390**	**585**	**780**	**1.560**	**1.805**	**1.415**	**1.220**	**1.440**	**1.660**	**1.880**	**2.295**	**15.420**
TOTAL Cash Inflow		390	390	585	780	1.560	1.805	1.415	1.220	1.440	1.660	1.880	2.295	15.420
Cash Outflow														
Material	***Cost***													
Applechips	8,00	160	160	240	320	640	560	400	320	320	320	320	400	4.160
Bananachips	10,00	0	0	0	0	0	200	200	200	300	400	500	600	2.400
Product 3		0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL Material		**160**	**160**	**240**	**320**	**640**	**760**	**600**	**520**	**620**	**720**	**820**	**1.000**	**6.560**
Overhead Cost														***1.000***
Staff A share		50	50	50	50	60	80	80	80	80	80	80	80	820
Staff B														0
Office share		10	10	10	10	10	10	10	10	10	10	10	10	120
Communication		0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle		0	0	0	0	0	0	0	0	0	0	0	0	0
Marketing		5	5	5	5	5	5	5	5	5	5	5	5	60
Investment		**650**					**900**						0	1.550
Investment Lifespan		5			6									
TOTAL Overhead		**715**	**65**	**65**	**65**	**75**	**995**	**95**	**95**	**95**	**95**	**95**	**95**	**2.550**
Capital cost														
interest, redemption	**16%**	21	21	21	21	21	21	21	21	21	21	21	21	250
TOTAL capital		**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**250**
TOTAL Cash Outflow		896	246	326	406	736	1.776	716	636	736	836	936	1.116	9.360
Operating Result		**-506**	**144**	**259**	**374**	**824**	**29**	**699**	**584**	**704**	**824**	**944**	**1.179**	**6.060**
/accumulated		**-506**	**-362**	**-102**	**272**	**1.096**	**1.125**	**1.824**	**2.408**	**3.113**	**3.937**	**4.881**	**6.060**	**6.060**
Capital input		600												600
Cash Flow		**94**	**238**	**498**	**872**	**1.696**	**1.725**	**2.424**	**3.008**	**3.713**	**4.537**	**5.481**	**6.660**	**6.660**


Cash Flow Analysis: First Year
18.000
16.000
14.000
12.000
10.000
8.000
6.000
4.000
2.000
0
-2.000
Month-1
Month-2
Month-3
Month-4
Month-5
Month-6
Month-7
Month-8
Month-9
Month-10
Month-11
Month-12
Cash In (acc)
Cash Out (acc)
Operating Result
Operating Result, acc
Cash Flow


Cash Flow Analysis: 1st - 3rd Year
25.000
20.000
15.000
10.000
5.000
0
Year 1
Year 2
Year 3
Cash In (acc)
Cash Out (acc)
Operating Result
Operating Result, acc
Cash Flow

Profitability Preview

	Year 1	Year 2	Year 3
Sales	15.420	17.470	18.300
Cost of Sales	6.560	7.440	7.800
Gross profit	**8.860**	**10.030**	**10.500**
other operating income	0	0	0
personnel costs	820	900	1.050
hire charges	0	0	0
communication	0	0	0
vehicle	0	0	0
marketing	60	80	100
office	120	200	200
interest	50	50	50
depreciation	130	370	370
other expenses	0	0	0
TOTAL Expenses	**1.180**	**1.600**	**1.770**
annual surplus/deficit	**7.680**	**8.430**	**8.730**
/accumulated	7680,2	16110,4	24840,6

Balance

Year 1

Assets		Liabilities	
fixed assets	1.420	shareholders equity	7.680
current assets	6.660	liabilities	400
Σ	8.080	Σ	8.080

Year 2

Assets		Liabilities	
fixed assets	2.250	shareholders equity	16.110
current assets	14.060	liabilities	200
Σ	16.310	Σ	16.310

Year 3

Assets		Liabilities	
fixed assets	1.880	shareholders equity	24.841
current assets	22.961	liabilities	0
Σ	24.841	Σ	24.841

GETTING IT RIGHT

MARKET ASSESSMENT TOOLS

Tool 6	Product / Service Analysis & Market Context
Definition of product / service offering: ***What is it?*** ***Who will buy it?***	
List all competitors / competitive products / services. If none state if this is an advantage / disadvantage and why	
Identify the key differentiators of your product / service & Why	
If this is a new product / service, describe why you think the market wants / needs it	
State the relevant aspects of the economic environment into which you will sell your product / service	
Make a clear statement as to the market need for your product / service:	

Tool 7 : SAMPLE MARKET SURVEY QUESTIONNAIRE

IMPORTANT: This may need to be adapted to the project specifics

INSABA PROJECT TITLE: _____

INTERVIEWEE: _____

QUESTIONS	Responses:
Describe the project to your interviewee	*Gauge your interviewees response / reaction to your business idea*
A. Potential Users	
Who in your organization / household will use this offering and why?	
Who is the decision maker that will decide to spend money on this offering?	
How frequently would you buy this product / service?	
What are the issues that would stop you from buying this product / service?	
B. Finance & Economics	
What do you think this product / service is worth?	
What value would you attach to the product / service? I.E. How important is this product to you and your household	
Cost benefit: What is the financial / economic benefit of having this product / service?	
What are the benefits for you in purchasing this product / service?	
Do you already purchase this product / service from elsewhere? If yes, where?	
What do you pay for it?	
How would you prefer to pay for the product / service?	
If a capital item, ask: How would you finance it? Do you think there are / should be alternative financing mechanisms available? For example?	
How frequently would you buy this product / service? If a commodity, how much do you consume in a month?	
What added value would you like to see in this product / service?	
Would you buy my offering instead of the one you are buying? Why?	

Tool 8 : Analysing Survey Results

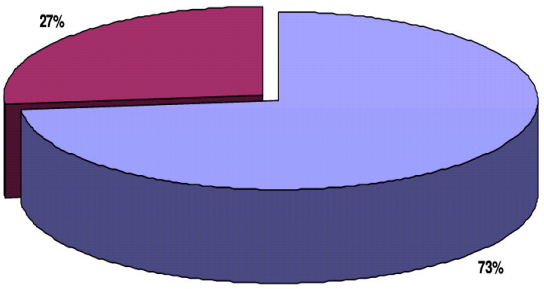
Using the valid questionnaires and interview notes, evaluate by means of an analysis matrix like this:

Interviewee	*Location*	*Date*	*A: Potential Users*	*B: Finance and Economics*	*C: General comments*
	Area, access, socio-economic, energy situation		Key issues- Focus on income bracket, product awareness	Key issues- Focus on pricing, financing / affordability and value add issues	Key issues – focus on volumes, barriers and needs

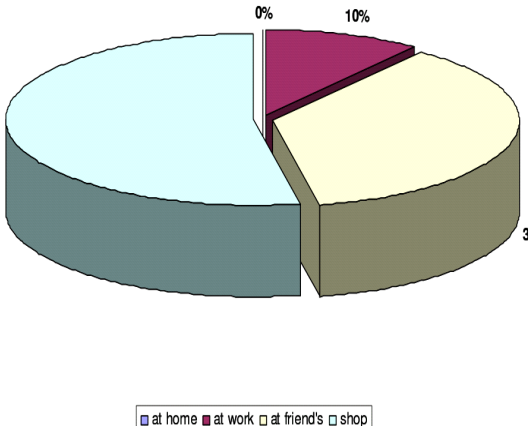
State in which customer group there is a market for your product / service and why	

INSABA - Solar Cell Phone Charging January 2007
Questionnaire: Cell phone charge
1. Do you have a cell phone?
YES
NO
2. If you do have a cell phone, where do you charge it?
at home
at work
at friend's shop
3. Do you pay for charging your cell phone?
YES
NO
4. How much do you pay for a charge?
N$
5. How long can you use your cell phone until the next charge?
Time
6. How often do you need to re-charge during one week?
once
twice
more often

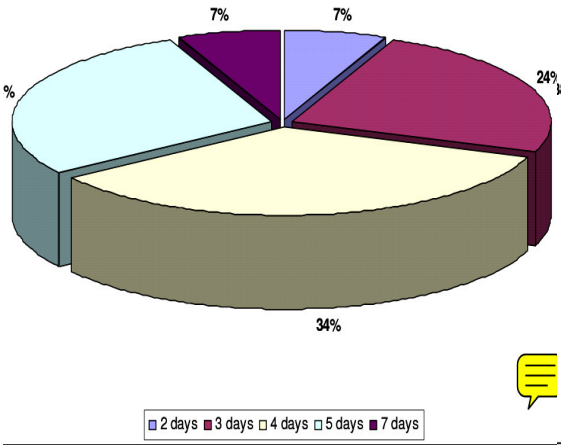
People who pay for charging their cell phones



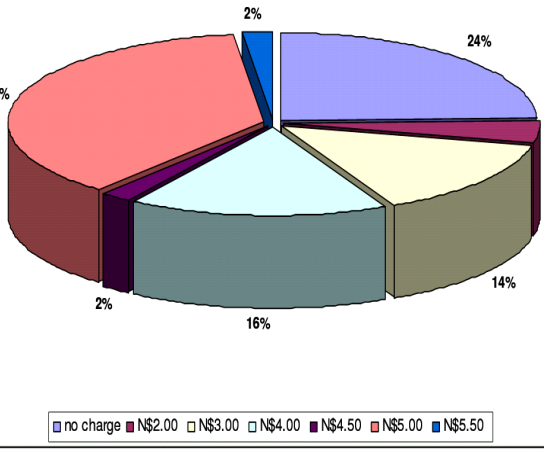
Places where cell phones are charged



Charging sequence in Days



N$ Expenditure per charge



Tool 9 :	Competitor Analysis		
Direct Competitor	**Market penetration**	**Price structure**	**Sales volumes / month**
List:			
Indirect Competitor	**Market penetration**	**Price structure**	**Sales volumes / month**
List:			

Gap Analysis:
Given the above analysis, state where your product / service is / will be competitive

Tool 10 : Market Analysis Evaluation

Rank each item on a scale of 5 – 0, where ***5 is attractive*** and ***0*** means you have ***no answer to / knowledge*** on that item in relation to your business. Use the information and analysis obtained from completed market assessment tools.

		5	4	3	2	1	0
#1	**The product/ service is competitive (differentiators)**						
#2	**There is a clear gap in the market**						
#3	**My offering is price competitive**						
#4	**Market linkages are in place (value chain)**						
#5	**Buyers afford the product / have accessible finance**						
#6	**There is sufficient volume of potential users**						
#7	**Barriers can be overcome**						
#8	**Growth potential in the market is positive**						
#9	**Market share is sustainable**						
#10	**Market risks and sensi-tivities can be mitigated**						
	TOTALS						

GETTING IT RIGHT

BUSINESS PLANNING AND FEASIBILITY TOOLS

Tool 11: Market Strategy

Market strategy statement / mission statement	
Pricing strategy:	*I am going to sell this product service for x in year 1 and increase this year on year by?*
Competitive advantage:	*I can compete effectively with other product service providers because my offering has the following distinguishing factors:*
Market share or market segment	*I can take x% of this share from them over the first 3 years of selling this product / service because:*
***Growth Strategy**:*	*Based on the market survey results, I believe I can sell x volumes in year 1. After x period, I will be able to grow these sales volumes because:*
My sales volumes will increase from x to y in the period commencing:	*Do this exercise for the lifetime of the investment cost. For example, if you are running a SWH Laundromat and the cost of the system is 5000 USD and lasts for 5 years, then sales projections and a growth strategy should be done for a 15 year period*