Preparing and presenting proposals

A guidebook on preparing technology transfer projects for financing

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A guidebook on preparing technology transfer projects for financing

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Foreword

Climate change is one of the most serious environmental issues that we face today. The impacts of climate change could have far-reaching and unpredictable environmental, social, and economic consequences. Yet climate change also creates new opportunities, as demonstrated by the increasing investment in the application of climate-friendly technologies and in the emerging carbon market. It is clear that the development and transfer of technologies plays a key role in the mitigation of and adaptation to climate change.

Market barriers are considered to be one of the main obstacles to the deployment and diffusion of climate-friendly technologies, particularly in developing countries. One of the challenges faced by project developers is how ideas can be transformed into sound project proposals and how the required financing for implementation can be secured. Matching good project ideas with the needs of financial providers, both public and private, is an important element in lowering market barriers.

The aim of this guidebook is to assist project developers in developing countries and other stakeholders in preparing financing proposals that will meet the standards of international finance providers. Better projects, increased funding and shorter funding cycles can be achieved through tools, such as financial software, that are accessible to both project developers and finance providers. It is our hope that this guidebook and its accompanying templates will improve communication between these two groups and thereby enhance the diffusion of climate-friendly technology.

Yvo de Boer
Executive Secretary
United Nations Framework Convention on Climate Change
September 2006

Preface

The need for the Expert Group on Technology Transfer (EGTT) to involve itself in the issue of innovative financing is based on the recognition of the need to improve access to financing from a wide variety of available sources in order to realize the increasing number of technology transfer projects, given the limited capacity of public financing sources.

Under the "enabling environments" theme of the technology transfer framework, EGTT discussed barriers to enhancing financing for technology transfer to developing countries. These barriers, in conjunction with the scale of the required investments, prompted EGTT, in conjunction with the secretariat and representatives of the Global Environmental Facility (GEF) and the United Nations Environment Programme (UNEP), to initiate discussions on innovative options for financing the development and transfer of technologies. These discussions led to the UNFCCC workshop on innovative options to finance the development and transfer of technologies, held in Montreal, Canada, in 2004. That workshop offered the first forum within the UNFCCC process to address the issue of financing the development and transfer of technology and the first to engage private-sector financiers.

The follow-up workshop on innovative options for financing the results of technology needs assessments (TNAs), held in Bonn, Germany, in 2005, was a next step in this process, demonstrating the progress made since the first workshop on innovative financing. Various projects identified from TNAs and other sources were presented by the representatives and commented on by financing experts. All projects demonstrated opportunities to benefit from the exchange of views with the finance sector, indicating that there are lessons to be learned on both sides.

The workshops in Montreal and Bonn, organized in collaboration with the Climate Technology Initiative (CTI) and the private sector, both highlighted the need for toolkits and handbooks on innovative and non-innovative financing of technology transfer projects to improve project preparation and assessment to international standards. The EGTT and UNFCCC secretariat workplan for 2006 includes the development of a practitioners' guide to assist project developers in developing countries in preparing project proposals to satisfy this need, and the result is this guidebook.

The publication of this guidebook is the result of the dedicated efforts of all those involved in its production, in particular its principal consultants, staff of the UNFCCC secretariat, members of EGTT and numerous practitioners engaged in project development and financing.

Bernard Mazijn
EGTT Chair
September 2006

Acknowledgement

This guidebook was prepared by the Technology sub-programme of the Adaptation, Technology and Science Programme of the UNFCCC secretariat. This guidebook is to the result of close collaboration between the consultants, Philip LaRocco and Maria Salinas, who drafted the bulk of the text, and staff of the UNFCCC secretariat. In carrying out this task, they received valuable assistance and advice from members of the Expert Group on Technology Transfer and numerous practitioners.

Special acknowledgement is due to the Government of Belgium and the European Community, for their generous financial support, without which the publication of this guidebook would not have been possible.

Introduction

Welcome to "Preparing and Presenting Proposals". This guidebook has a single purpose: to improve the odds that good ideas will attract the resources needed for successful implementation.

There are many good ideas. Unfortunately, most do not get beyond the idea stage because rarely can a single person assemble all the resources needed and do all the work required to convert an idea into a reality. To obtain such resources we must explain our idea clearly, be convincing that the idea can be implemented and know what is needed to succeed. That is what a proposal does.

A proposal consists of a **plan** to do something, combined with a **request** for resources.

While no single formula or template exists for preparing a successful proposal, there are **common ingredients** that most well-prepared proposals contain. Understanding and demonstrating a mastery of these common ingredients combined with **knowing the audience** will greatly increase the chance of success. This guidebook explains these common ingredients using a question-and-answer framework.

What→Where→Who→How→Why→What If→To Whom?

Journalists are taught to make sure that their reports answer the questions Who? What? When? Where? Why? A complete proposal should answer a similar set of questions.

- **What** is being proposed? → *The core concept*
- **Where** will the proposal be implemented? → *The setting*
- **Who** will champion the proposal and see it to completion, and who else must be involved? → *The team*
- **How** will the proposal be implemented? → *Implementation plans*
- **Why** is the proposal important and why should it be supported? → *Expectations*
- **What if** things do not go as planned? → *Contingencies*
- **To Whom** is the proposal addressed? → *The audience*

A proposal that addresses these questions will meet the entry requirements of lenders, investors, donors, grant-makers, carbon professionals and service providers. The **challenge** is to do a fine job on each of these points, rather than overpreparing some answers and ignoring others.

This guidebook describes each of these requirements in detail, along with offering suggestions on how better to understand the **audience** being targeted.

WHAT – The core concept

The products, services and technologies being proposed for implementation comprise the "what" of a proposal. The core of any proposal is a clear statement of the product or service to be offered and a clear explanation of the client group to be served.

WHERE – The setting

The region, industry and market where the core concept will be implemented define the "where" of the proposal. Every setting is different. The success or failure of a proposal will be greatly determined by a mix of factors that need to be understood and explained. "Where" refers first to the actual location of what is being proposed. That is, the village or town, district or river where implementation will occur. Then it refers to the social-economic-political-governmental circumstances that define its setting.

WHO – The team

The institution, company, community or individual(s) who will have the responsibility for converting what is being proposed into action and results comprise the "who" of the proposal, the parties at risk of failure and responsible for action. Who will champion the proposal and see it to its completion? And who ***else*** must be involved? Most providers of finance and services would rate the quality of the **Champion** and the team as ***the*** most important factor weighed in making an investment decision.

Proposals: the bridge between Champions and Enablers

Champions are the people who convert ideas into action. They take on the chores and responsibility and make the needed commitment. These are the men and women who generally understand best what must be done to succeed and are the ones who realize what resources – expertise, money, skills – must be obtained. Champions can be individual entrepreneurs in the private sector, or civil society representatives or part of government. The institutional home or title assigned to these men and women does not matter a great deal. It is their commitment that does.

Enablers are the people who have the resources and knowledge Champions need. Enablers can be financial investors or representatives of government programmes; philanthropists or private voluntary organizations; niche professionals engaged in subjects such as carbon mitigation and adaptation; and many others. Enablers are looking for ideas to support. They may do so for financial, social, environmental or other reasons or for a combination of benefits

HOW – The implementation plan

The planning, finance, operations, construction, management, monitoring and evaluation elements comprise the "how" of the proposal. A successful proposal demonstrates a mastery of the complete range of factors that must be managed. It is here that the Champion shows how all the pieces come together in a manageable way.

WHY – Expectations and benefits

The financial, social and environmental implications, the possible impacts and outcomes – both positive and negative – the risks and rewards, the threats and the opportunities being set forth in the proposal; together these constitute the "why" of a proposal. Why is the proposal important and why should it be supported? The most essential concept here is to capture and portray ***all*** the benefits that might be realized. These tend to fall into the three categories of **people, planet and profit**.

WHAT IF – Contingency planning

"What If" things do not go as planned? Professionals know that very few things roll out exactly as planned. A proposal needs to show an awareness of the key events that can alter cost, timing, service delivery and outcome. Then, the Champion can demonstrate how he or she will deal with those circumstances.

TO WHOM – The audience

A well-prepared proposal conforms to the needs and processes of the enabling organization from which resources are needed. It concentrates on ***its*** expectations, ***its*** needs and ***its*** processes for considering, approving and disbursing the resources requested in the proposal.

Innovative financing is not about creating something new. It is about a **Champion** making the connection with an **Enabler** who can provide needed and appropriate resources. Each Enabler speaks his or her own language and has priorities and responsibilities. Understanding the universe of enabling organizations is crucial to proposal preparation and presentation.

Guidebook organization

The intent in preparing this guidebook was to try to distil the many experiences which Champions and Enablers have shared. Most of that sharing has taken place in the real life circumstance of putting proposals together and trying to achieve positive outcomes. Anything of value came from the collection of experiences which Enablers and Champions have shared.

Chapters

Chapter 1 is a summary of this entire guidebook. It touches on all the topics that follow and offers guidance on the location of additional explanations and information.

Chapter 2, "Before preparing a proposal", presents the seven-question approach in more detail, introduces important accounting and finance concepts and asks the Champion to assess his or her experience base and motivation.

Chapter 3, "Preparing a proposal", sets forth a step-by-step approach to the issues to be addressed and questions to be answered. The information gathered in response to these issues and questions form the core of a balanced, well-prepared proposal.

Chapter 4, "Presenting a proposal", addresses the requirements of getting a well-prepared proposal in front of the right audience.

Chapter 5, which is entitled "Customizing a proposal", addresses the needs of proposals specifically targeted to donors who require a logical framework presentation, carbon professionals who require special information, and proposals made to lenders and investors.

Information boxes

Throughout the text, information boxes appear. These boxes point to internet and printed resources that may prove useful for investigating technologies, researching the setting where a proposal will be implemented, preparing cash flow projections, identifying sources of funding and finding other information. These resources are itemized in annex IV of this guidebook.

Lessons learned

Throughout the text, "Lesson learned" boxes set forth notes and comments that reflect the experiences of practitioners: both Champions preparing and Enablers receiving proposals over the years. These are meant to help set the tone and avoid pitfalls.

Templates

Despite the sincere conviction that proposals are unique creations, this guidebook includes a series of templates within the text as a text annex. The templates are also available as spreadsheets. The intent is to assist and guide, not to prescribe.

Annexes

A series of annexes supplement or collect in one place some of the materials referred to in the guidebook. The annexes include a detailed proposal, a glossary, a compilation of web and other resources, some calculation details, an illustrative "due diligence" checklist and a format for a term sheet.

CD-ROM

This guidebook is accompanied by a CD-ROM, which contains the templates in electronic format and the case studies discussed in chapter 3 and annex II.

Authors' note:

Please send any corrections or suggestions to us at the e-mail address below. Suggestions for the templates would be especially welcomed.

The authors

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1. Summary

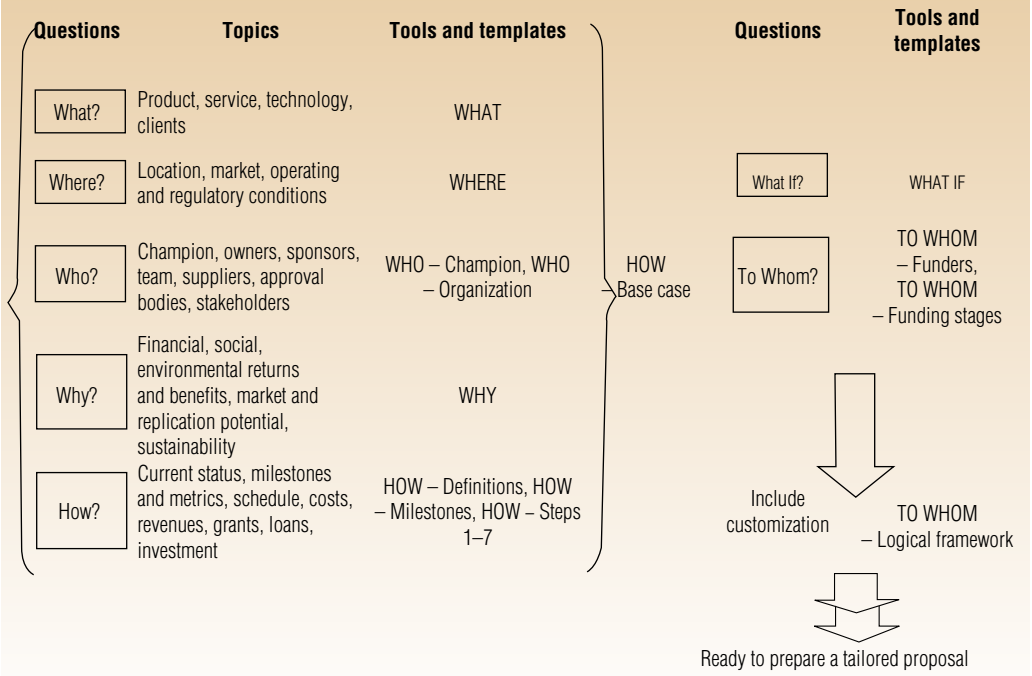
What?→Where?→Who?→How?→Why?→What If?→To Whom?

A **proposal** consists of a "Champion's" plan to do something combined with a **request** to an "Enabler" for resources. A proposal that addresses the following questions in a **complete and balanced** way has a better chance of being considered seriously than a less complete or out-of-balance proposal.

- **What** is being proposed?
- **Where** will the proposal be implemented?
- **Who** will champion the proposal and see it to completion, and who else must be involved?
- **How** will the proposal be implemented?
- **Why** is the proposal important and why should it be supported?
- **What** if things do not go as planned?
- **To Whom** is the proposal addressed?

The following **flow chart** summarizes the process of preparing and presenting proposals and shows how these basic questions are interrelated.

Flow chart for preparing and presenting proposals



What: Product, service, technology and client

What is being proposed? What technology, product or service is being planned? What form will its implementation take? What resource request is being made?

The essence of any proposal is to offer something new. It could be a new product to produce more cooking heat from the same amount of fuel, or convert the power of moving water into electricity. It could be newly designed and treated bed-nets to reduce the incidence of malaria or a service to identify ways to reduce the amount of fuel, heat or electricity used in an agro-industrial process. It could be product adaptations to deal with changing local climate.

In almost all cases the product or service being offered will involve a technology.[1] A proposal must first show that the proposed product or service makes sense. Then, the appropriateness of the proposed technology can be clearly demonstrated. Launching into detailed explanations of technology before explaining its appropriateness to the circumstances at hand reverses the process and should be avoided.

Product or service to be offered: the proposal should be clear about what product or service is to be offered. Products or services are described with phrases such as "household electricity", "cleaner production" or "improved cooking fuel".

Technology to deliver the product or service: the proposal must demonstrate brief mastery of the technology being proposed to deliver a product or service. Technologies tend to be described with phrases such as "photovoltaic solar panels" or "medium-head hydroelectricity using a Francis turbine". Technologies also involve improvements to become more efficient in resource use or because of changed local circumstances (the addition of rubber tyres to bullock carts represents an adaptation resulting from paved roads; drought-resistant plants serve a similar purpose in a greenhouse-gas-rich world).

Client group to be provided product or service: the customers being offered a product or service or the target client group of a programme sponsored by a third party.

Appropriateness: the proposal must summarize why a particular product or service is appropriate to a client group (affordable, offers significant benefits, better than other alternatives) and why a particular delivery technology makes sense (least costly, easy to maintain) and is sustainable.

Reference: Chapter 2.1 of this guidebook presents a more detailed explanation of products, services, technologies and clients. Chapter 3, task 1 expands on this description. See also the "WHAT" template in annex I.

Where: Location, market and setting

Where will the proposal be implemented? This question asks about the location, market, regulatory and operating setting where the proposal will take place. In this case, "where" takes on numerous meanings. It refers first to the actual location of what is being proposed. That is, the village or town, district or river where implementation will occur. Then it refers to the social-economic-political-governmental circumstances that define its setting.

Geography: the proposal should be clearly associated with a specific geographic location. A site

1 Technology: the entire body of methods and materials available to fashion a desired result.

or service territory shown on a simple map is helpful. It places the site or service territory in the larger context of the country or region.

Market: the proposal's service territory has certain social, economic and cultural characteristics that need to be described. Generally the income and wealth distribution within an area is an important fact to present clearly and document well.

Regulatory: the laws and rules that will govern the creation and operation of what is proposed come together under the heading "regulatory framework". Usually there are national and local rules to be observed. Proposals need to set forth ***all*** the enabling laws and implementation regulations appropriate to a proposal. These can include safety, environmental and construction regulations.

Reference: See chapter 2.1 and chapter 3, task 2 for more information. See also "WHERE" template in annex I.

Who: Champion, team, other key actors and stakeholders

Who will champion the proposal and see it to its completion? And who ***else*** must be involved? This question asks about ***all*** the parties and institutions whose cooperation and support are needed.

Champion: The first order of business here is to define the "Champion" and stress its importance. A Champion is that individual or small group that is indispensable to successful implementation; those men and women who are committing their time and financial resources to a proposal, who are committed to seeing a proposal through and are willing to be at risk of failure. If a survey is made of the factors that donors, lenders and investors deem most important to success, a majority of responses will emphasize this critical component. It does not matter whether it is called "management" or "project team", "sponsor" or "developer", "entrepreneur" or "enterprise"; the "Champion" is just that. Over reliance on process and procedure rather than people as the driving force behind success is a common failing of many proposals. Responsibility, commitment and risk characterize a Champion. And it is usually the Champion who prepares a proposal for presentation to others.

Owners and sponsors: the individuals or groups providing capital and sponsorship of a proposal. Champions may also be owners and sponsors. Owners and sponsors bring resources to a proposal. These may include funding, property, reputation and expertise. Further, owners and sponsors make commitments and pledges to ensure the proposal's implementation.

Governance: whether it is a company or a project secured by contracts, it is expected that a plan will be implemented with a governing body. This could be a board of directors, advisors or supervisors (the form will be dictated by the structure and local setting), but proposals must be clear about how major decisions will be made or reviewed. Who has the authority, and control over the budget?

Employees and staff represent the human resources that will be mobilized to implement the proposal. It must be clear that enough people, properly trained and motivated, can be assigned to the various tasks that need to be successfully carried out. Equally clear, to be sustainable, the full cost of the whole team must be budgeted and recovered over time.

Contractors and suppliers deliver the goods and services needed to make a plan work. In a sense these are "partners"; in another sense these are critical parties over whom little control can

be exercised but upon whom implementation is critically dependent. They must be chosen well and objectively. In every choice of equipment or contractor or service provider, Champions and Enablers need to ask themselves: who is our Plan B if Plan A fails to deliver the promised goods or services?

Approval bodies: permission is required to use public land, to build, to operate, to protect the environment, to avoid hazardous health, safety and materials situations, to be incorporated, to do business and even to pay taxes. Obtaining permission involves an approval body that the Champion must understand and be able to work with. A proposal must demonstrate this capacity. "Assuming" approval, especially because of good personal or professional relationships, is a poor substitute for knowing and mastering the rules of the game.

Professional advisors. Depending on the proposal, different types of expertise may be required: engineering, social development, environmental assessment, financial planning, accounting, negotiations, monitoring and evaluation and so on. The proposal must be clear about the required expertise, its availability and the expected costs.

Organization for implementation of the plan and proposal: generally speaking, the implementation of a proposal can be viewed as a series of formal and informal contracts[2] between all the parties necessary for implementation. Lining these contracts up in a congruent manner is a good way both to determine if the pieces fit together and to present the flow of activities that a proposal and plan imply. In parallel, it is important to fix authority and responsibility with particular people or positions during the entire cycle of planning, construction or pre-operational activities and operations. An organization chart illustrates this latter purpose but clear, transparent job descriptions are the key to fixing authority and responsibility. If a committee is responsible for formulating recommendations and decisions (versus reviewing and approving recommendations of the responsible person), then procedures to resolve deadlocks and delays are essential.

Reference: for more information see chapter 2.1, chapter 3, task 3 and the "WHO" template in annex I.

How: The plan

How will the proposal be implemented? **How** will the planning be completed? **How** will the proposal be financed? **How** will construction or pre-operational steps be carried out? **How** will operations and maintenance, monitoring and evaluations occur? How will risks be managed and problems addressed? How will progress be monitored and reported?

Current status: the proposal should state clearly what has been completed and what is in progress. This is the launching point for taking what is proposed forward. Certain assumptions will be made along the way – including the assumption that the request for resources included in the proposal will be met – and these must be noted as clearly as possible throughout the proposal. It is a surprisingly common occurrence to read a proposal and not be sure of two things: who is the Champion, and what is the proposal's current status? Of particular importance here are such fundamental things as: is the implementing organization legally established? Does it have a bank account? Does it keep formal records? Common-sense details that "introduce" a proposal include communicating such fundamental information.

2 Contract: a promise, generally in writing, to perform specified services or deliver specified goods in return for some form of compensation.

Major milestones: most proposals can be broken down into very specific time periods that end with the achievement of specific milestones:

- From current status to **completion of planning**
- From completion of planning to **final authorization**
- From final authorization to **commencement of construction or pre-operation** phase
- From construction or pre-operation phase to **operation**
- From operation to **recurring maintenance, management and reporting,** including **monitoring and evaluation**

Completion of planning means that all the factors which go into a plan have been identified and are understood. The conditions under which something is feasible or infeasible are clear.

Financial structuring: whether a single grant from one donor to fund a one-time project or a combination of debt, mezzanine financing and equity to launch a business expected to grow, every proposal has a financial structure that needs to be set forth and explained. Where will the monies come from? Where will the monies go? Over time, what does this financial structure look like and evolve into? At its simplest, a proxy for a financial structure is a bank account where everything that involves funding comes together. Once all the pieces are clear, then different combinations and "structures" are possible.

Final authorization and "closing": financing contracts, construction contracts, land purchase or leases, approvals to build or operate or cross public lands or use natural resources, contracts to sell the output of what is being built or to provide a service in a particular region, contracts to provide fuel or equipment or trucking or staff: all these pieces must come together to reach the milestone known as "closing" (the event that usually brings all the pieces together is often called "financial closing" because the investors and lenders want to know that all the variables than can be completed have been completed). The proposal must show both a mastery of these many events and a schedule that makes sense. Unrealistic schedules are the rule rather than the exception: these create elevated expectations which, when not met, create tensions. Realism in knowing all the steps to be completed and what will really be required is an excellent investment at an early stage.

Construction or pre-operations: whether building a physical installation or organizing a service network, there are usually a series of what can be crucial and complex tasks that must occur ***after*** resources and authorizations have been organized but ***before*** the final product or service can be offered to client groups. Often this relates back to the technology that is proposed. The proposal must set forth the ***critical*** issues involved in this phase. This is especially important if there are significant unknowns (such as the condition of the rock through which a tunnel will be bored) that may be encountered.

Start-up of operations: describes a period of time, sometimes very short, when the results of construction or pre-operations are ready to be tested and accepted. This can be an important transfer of responsibility from the entity building something to the entity responsible for operating it.

Operations and maintenance, management and reporting: while very often a proposal emphasizes building or creating something new, an important part of a proposal is presenting how something

will be managed on a day-to-day basis. This includes how what is proposed will be operated and maintained.

- Will its value grow or shrink over time?
- After it is built, should major repairs and refittings be expected?
- How will routine matters be handled? Non-routine?
- What records will be maintained?
- How will these be shared and discussed?
- How will decisions be made?
- How often and based on what documents?

Monitoring and evaluation: from the very outset the proposal must show how the existing conditions (often called the baseline) and the changes expected from the proposed new offering will be monitored and, later, evaluated. Although this could legitimately be included under the heading of management and reporting, M&E, as it is abbreviated, has taken on a special identity because of its broad and open-ended mandate to measure and count all manner of triple-bottom-line impacts. As a result, there may be some duplication between what some see as reporting and others see as M&E.

Planning stage milestone examples

- Completion of planning
- Financial structuring
- Contract and financial closing

Construction or pre-operations milestone examples

- Groundbreaking
- Completion of civil works
- Buildings
- Equipment installation and acceptance testing
- Opening of branches or office

Operations milestone examples

- Start-up
- Quarterly and annual performance reporting
- Completion of routine maintenance schedule
- Completion of major maintenance and rehabilitation

Reference: See chapter 2.1, chapter 3, task 4 and "HOW" template in annex I.

Why: Benefits

Why is the proposal important and why should it be supported? This question asks about the expectations, impacts and outcomes that will occur if the proposal is implemented as planned.

The most essential concept here is to capture and portray ***all*** the benefits that might be realized. These tend to fall into the three neat categories of **people, planet and profit**.

Social and development impacts (people): a broad range of expectations are possible. Improved health or quality of life from reduced indoor air pollution is one. Increased time for education and income production is another.

Environmental benefits (planet): environmental expectations can range from the very local to the truly global. Reduction in unsustainable firewood use is one; reduced carbon dioxide build-up in the atmosphere is another.

Financial returns (profits): from a financial perspective, a proposal is ultimately a statement of cash spent to implement what is proposed and cash received from beneficiaries, whether client groups or others willing to sponsor these clients. Some financial returns and profits are deemed "commercial", usually meaning there is a balance between the returns expected and the risks assumed. Other financial returns are described as "near commercial", "less than commercial", "charitable" or other terms that generally imply that the non-financial benefits – people and planet, development and environment – supplement the purely financial return.

Bringing together social-developmental, environmental and financial returns is sometimes referred to as the "triple bottom line", which is another way to describe the blended value of "people, planet and profit".

Reference: See chapter 2.1, chapter 3, task 5 and "WHY" template in annex I.

There are other returns to keep in mind. For some, there are emotional returns – the benefits of doing good and improving the quality of life of others – and for others there are learning and market opening benefits: establishing the human infrastructure that will allow for growth in the future. Champions need to inventory all possible benefits fully. Sometimes one or two small differences between proposals can make all the difference in making one proposal attractive to enabling organizations.

Base case

In preparing a proposal the Champion must wrestle with the first five questions – What, Where, Who, How and Why – as a set of connected pieces, where changes in one can cause many other changes. Rarely are all the pieces crystal clear even as great volumes of information are amassed. As a result, the Champion needs to assemble as much information and as many answers as possible, all the while making reasoned assumptions of what is not known. The purpose is to construct a realistic picture of how all the pieces will come together. This realistic picture is called the **base case**. It reflects both what is known at the time of its preparation and what is assumed.

Base case: the collected facts and assumptions about what is proposed, especially in regard to time, money and resources; that is, approvals, schedule, initial costs, revenues, ongoing expenses, people and equipment needed, and sources of funding.

The request: it is on the basis of a careful assessment of all the steps that must be implemented (How?) combined with most realistic picture possible (base case) that both what is missing and what is needed for success can be shown.

Among the categories of resources that might be missing may be found items such as:

- **Funding or technical assistance** to complete planning
- **Seed capital** to test or roll out part of what is proposed
- **Partners** to complete the team
- **Advisors and experts** to assist with critical tasks
- **Systems and staff** to manage implementation
- **Financing for construction** in the form of loans and equity investment[3]

Placing the request in its proper time frame is important to narrowing the search for resources that can fill the request. Asking a government-sponsored laboratory for construction financing is a waste of time for both parties involved.

Reference: See chapter 2.2 for essential accounting, finance and scheduling information and chapter 3, task 6.

What If: Sensitivity analysis

What If things do not go as planned? This question tests the planning assumptions and describes outcomes and impacts that may differ from what is expected.

First of all, what can go wrong? After making a list, the probability of each event and its impact on the previously described inventory of benefits must be examined. What is the impact of differences in time: what if things take longer periods of time to be completed or are completed more quickly than planned? What about money differences: what if things cost more (or less) or revenue units are higher or lower than planned? And, what about output: what if the number of units of things produced or consumed is higher or lower than planned?

Then there are combinations of events: what if it takes longer and costs more to get something ready for operations and fewer units are produced than originally planned?

- **Time events**: if things take more or less time than planned
- **Cost and revenue events**: if things cost more or less than planned or if revenues are greater or less than planned in the base case
- **Performance events**: if what is planned does not produce the production originally expected
- **Other events**: such as the death of the proposal's Champion, or severe weather such as a hurricane or drought

Sensitivity analysis is the foundation of what is called "risk management". We all believe that events will roll out as planned and we all know that such is rarely the case. Not only the Champion but all the other participants want to know "What If" this or that happens.

Reference: see chapter 2.1, chapter 3, task 7 and "WHAT IF" template in annex I.

3 Loans are made based on the ability of the proposal to repay what is borrowed under clearly defined terms. Equity investments are made in return for a share of the profits upon the success of what is proposed.

To Whom: Audience

To Whom is the proposal addressed? This is concerned with the target audience for whom a proposal is prepared. It concentrates on ***their*** expectations, ***their*** needs and, ***their*** processes for considering, approving and disbursing resources requested in a proposal.

The spectrum of **enabling organizations** – organizations that can provide funding and services – is quite well defined. It ranges from the purely charitable to the purely commercial. At one end of the spectrum one finds charitable foundations and individual donors. At the other one finds high-return venture capital funds and investors. Few if any proposals appeal to all the organizations and individuals along this spectrum. Research on the general and specific needs of each is a crucial investment of time during the proposal preparation process. The following description is simplified but not oversimplified. It represents general principles and experience to guide Champions as searches are conducted.

The colours of money – Financial inputs for proposals fundamentally come in four different "colours": **revenues** for products and services, including operating subsidies; **grants** that do not need to be repaid; **loans** that need to be repaid on defined terms; and **equity**, which is repaid from the profits, if any, from a proposal.

Revenues are the payments made by end users and others on their behalf (e.g., a government-sponsored subsidy programme is a revenue in the form of an operating subsidy).

Grants come from donors: charitable foundations, government-sponsored programmes (including multilateral development organizations and specialized programmes) and other specialized organizations.

Loans come from lenders: government-sponsored development institutions and banks, some charitable foundations, socially responsible and specialized investment funds and from commercial banks.

Equity comes from investors: owners of businesses or sponsors of social programmes, government-sponsored investment organizations, socially responsible and specialized investment funds, individuals and financial institutions.

Generally speaking – and there are many exceptions – a technology transfer proposal must explore and consider all four types of funding for a variety of needs.

Revenues are the most logical funding source, first to cover the cost of the product or services provided and, second, to contribute to the operation of the company or programme providing the product or service. Ideally, there will be funds left over to be applied to any loans that have been made and to make a payment (called a dividend) to the providers of equity. This is sometimes called a "**waterfall**", where monies received are first applied to the cost of the product or service provided (called "cost of goods sold"), second to other operating expenses (these would include taxes, for example, and any interest on loans); third, to loan payments (such payments are called "**principal**" or "**amortization**", while the combination of principal and interest on loans is called "**debt service**").

Operating grants are a logical addition to revenues when revenues from customers cannot cover the cost of goods and services and there is a compelling social, environmental or other reason to provide this good or service to this customer or client group. Operating grants can come from government-sponsored programmes and charitable foundations.

Capital grants are used to reduce the cost of a proposal so that loans and equity can cover the balance. Capital grants often reflect a larger set of issues: to make a product or service affordable to customers by lowering the initial cost or to offset an unfair cost disadvantage in one technology versus another or to defray one-time costs of introducing a technology that has important advantages over time.

Loans are made to fund the construction of a project or the purchase of goods or the provision of services where the revenues from the goods or services are expected to be more than sufficient to repay the loans as and when promised. Some lenders are flexible in their loans for a variety of reasons. Others are absolutely not.

Equity is also called risk capital and, in some situations, venture capital. Providers of equity – also called "investors" to differentiate them from "lenders" of loans and "donors" of grants – are repaid only if a proposal is successful and profitable.

There are a few other ways to finance projects, goods and services but these, upon examination, are actually revenues or grants, loans or equity. Leasing, build, operate and transfer (BOT) contracts and instalment sales or purchases (hire purchase) are loans dressed up in more complicated clothes. So are financing or credit terms from a supplier. Mezzanine debt, preferred shares, quasi-debt and quasi-equity are combinations of loans and equity. Monetization (converting to cash) and sale of carbon credits or pollution benefits are revenues from different customers for the same basic product or service being offered. Champions must (1) avoid being dazzled by financial engineering jargon; (2) understand the different "colours" of money; and (3) master the various returns that customers, donors, lenders and investors are seeking.

This latter point is important. When you calculate the cash incoming and outgoing amounts over a period of time it is possible to determine something called a project or proposal **rate of return**. This is a very rough but important indicator of two things: the proposal's **financial feasibility** (a negative rate of return means there is more outgoing cash than incoming and it will run out of money at some point in time without additional resources) and the **audience** which might be interested. Negative and near zero returns require grants and subsidies. Returns above 0 per cent to between 5 and 7 per cent must be examined from the standpoint of both donors and investors who consider social and environmental returns as well as financial ones. Above 5–7 per cent a proposal becomes more and more attractive to larger segments of the private sector (some would argue that 10 per cent is the cross-over point but a lower threshold does not signify lack of interest, merely that the proposal should be examined as requiring a combination of debt and equity and other funding). To be comfortable categorizing a proposal as private-sector-oriented, a "double digit" return is generally needed.

Reference: See chapter 2.1, chapter 3, task 8 and especially chapter 4. See also "TO WHOM" template in annex I.

Customization

Some features of even a well thought out "triple-bottom-line" proposal – one that combines development, environment and financial returns – may require greater emphasis for particular audiences.

Logical frameworks are statements of the larger context into which a proposal may fit. These are often important to charitable and social change organizations, and can be helpful in placing a proposal in the "larger world" that may underpin decisions by such organizations.

Carbon benefits can sometimes be monetized – converted to cash – but this requires understanding special processes. The core concepts to understand can be called "baseline", "incremental benefit" and "value".

Loans require an understanding of the requirements and process of lenders. Metrics such as debt service coverage ratios and clear descriptions of collateral and guarantees[4] advance discussions regarding loans.

Return on equity is a key indicator for certain private sector investors and a clear presentation of this will determine how much attention some commercial investors will give a proposal. This is simply a measure of the cash flow that remains after all other participants in the proposal have been paid as agreed and after all agreed-to amounts have been set aside for future purposes. When financial experts talk about the bottom line this is usually the line they are referring to.

Reference: See chapter 5 for details on customization, and templates in annex I.

4 Binding promises to pay or turn over particular property under certain conditions.

Putting it together

A well-prepared proposal should describe:
What? → Where? → Who? → How? → Why? →What If? → To Whom?

Checklist

What?
- Product or service to be offered
- Technology to deliver product or service
- Client group to be provided with the product or service
- Appropriateness of product, service and technology to the client group
- Resources being requested

Where?
- Physical location and characteristics where the proposal will occur
- Social, economic, demographic, cultural, income and wealth characteristics
- Regulatory framework and business climate

Who?
- Champion
- Owners and sponsors
- Governance
- Employees and staff
- Contractors and suppliers
- Approval bodies
- Stakeholders
- Advisors
- Organization structure

How?
- Current status
- Steps and schedule to completion of planning
- Steps from completion of planning to final authorization
- Steps from final authorization to beginning of construction (or roll-out of pre-operation stages)
- Steps from beginning of construction / pre-operations to completion of construction and commencement of operations
- Operations, maintenance, management, accounting and reporting plans
- Monitoring and evaluation plan
- Key contract relationships
- Financial structure

Why?
- Financial expectations
- Social and development impacts
- Environmental benefits
- Growth potential
- Replicability potential
- Other benefits

Base case
- Time, cost, other resources and key events to complete planning, to go from completed planning to beginning of construction or pre-operation phase and to carry out construction or pre-operation phase
- Total cost until start-up and financial structure:
  - Grants
  - In-kind services and property
  - Loans
  - Investment
  - Operating revenues
  - Operating costs
  - Cash flow from operations
  - Other revenues, such as carbon benefits
- Project or proposal rate of return
- Payments of interest to lenders and others
- Depreciation
- Taxes
- Payment of loan principal
- Debt service coverage
- Remaining cash flow
- Return on equity to investors

What If?
- Schedule disruptions
- Cost and revenue variances
- Output performance changes
- Key person changes
- Changes in law or regulation
- Owner, lender, investor, sponsor changes
- Staffing disruptions

To Whom?
- Customers: households, businesses, communities and specialized programmes (such as carbon funds) which wish to buy all or part of the product or service being offered
- Donors: charitable institutions, government-sponsored programmes, multilateral organizations and specialized programmes and organizations
- Lenders: some charitable organizations, government-sponsored development institutions and programmes, specialized programmes, socially responsible funds, commercial banks and other financial institutions
- Investors: partners, suppliers, contractors, government–sponsored investment companies, specialized programmes and funds, venture capitalists

Proposal content checklist

- Date
- Name of project or enterprise
- Location
- Champion's contact information
- Product or service
- Technology
- Customers/clients
- Current status
- Project size, expected schedule and cost, divided between planning, construction or pre-operation and operation
- Current needs and request
- Market conditions
- Operating conditions
- Regulatory conditions (including all required approvals)
- Owners and sponsors
- Team
- Stakeholders
- Governance and management structure (decision-making, authority and responsibility)
- Implementation steps and plan
- Cash flow and schedule details
- Impacts and returns
- Sensitivity (what if?) analysis
- Risks and measure to handle them

Reference: See chapter 3 for three sample proposal summaries and annex II for a detailed sample proposal.

2. Before preparing a proposal

There are many how-to books and internet resources to consult concerning preparing a proposal, a business plan or a grant application.[5] Many are too general to focus the process and many cover far too many subjects.

This chapter presents **four topics** that need to be understood before preparing a proposal. Spending time on these topics will save time later and improve communications between the Champions preparing and presenting proposals and the Enablers receiving these proposals for consideration.

This chapter covers:

- The "seven question" approach to proposal preparation
- Essential accounting, finance and scheduling concepts
- Classifications of projects
- Champion and team assessment

Lesson learned:

- Champions need guidance concerning how to prepare and present a proposal to financiers. There are hundreds of websites, guides and publications, many of which seem designed to meet this need. Sadly, most disappoint when you go beyond the initial table of contents and first page. Time is better spent on the detailed work of gathering information and answering questions than on looking for perfect outlines and forms.

2.1 Seven-question approach

For the purposes of this guidebook, the key requirements are the seven points summarized by the questions **What, Where, Who, How, Why, What If** and **To Whom?**

A well-prepared proposal that embraces this framework and includes descriptions of the core concept, setting, team, implementation plan, expectations and contingencies will meet the entry requirements of lenders, investors, donors and others. The challenge for Champions is to do a fine job on **each and all** of these points while keeping in mind their audience. A simple, complete and balanced proposal has the best chance of getting the attention of Enablers, who will then be engaged and able to work with Champions to fine-tune the result and get to "yes" or "no" efficiently.

2.1.1 What? – Product, service, technology, client

The core concept: **What** is being proposed? What technology, product or service is being planned? What form will its implementation take? What resource request is being made? **The core of any proposal is a clear statement and defence of the product or service to be offered and a clear explanation of the client group to be served.**

The essence of any proposal is to offer something new. It could be a new product to produce more cooking heat from the same amount of fuel, or convert the power of moving water into electricity. It could be newly designed and treated bed-nets to reduce the incidence of malaria or a service to identify ways to reduce the amount of fuel, heat or electricity used in an agro-industrial process. It could be crop, process or product adaptations to deal with changing local climate.

5 Whether called an investment memorandum, grant application, response to a request for proposals, business plan or project description, all these documents are "proposals". That is, these documents, to be successful, must contain a clear plan of action and a request for resources to implement such a plan.

In almost all cases, the product or service being offered will involve a technology. The proposal must first show that the proposed product or service makes sense. Then, the appropriateness of the proposed technology can be clearly demonstrated. Launching into detailed explanations of technology before explaining its appropriateness to the circumstances at hand reverses the process and should be avoided.

Product or service to be offered: the proposal should be clear about what product or service is to be offered. Products or services are described with phrases such as "household electricity", "cleaner production", or "improved cooking fuel".

Technology to deliver the product or service: the proposal needs to demonstrate brief mastery of the technology being proposed to deliver a product or service. Technologies tend to be described with phrases such as "photovoltaic solar panels" or "medium-head hydroelectricity using a Francis turbine". Technologies also involve improvements to become more efficient in resource use or because of changed local circumstances (the addition of rubber tires to bullock carts represents an adaptation resulting from paved roads; drought-resistant plants serve a similar purpose in a greenhouse-gas-rich world).

Client group to be provided with the product or service: the customers being offered a product or service or the target client group of a programme sponsored by a third party.

Appropriateness: the proposal must summarize why a particular product or service is appropriate to a client group (affordable, offers significant benefits, better than other alternatives) and why a particular delivery technology makes sense (least costly, easy to maintain) and is sustainable.

Lesson learned:

- Despite a variety of information sources – on technology, country conditions, management, funding sources – Champions need to do basic research and fact-gathering in a few key areas: market, competition, regulatory environment. The quality of this information-gathering and synthesis is a good indicator of the "hands-on" ability of the Champion.
- Well beyond the scope of this guidebook is the intriguing question: "Where do good ideas for proposals, enterprises and projects come from?" This question has an obvious answer – these ideas come from Champions – and a not-so-easy one: these ideas are everywhere, waiting to be picked up. For example, countries prepare various national plans – agriculture, energy, poverty alleviation, climate change – and donors promote various approaches and technologies. Then there is the most time-tested method: pent-up demand for something not being offered. And then there are forward-looking studies and assessments that point to needs and future market opportunities.
- Under the United Nations Framework Convention on Climate Change, for example, documents called "technology needs assessments" are prepared. What these TNAs do is to establish priorities within a country regarding climate change mitigation and adaptation. In one sense these are good country-level information. In another sense, these are a wonderful indicator of bigger and longer-term issues and priorities that need to be incorporated in the "Where" analysis.

WHAT?

a. "We propose to build a 500-kilowatt run-of-river hydroelectric facility to supply renewable energy to the country".

b. "We propose to offer rural health care to unserved communities beyond the coverage area of existing clinics".

c. "We propose to implement a microfinance programme directed at the lowest one-fifth of income groups to finance household cooking improvements".

d. "We propose to convert pollution into fuel through the anaerobic digestion of agro-industrial waste"

Useful technology information can be found at:

- Intermediate Technology Development Group (recently renamed Practical Action) – ITDG – www.itdg.org – offers numerous technical briefs on energy, water and sanitation, manufacturing and other sectors, which are 5–10 page documents, with illustrations and cross references. Offers an extensive bookshop of publications and journals concerning small business and microfinance.
- National Renewable Energy Laboratory (USA) – NREL – www.nrel.gov, www.nrel.gov/technologytransfer – is a large archive of information with an emphasis on renewable energy research and development. It offers a number of sophisticated energy tools (including HOMER, Hybrid2 and RETFinance) and a regular set of updates on technologies (Power Technologies Energy Data Book).
- RETScreen, CANMET, NASA, UNEP, GEF, Ministry of Natural Resources (CANADA) – RETScreen – www.retscreen.net – is a suite of tools for renewable energy technologies (solar photovoltaic, passive solar, solar hot air, solar hot water, bioheat, small hydro, wind) that include introductory (5–10 page) descriptions followed by 40–50 pages of technical terms, calculations and algorithms, which then transfer over to spreadsheets which provide performance, costing and financial analysis tools and greenhouse gas analysis.
- UNFCCC Secretariat Technology Transfer Clearing House – http://ttclear.unfccc.int/ttclear/jsp/index.jsp. A compendium of information and reports on activities on technology transfer under the Framework Convention. The site has a huge collection of information ranging from project ideas, concepts and proposals extracted from technology needs assessments and other sources to the exchange of information through a pilot network, including information on projects and companies."

See annex IV for descriptions of over 40 resources.

2.1.2 Where? – Location, market and setting

Setting: **Where** will the proposal be implemented? This question asks about the location, market, regulatory and operating setting where the proposal will take place. In this case, "where" takes on numerous meanings. **Every setting is different. The success or failure of a proposal will be greatly determined by a mix of factors that need to be understood and explained.** It refers first to the actual location of what is being proposed, that is, the village or town, district or river where implementation will occur. Then it refers to the **social-economic-political-governmental circumstances** that define its setting: **these and many other factors determine the likelihood of success or failure.**

Geography: the proposal should be clearly associated with a specific geographic location. A site or service territory should be shown on a simple map that places the site or service territory in the larger context of the country or region.

Market: the proposal's service territory has certain social, economic and cultural characteristics that need to be described. Generally the income and wealth distribution within an area is an important fact to present clearly and document well.

Lesson learned:

- In a perfect world the policies would be "right" as would the "prices"; then, orderly project implementation would occur. For now, we need to recognize that there is a constructive-neutral-destructive relationship between policies and implementation. It needs to be shown that these positive and negative factors can be managed. Getting the policies right requires good projects. Getting projects right requires good policies. The process is iterative.

Regulatory: the laws and rules that will govern the creation and operation of what is proposed come together under the heading "regulatory framework." Usually there are national and local rules to be observed. Proposals need to set forth ***all*** the enabling laws and implementation regulations appropriate to a proposal. These can include safety, environmental and construction regulations.

WHERE?

a. "This environmentally sensitive facility will be built in rural Guatemala, selling its renewable energy output at a profit to the national grid through a 10-year power sale contract as authorized by country laws and established regulations."

b. "Rural health care will be offered in north-western Zambia through an established network of four clinics and three new clinics, all facilitated by a partnership of independent non-governmental organizations."

c. "Microfinance for income generation activities will be offered to a cross-section of households in rural Bolivia through the expansion of an existing microfinance institution, which has previously concentrated in urban La Paz."

d. "Waste from the largest tapioca factory in Thailand will be converted to fuel and then to electricity under Thailand's five-year-old small power producer law."

Useful *setting information* can be found at:

- International Energy Agency –IEA – www.iea.org – a large source of information and forecasts concerning energy production and use. Source of developing country information through its World Energy Outlook reports. Contains a library on the subjects of energy technology and technology cooperation. Provides information for energy proposals that need context.
- World Information – www.worldinformation.com – useful, one-stop source of region and country information, especially if combined with the CIA World Factbook and IMF data.
- International Monetary Fund – IMF – www.imf.org – provides country-level information. Combined with the CIA World Factbook and www.worldinformation.com, it is a quotable source which proposals can use in providing information at the country and region level.

See annex IV for descriptions of over 40 resources

2.1.3 Who? – Key actors and stakeholders

Team: The institution, company, community or individual(s) who will have the responsibility for converting what is being proposed into action and results, equals the "who" of the proposal, the party at risk of failure and responsible for action. **Who** will champion the proposal and see it to its completion? **Few things are as important as figuring out how to work successfully with all the parties whose assistance and cooperation are needed to succeed. Few mistakes are as damaging as overlooking an important participant. The time to take stock is at the beginning. Most providers of finance and services would rate the quality of the Champion and the team as the most important factors weighed in making an investment decision.**

Lessons learned:

- Champions exhibit commitment to implementing something new. Champions need to be able to communicate that core idea and commitment clearly and easily. Enabling organizations need to respect that commitment and not try to "bend" a Champion's commitment to fit their own programme needs. It should be very clear after minimal communication between Champion and Enabler if there is a "fit".
- Champions are not secretive. Enablers should not invest much time with Champions who view their core ideas as "too confidential" or "too proprietary" to be circulated in the form of a written proposal or business plan.

Champion: The first order of business here is to define the "champion" and stress its importance. A Champion is that individual or small group that is indispensable to successful implementation; those men and women who are committing their time and financial resources to a proposal, who are committed to seeing a proposal through and are willing to be at risk of failure. If a survey is made of the factors that donors, lenders and investors deem most important to success, a majority of responses will emphasize this critical component. It does not matter whether it is called "management" or "project team," "sponsor" or "developer," "entrepreneur" or "enterprise;" the **Champion** is all that and more. Over reliance on process and procedure as the driving

force behind success rather than people is a common failing of many proposals. Responsibility, commitment and risk characterize a champion. And it is usually the champion who prepares a proposal for presentation to others.

Owners and sponsors: the individuals or groups providing capital and sponsorship of a proposal. Champions may also be owners and sponsors. Owners and sponsors bring resources to a proposal. These may include funding, property, reputation and expertise. Further, owners and sponsors make commitments and pledges to assure the proposal's implementation.

Governance: whether it is a company or a project secured by contracts, it is expected that a plan will be implemented with a governing body. This could be a board of directors, advisors or supervisors (the form will be dictated by the structure and local setting), but proposals must be clear about how major decisions will be made or reviewed. Who has the authority, and control over the budget?

Employees and staff represent the human resources that will be mobilized to implement the proposal. It must be clear that enough people, properly trained and motivated, can be assigned to the various tasks that need to be successfully carried out. To be sustainable, the full cost of the whole team must be budgeted and recovered over time.

Contractors and suppliers deliver the goods and services needed to make a plan work. In a sense they are "partners"; in another sense, they are critical parties over whom little control can be exercised but upon whom implementation is critically dependent. They must be chosen well and objectively. In every choice of equipment or contractor or service provider, Champions and Enablers need to ask themselves: who is our Plan B if Plan A fails to deliver the promised goods or services?

Approval bodies: permission is required to use public land, to build, to operate, to protect the environment, to avoid hazardous health, safety and materials situations, to be incorporated, to do business and even to pay taxes. Obtaining permission involves an approval body that the Champion must understand and be able to work with. Proposals must demonstrate this capacity. Assuming approval, especially because of good personal or professional relationships, is a poor substitute for knowing and mastering the rules of the game.

Lesson learned:

- Enablers should be extra careful when dealing with proposals requiring skills that are drastically outside the Champion's area of expertise and experience. This is often the case if the promoter intends to make a dramatic switch from his/her background or field of expertise or is grounded purely in the technological features of a plan.

Professional advisors. Depending on the proposal, different types of expertise may be required: engineering, social development, environmental assessment, financial planning, accounting, negotiations, monitoring and evaluation and so on. The proposal must be clear about the required expertise, its availability and the expected costs.

Organization for implementation of the plan and proposal: generally speaking, the implementation of a proposal can be viewed as a series of formal and informal contracts between all the parties necessary for implementation. Lining these contracts up in a congruent manner is a good way both to determine whether the pieces fit together and to present the flow of activities that a proposal and plan imply. In parallel, it is important to fix authority and responsibility with particular people or positions during the entire cycle of planning, construction or pre-operational activities and operations. An organization chart illustrates this latter purpose but clear, transparent job descriptions are the key

to fixing authority and responsibility. If a committee is responsible for formulating recommendations and decisions (versus reviewing and approving recommendations of the responsible person), then procedures to resolve deadlocks and delays are essential.

WHO?

a. "The hydroelectric facility will be designed, financed, constructed and operated by a new company, owned and managed on a day-to-day basis, by three full-time partners who together have 35 years' experience building such facilities."

b. "Health care will be provided…

   i. Through a partnership of three local, one national and one international non-governmental organizations which will combine to create a single management team under a chief executive who will have all the required authority to implement this proposal.

   ii. Through a new partnership, which will be led by NAME, who will be vested with all the necessary decision-making authority by a supervisory team consisting of representatives of the five cooperating organizations."

c. "A new rural finance department will be established, with a general manager reporting to the microfinance institution's chief executive officer."

d. "A special-purpose company will be established as a joint venture of the tapioca factory and Champion's company, who will serve as the chief executive officer under a three-year employment contract and be assisted by three technical officers and shareholders in the special-purpose company."

2.1.4 How? – The plan

Implementation plan: the planning, finance, operations, construction, management, monitoring and evaluation elements, the "how" of the proposal. **A successful proposal demonstrates a mastery of the complete range of factors that must be managed. It is here that the Champion shows how all the pieces come together in a manageable way.**

How will the proposal be implemented? **How** will the planning be completed? **How** will the proposal be financed? **How** will construction or pre-operational steps be carried out? **How** will operations and maintenance, monitoring and evaluations occur? How will risks be managed and problems addressed? How will progress be monitored and reported?

Current status: the proposal should state clearly what has been completed and what is in progress. This is the launching point for taking what is proposed to implementation. Certain assumptions will be made along the way – including the assumption that the request for resources included in the proposal will be met – and these need to be noted as clearly as possible throughout the proposal. It is a surprisingly common occurrence to read a proposal and not be sure of two things: who is the Champion and what is the current status? Of particular importance are such fundamental things as: is the implementing organization legally established? Does it have a bank account? Does it keep formal records? Common-sense details that "introduce" a proposal include communicating such fundamental information.

Lesson learned:

- Enablers should watch for signs that a Champion views the written plan and proposal as merely a device to keep the enabling organization happy and extract financing.

Major milestones: most proposals can be broken into very specific time periods that end with the achievement of specific milestones:

- From current status to **completion of planning**
- From completion of planning to **final authorization**
- From final authorization to **commencement of construction or pre-operation** phase
- From construction or pre-operation phase to **operation**
- From operation to **recurring maintenance, management and reporting,** including **monitoring and evaluation**

Planning stage milestone examples

- Completion of planning
- Financial structuring
- Contract and financial "closing"

Construction or pre-operations milestone examples

- Groundbreaking
- Completion of civil works
- Buildings
- Equipment installation and acceptance testing
- Opening of branches or office

Operations milestone examples

- Start-up
- Quarterly and annual performance reporting
- Completion of routine maintenance schedule
- Completion of major maintenance and rehabilitation

Milestones defined

Completion of planning: All the factors that go into a plan have been identified and are understood. The conditions under which something is feasible or infeasible are clear.

Financial structuring: whether a single grant from one donor to fund a one-time project or a combination of debt, mezzanine financing and equity to launch a business expected to grow, every proposal has a financial structure that needs to be set forth and explained. Where will the monies come from? Where will the monies go? Over time what does this financial structure look like and evolve to? At its simplest, a proxy for a financial structure is a bank account where everything that involves funding comes together. Once all the pieces are clear then different combinations and structures are possible.

Final authorization and closing: financing contracts, construction contracts, land purchase or leases, approvals to build or operate or cross public lands or use natural resources, contracts to sell the output of what is being built or to provide a service in a particular region, contracts to provide fuel or equipment or trucking or staff: all of these pieces must come together to reach the milestone known as "closing" (the event that usually brings all the pieces together is often called "financial closing" because the investors and lenders want to know that all the variables than can be completed have been completed). The proposal must show both a mastery of these many events and a schedule that makes sense. Unrealistic schedules are the rule rather than the exception. These create elevated expectations which, when not met, create tensions. Realism in knowing all the steps to be completed and what will really be required is an excellent investment at an early stage.

Construction or pre-operations: whether building a physical installation or organizing a service network, there are usually a series of what can be crucial and complex tasks that must occur after resources and authorizations have been organized but before the final product or service can be offered to client groups. Often this relates to the technology that is proposed. The proposal needs to set forth the ***critical*** issues involved in this phase. This is especially important if there are significant unknowns (such as the condition of the rock through which a tunnel will be bored) that might be encountered.

Start-up of operations: describes a period of time, sometimes very short, when the results of construction or pre-operations are ready to be tested and accepted. This can be an important transfer of responsibility from the entity building something to the entity responsible for operating it.

Operations and maintenance, management and reporting: while very often a proposal emphasizes building or creating something new, an important part of a proposal is presenting how something will be managed on a day-to-day basis. This includes how what is proposed will be operated and maintained. Will its value grow or shrink over time? After it is built, should major repairs and refittings be expected? How will routine matters be handled? Non-routine? What records will be maintained? How will these be shared and discussed? How will decisions be made? How often and based on what documents?

Monitoring and evaluation: from the very outset, the proposal needs to show how the existing conditions (often called the baseline) and the changes expected from the proposed new offering will be, first, monitored, and, second, evaluated. While his could legitimately be included under the heading of management and reporting, M&E, as it is abbreviated, has taken on a special identity because of its broad and open-ended mandate to measure and count all manner of financial, social, and environmental impacts (known as the triple bottom line). As a result, there may be some duplication between what some see as reporting and others see as M&E.

Lesson learned:

- Introduce monitoring and evaluation and the concepts of social and environmental benefits at the beginning. Begin to define and quantify social and environmental benefits and understand baseline conditions during the earliest stages of planning.

*Useful **planning and implementation** information can be found at:*

- Asian Development Bank and Asian Development Bank Institute – ADB and ADB Institute – www.adb.org and www.adbi.org – ADB and ADBI offer a great deal of information (including the ADB operations manual) online and it is easy to access many project document examples (in summary form). ADB provides a source of questions to be used in assessing conditions surrounding project implementation and ADBI provides information on experiences in sectors (finance, microfinance, general environment).
- Overseas Private Investment Corporation, US Small Business Administration, "My Own Business" – www.myownbusiness.org – offers a series of tools aimed at assisting small business owners to get started. One valuable part is an online, 13-session course that includes sessions on accounting and cash flow, opening and marketing and business insurance. Mostly narrative, some templates and do's and don'ts advice.

See annex IV for a description of over 40 resources.

HOW?

a. "The hydroelectric facility will be designed by an independent and specialized engineering firm, financed through a combination of equity, subordinated debt and senior debt, constructed by an experienced firm under a fixed-price contract and operated by a small, special-purpose company created expressly for that purpose and owned by the three partners. Compliance with the authorizing permits for both construction and operation will be in accordance with local and international standards. Monthly and annual reports will be made to authorizing agencies, tax authorities, lenders and investors."

b. "The partnership has completed an implementation plan for the initial roll-out of services over a six-month period and has provided for mobile communications to all involved clinics, weekly reporting and twice-monthly meetings of the key staff. The Chief Executive will make monthly visits to each site and compile monthly reports of progress. At the end of six months an independent evaluation will be conducted and both improvements needed and the next 18-month programme milestones established. Results will be posted on a to-be-constructed website with both public and private sections and 'chat rooms'."

c. "Rural branches will be established after three months of headquarters training. Branch officers will meet bank and regulatory qualifications, as will the standardized systems for lending, collecting and reporting. Monthly and quarterly performance evaluations will be conducted on a branch portfolio basis and reported semi-annually to the bank's governing body, donors and banking authorities."

d. "Following final design by champion's company, competitive award of an engineering, procurement and construction (EPC) contract and the receipt of construction, environmental and energy-generation approvals, the waste-to-energy conversion facility will be rolled out in two phases. Phase 1 will be financed 100 per cent from owner's funding and represent 33 per cent of the facility's capacity. Upon acceptance from the EPC contractor, phase 2 will be awarded and financed 25 per cent from owner's equity and 75 per cent from two loans secured by the entire facility's outputs and contracts. Revenues are based on 95 per cent of the cost of avoided fuel and the factory has the right to purchase the facility after 10 years for the unamortized investment amount. Insurance has been obtained for accidents. Performance bonds will be obtained from the successful EPC contractor."

2.1.5 Why? – Benefits

Expectations: the financial, social and environmental implications, the possible impacts and outcomes – both positive and negative – the risks and rewards, the threats and the opportunities being set forth in the proposal, the collection of the "Whys" that supports it. **Why** is the proposal important and why should it be supported? The most essential concept here is to capture and portray *all* the benefits that might be realized. These tend to fall into the three neat categories of **people, planet and profit**.

Lesson learned:

- Moving from the single bottom line perspective – whether it is financial, environmental or developmental – involves establishing new linkages within proposals and connecting with a broader range of financial interests. It also implies customization and "bridging" – putting narrow proposals in broader market or social frameworks or adding financial structuring details to a "one size fits all" cash flow model or calculating a new or unique value such as the monetization of pollution.

Too often there are one or two compelling reasons for doing something. These reasons drive the commitment of the Champion. A proposal should set forth **all the reasons** and benefits that can be achieved and make as many connections as possible.

Social and development impacts (people): a broad range of expectations are possible. Improved health or quality of life from reduced indoor air pollution is one. Increased time for education, job creation for the local community and income production are others.

Environmental benefits (planet): environmental expectations can range from the very local to the truly global. Examples include amount of firewood displaced, tons of CO_2 offset, reforested land and water improvements.

Financial returns (profits): from a financial perspective, a proposal is ultimately a statement of cash spent to implement what is proposed and cash received from beneficiaries, whether client groups or others willing to sponsor those clients. Financial returns are measured by profits and the return on investment.

There are other returns to keep in mind. For some, there are emotional returns – the benefits of doing good and improving the quality of life of others – and for others there are learning and market opening benefits: establishing the human infrastructure that will allow for growth in the future. Champions need to inventory all possible benefits in full. Sometimes one or two small differences between proposals can make all the difference in making one more attractive to enabling organizations.

WHY?

a. "This small hydro facility will generate AMOUNT kilowatt-hours of renewable electricity to the national grid, avoiding the need for AMOUNT of fossil fuel and avoiding AMOUNT of carbon dioxide equivalent. Approximately 30 construction and eight permanent jobs will be created, the local watershed will be improved and a community development project undertaken to electrify 20 nearby homes. In addition, a reforestation project will restore 50 hectares of nearby degraded lands and permanently improve an access road to the area. Based on loan financing (12 years at 8.5 per cent, five-year income tax holiday) and the sales of five year's worth of carbon benefit, the owners' return on equity will exceed 12 per cent and the owners will be paid a one-time fee at financial closure of $350,000."

b. "Three new rural health service points will be established and four improved at a pre-operational cost of AMOUNT and a staff of 27 field workers and three administrative support engaged.

Between 100,000 and 115,000 clients will be served in the initial 12 months. Thereafter, this base 12-month figure is expected to rise by 5 per cent per year for three years until reaching "normal" capacity. Services will include XYZ. The support structure will include ABC. At the end of 24 months a full evaluation will occur (interim evaluations will occur every six months) and the cost per client served determined. Fees of XZY will be charged and the Department of Health of the Government of Zambia has agreed to provide ABC."

c. "Loan officers will each be responsible for a portfolio of XX loans, to be made at the microfinance institution's (MFI's) cost of capital plus 3 per cent. In addition, a one-time service fee of X per cent will be charged and deducted from the proceeds of the loan. With a portfolio default rate of 2.5 per cent it is expected that the combined rural operation will reach operational self-sufficiency in 36 months and financial self-sufficiency in 60 months. At that point, thought will be given to spinning off the operation as a free-standing MFI specialized in rural services."

d. "Because of the 100 per cent equity feature of phase 1, the expected return to investors, excluding carbon credits, will be between 8 and 10 per cent. However, upon success and the implementation of phase 2 and the monetization of carbon benefits, combined with the leverage of the proposed loan (eight years at between 7.5 and 8.5 per cent) the full return to investors will exceed 18 per cent. Over 8 million litres of fuel oil will be saved and 10 of 12 effluent ponds eliminated. Further, the entire effluent from the factory from primary cassava processing (into tapioca) will exceed national and international standards for ABC. A total of 25 construction and nine permanent jobs will be created and the leaching of pollution into local water supplies (together with a nearby solid waste dump) will be completely eliminated."

Base case

Questions 1–5 – The base case

In preparing a proposal, the Champion needs to wrestle with the first five questions – What, Where, Who, How and Why – as a set of connected pieces, where changes in one can cause many other changes. Rarely are all the pieces crystal clear even as great volumes of information are amassed. As a result, the Champion needs to assemble as much information and as many answers as possible, all the while making reasoned assumptions as to what is not known. The purpose is to construct a realistic picture of how all the pieces will come together. This realistic picture is called the "**base case**". It reflects both what is known at the time of its preparation and what is assumed.

Base case: the collected facts and assumptions about what is proposed, especially in regard to time, money and resources; that is, approvals, schedule, initial costs, revenues, ongoing expenses, people and equipment needed, and sources of funding.

The request: it is on the basis of a careful assessment of all the steps that need to be implemented (How?) combined with the most realistic picture possible (base case) that shows both what is missing and what is needed for success.

Among the categories of resources that might be missing we can include items such as:

- **Funding or technical assistance** to complete planning
- **Seed capital** to test or roll out part of what is proposed

- **Partners** to complete the team
- **Advisors and experts** to assist in carrying out critical tasks
- **Systems and staff** to manage implementation
- **Financing for construction** in the form of loans and equity investment

Placing the request in its proper time frame is important to narrowing the search for resources to fulfil the request.

2.1.6 What If? – Risk assessment

Contingency planning: "What If" things do not go as planned? This question tests the planning assumptions and describes outcomes and impacts that may differ from what is expected. Professionals know that very few things roll out exactly as planned. **A proposal needs to show a mastery of the key events that can alter cost, timing, service delivery and outcome. Then, the Champion can demonstrate how he or she will deal with those circumstances. Ignoring critical "what if" questions can be fatal to a proposal and to actual implementation.**

First of all, what can go wrong? After making a list, the probability of each event and its impact on the previously described inventory of benefits needs to be examined. What is the impact of differences in time: if things take longer to be completed or are completed more quickly than planned? What about money differences: if things cost more (or less) or revenue units are higher or lower than planned? And what about output: if the number of units of things produced or consumed is higher or lower?

Then there are combinations of events: if it takes longer and costs more to get something ready for operations and fewer units are produced than originally planned…

- **Time events**: if things take more or less time than planned
- **Cost and revenue events**: if things cost more or less than planned or if revenues are greater or less than planned in the base case
- **Performance events**: if what is planned does not result in the production originally expected
- **Other events**: such as the death of the proposal's champion, severe weather such as a hurricane or drought)

Sensitivity analysis is the foundation of what is called "risk management". We all believe that events will roll out as planned and we all know that such is rarely the case. Not only the Champion but all the other participants want to know "What If" this or that happens.

WHAT IF?

a. "If unforeseen conditions arise during construction – such as more difficult rock conditions being encountered – the resulting cost overruns will be borne by additional capital commitments of owner's equity. The owner's capacity to meet those commitments has been confirmed during due diligence and agreement has been reached to establish a 'stand-by' letter of credit during the construction period."

b. "There are significant security issues that need to be resolved. Some may involve curtailment of the programme because of safety concerns at three of the proposed sites. Others may involve

greater than planned costs, for which tentative additional funding and security commitments have been obtained. A major risk involves greater than planned transport costs for both fuel and vehicle wear and tear. There are presently no additional resources available should this cost item overrun for uncontrollable reasons (international fuel oil price rises, longer transport distances and greater number of trips). Should this occur, programme cut-back may be required or requests for assistance to humanitarian assistance groups organized. Preliminary discussions on improving transport efficiency through joint transport planning have already begun."

c. "The major risks are two: insufficient market response to the credit product offering, which will make costs unsustainable, and greater than expected portfolio default, which will imply interest rate and service fee increases. The first risk may require greater than planned roll-out periods or curtailment. The second is manageable within a range of 3 to 4 percentage points before loans become unaffordable to a significant portion of the target market."

d. "Engineering, procurement and construction risk will be borne by a pre-qualified, insured and performance-bonded EPC contractor. Legitimate cost overruns up to 20 per cent can be secured through additional owner's equity and or accelerating the leveraging of the project. Performance guarantees on the equipment will last 60 days beyond commissioning and acceptance and will ensure at least 85 per cent output performance. Less than forecasted output may impact owner's return but as long as performance is within 55 per cent of forecast, all debt service obligations can be met 1.2 times."

2.1.7 To Whom? – Audience

Audience: a well-prepared proposal is addressed to the needs and process of the enabling organization from which resources are needed. It is concentrated on ***their*** expectations, ***their*** needs in considering the plan and the request for resources, and ***their*** processes for considering, approving and disbursing the resources requested in a proposal.

Innovative financing is not about creating something new. It is about a Champion making the connection with an Enabler who can provide needed and appropriate resources. Each Enabler speaks his or her own language and has priorities and responsibilities. Understanding the universe of enabling organizations is crucial to proposal preparation and presentation.

The spectrum of **enabling organizations** – organizations that can provide funding and services – is quite well defined. It ranges from the purely charitable to the purely commercial. At one end of the spectrum one finds charitable foundations and individual donors. At the other one finds high-return venture capital funds and investors. Few if any proposals appeal to all the organizations and individuals along this spectrum. Research on the general and specific needs of each is a crucial investment of time during the proposal preparation process. The following description is simplified but not oversimplified. It represents general principles and experience to guide Champions as searches are conducted.

Different colours of money: Financial inputs for proposals fundamentally come in four different "colours": **revenues** for products and services, including operating subsidies; **grants** that do not need to be repaid; **loans** that must be repaid on defined terms; and **equity**, which is repaid from the profits, if any, of a proposal.

- **Revenues** are the payments made by end users and others on their behalf (e.g., a government-sponsored subsidy programme is a revenue in the form of an operating subsidy).
- **Grants** come from donors: charitable foundations, government-sponsored programmes (including multilateral development organizations and specialized programmes) and other specialized organizations.
- **Loans** come from lenders: government-sponsored development institutions and banks, some charitable foundations, socially responsible and specialized investment funds, and commercial banks.
- **Equity** comes from investors: owners of businesses and sponsors of social programmes, government-sponsored investment organizations, socially responsible and specialized investment funds, individuals and financial institutions.

Generally speaking – and there are many exceptions – a technology transfer proposal needs to explore and consider all four types of funding for a variety of needs.

Revenues are the most logical funding source to cover the cost of the product or services provided and contribute to the operation of the company or programme providing the product or service. Ideally, there are funds left over to be applied to any loans that have been made and to make a payment (called a dividend) to the providers of equity. This is sometimes called a "**waterfall**", where monies received are first applied to the cost of the product or service provided (called "cost of goods sold"); second to other operating expenses (these would include taxes, for example, and any interest on loans); and third to loan payments (such payments are called **principal or amortization**, while the combination of principal and interest on loans is called "**debt service**").

Operating grants are a logical addition to revenues when revenues from customers cannot cover the cost of goods and services and there is a compelling social, environmental or other reason to provide this good or service to this customer or client group. Operating grants can come from government-sponsored programmes and from charitable foundations.

Capital grants are used to reduce the cost of a proposal so that loans and equity can cover the balance. Capital grants often reflect a larger set of issues: to make a product or service affordable to customers by lowering the initial cost or to offset an unfair cost disadvantage in one technology versus another or to defray one-time costs of introducing a technology that has important advantages over time.

Loans are made to fund the construction of a project or the purchase of goods or the provision of services where the revenues from the goods or services are expected to be more than sufficient to repay the loans as and when promised. Some lenders are flexible in their loans for a variety of reasons. Others are absolutely not.

Equity is also called risk capital and, in some situations, venture capital. Providers of equity – also called "investors" to differentiate them from "lenders" of loans and "donors" of grants –get repaid only if a proposal is successful and profitable.

There are a few other ways to finance projects, goods and services but these, upon examination, are actually revenues or grants, loans or equity. Leasing, build, operate and transfer (BOT) contracts and instalment sales or purchases (hire purchase) are loans dressed up in more complicated clothes. So are financing or credit terms from a supplier. Mezzanine debt, preferred shares, quasi-debt and

quasi-equity are combinations of loans and equity. Monetization (converting to cash) and sale of carbon credits or pollution benefits are revenues from different customers for the same basic product or service being offered. Champions need to (1) avoid being dazzled by financial engineering jargon; (2) understand the different "colours" of money; and (3) master the various returns that customers, donors, lenders and investors are seeking.

This latter point is important. When you calculate the cash incoming and outgoing amounts over a period of time it is possible to determine something called a project or proposal **rate of return**. This is a very rough but important indicator of two things: a proposal's **financial feasibility** (a negative rate of return means there is more outgoing cash than incoming and it will run out of money at a point in time without additional resources). Negative and near zero returns require grants and subsidies. Returns above 0 per cent to between 5 and 7 per cent need to be examined from the standpoint of both donors and investors who consider social and environmental returns as well as financial ones. Above 6–7 per cent a proposal becomes more and more attractive to larger segments of the private sector (some would argue that 10 per cent is the cross-over point, but a lower threshold does not signify lack of interest, merely that the proposal should be examined as a combination of debt and equity and other funding). To be comfortable categorizing a proposal as private-sector-oriented, a "double digit" return is generally needed.

TO WHOM?

a. *Lenders.* If the request is for construction and permanent loans for a hydroelectric facility it must be demonstrated that a very conservative output of the facility in units of electricity and revenue can more than repay the loan. This requires a matching of the schedule of revenue generation with scheduled loan repayment and exceeding the schedule by a factor of say 50 per cent (which is called a 1.5 times debt service coverage, meaning that for every dollar of loan to be repaid there is $1.50 expected to be available at the time the payment is due). Further, a lender will want to know that all the other funding needed to build and operate the facility is in place, that there are guarantees that costs will be managed and that if there are additional costs others are prepared to and capable of paying them.

b. *Grant-makers and donors.* If the request is for grant funding to provide important health services (because revenues cannot cover costs and the proposal has a negative rate of financial return), the donor will need to understand why the plan is an efficient use of scarce resources, where the plan fits in with other programmes and priorities, how the proposal meets the donor's stated core objectives and, very importantly, what will happen when the donor funding is used up. Key words to understand and deal with include "efficiency", "effectiveness", "sustainability" and "context". A customized "logical framework" may help to communicate the Champion's mastery of the needs and responses proposed.

c. *Specialized investor-lenders.* Rural lending requires the creation of a credit infrastructure and the implementation of a sustainable operation. Funding to create such infrastructure and begin such an operation may or may not be recovered over the life of the lending operation. If start-up capital is being sought, then the ability to repay it over time and upon success must be demonstrated. Whether or not the capital will actually be repaid is a separate issue. Initially it must be shown that the revenues from repayments, after allowing for defaults and allowing for administrative costs, are sufficient to cover the cost of capital – what the rural credit entity must pay to secure funds to lend out. This "operational self-sufficiency" means the new operation is

on a path to institutional self-sufficiency, which implies the ability to borrow capital regularly for on-lending from a variety of commercially available sources, to manage operations and to repay those borrowings while increasing equity (the original start-up capital plus profits).

*Useful information on sources of **funding** can be found at:*

- Basel Agency for Sustainable Energy – BASE – www.energy-base.org – for Champions and Enablers alike, BASE offers a few important things. It provides a first-level inventory of sources of capital in the form of its sustainable energy finance directory. Users can search by technology and region and get a short profile of lenders, investors and others who might provide capital. BASE also introduces a facility (SEFI Transaction Support Facility) which is directed at building financial-institution capacity and improving the likelihood of a match between the expectations of proposal Champions and those of enabling financial institutions. BASE also provides access to the UNEP environmental due diligence guidelines and useful links.
- Community Development Carbon Fund – CDCF – www.carbonfinance.org – offers a template for a project idea note (PIN) which has some utility for introducing the key features of a greenhouse gas project. Another separate document offers a quite useful financial template.
- CleanTech Venture Network – Cleantech – www.cleantech.com – offers a variety of information on cleaner technologies and also organizes venture fairs where truly venture-capital-quality commercial proposals can be presented to audiences of investors and participants (limited partners) in investment funds.
- Netherlands Development Finance Company – FMO – www.fmo.nl – offers development assistance through loans, guarantees, equity and quasi-equity in 40 countries worldwide. It works closely with local banks, international partners and Dutch partners and clear information on such topics as stimulating private sector growth.
- Global Environment Facility – GEF – www.thegef.org – has a templates and guidelines section for preparing GEF full-size or medium-size proposals in biodiversity, persistent organic pollutants, climate change and biodiversity areas. "Fill in the blank" methodology. Links to Development Marketplace (www.worldbank.org) where $34 million has been awarded to over 800 projects on a competition basis. It offers links to other organizations and grant programmes and introduces country-level competitions.
- Multilateral Investment Facility – MIF – www.iadb.org, www.iadb.org/mif/ – managed by the Inter-American Development Bank, MIF is a specialized fund that tends to invest in other funds. It offers a toolkit in English and Spanish for evaluating the potential of fund candidates and related forms and questionnaires. These assume quite a significant information and experience base on the part of the proposing entity.

See annex IV for descriptions of over 40 resources. See also chapter 5, section on carbon customization

d. *Venture capitalists and specialized investors*. If the request is to obtain risk capital for the new venture, it needs to be shown that there is either a very handsome return to be made on the initiative or a larger market with high returns to tap once the initiative has proved the case. Venture capitalists understand the assumption of risk, so after the return and market potential is demonstrated it must be shown that the assembled team can manage the expected bumps in the road. If the technology is new or new to the setting, how will breakdowns and setbacks be managed? If the profitability of the initiative is ultimately determined by the monetization of carbon benefits, how will this occur and why is this the best place and the best team to make it happen, especially if it has not happened before? If the market is going to grow, how will the venture grow and handle competition? Is there a first-mover advantage?

2.2 Accounting, finance and scheduling concepts

When preparing and presenting a proposal, **money, time and impacts act as a language** that communicates between Champions making proposals and Enablers receiving them. Within that language, "accounting" is the set of conventions that record and report the inflows and outflows of money. "Finance" is the part of the language that describes how something is owned and is to be paid for. "Impacts" refer to the financial, economic, social and environmental results which a proposal is expected to yield, and "scheduling" is the art and science of matching activities and

resources over time. Often, lack of clarity in communication between Champions and Enablers can be traced to differing understandings in regard to these four items.

Accounting and scheduling

Six concepts must be understood:

- Capital budget and plan
- Operating budget and plan
- Income statement
- Balance sheet
- Cash flow
- Variance analysis

Once understood, the related activities and costs must be segregated into three broad blocks of time:

- Planning
- Construction or pre-operations
- Operations

Finance

The following related concepts are important and sufficient to allow conversations with the most sophisticated "financial expert":

- Interest and return
- Net present value and internal rate of return
- Debt service and debt service coverage

Impacts

- Financial
- Social
- Environmental
- The "triple bottom line" concept

2.2.1 Accounting and scheduling concepts

At the beginning of proposal-related communications, only three blocks of interconnected time need be examined and presented:

Planning: From now to the completion of planning and the commencement of construction and pre-operation activities.

Construction and pre-operation: From the completion of planning to the completion of construction and pre-operation activities.

Operation: The delivery of products and services.

These three periods of time can overlap, but they must be kept separate at all times in terms of record-keeping and accounting.

Planning includes all the steps that must be completed in order to commence construction or installation of pre-operation facilities. Planning does not end until all contracts are signed and the funds are in place to proceed. Planning includes:

- Technical analysis
- Site selection
- Environmental and social assessments
- Feasibility analysis
- Obtaining all permits and approvals
- Finding, negotiating and "closing" the necessary funding to make a proposal reality

During the planning period, the Champion must track and record time spent on activities. Sometimes called "sweat equity", this information becomes extremely helpful in later discussions, especially with new potential investor-owners.

Construction and pre-operation includes putting in place all the "bricks and mortar" needed for a proposal to be formally implemented. Construction can be phased. Thus, operations may commence while construction is still ongoing. It is crucial that the records of planning, construction and operations be clearly separated.

"Construction" is generally considered different to such pre-operational activities as setting up offices and staff (for, say, an information distribution project). From the timing and accounting points of view, these two types of activity are nearly the same. Construction and pre-operation include:

- Site acquisition
- Preparation of land
- Building of structures
- Installation of infrastructure
- Acquisition and installation of equipment

Lessons learned:

- Capital costs (construction) should be based on conservative estimates, with contingency allowances for unforeseen costs and delays.
- Operating budget projections tend to forget non-core items (typically in first two–three months) such as:
  - Deposit for electricity
  - Telephone connection
  - Rent deposit
  - Legal and accounting costs
  - Licence fees
  - High cost of initial materials and supplies
  - Hiring of personnel
  - Computer software and connections
  - Signage
- Make sure cash flow projections address how the Champion will be paid or meet his or her personal obligations during planning and implementation.
- Ensure that cash flow is sufficient for implementation and start-up time, as well as for any eventualities. As a rule of thumb, add at least three months to the projected period between start-up and first receipt of revenues.
- Cash flow must be based on conservative estimates; even then, these conservative estimates should be ramped up over a period of time. Almost everything takes longer and costs more than we think. Problems with financial projections are not limited to revenues. Evaluate the impact of scaling down the estimated gross margin or profit (even if well motivated or operating in a controlled environment such as fuel sales). Also, increase operating costs and add a healthy "unforeseen costs" item.

- Setting up offices and distribution points
- Acquisition of operating equipment (vehicles, office, maintenance)
- Fees to be paid to experts
- Fees to be paid or credited as shares of ownership to Champions

Taken together, the costs of planning and the costs of construction and pre-operation constitute the **capital cost** of a proposal.

A **capital budget and plan** is simply the total of all the costs of planning, construction and pre-operation stages. It includes everything that must be spent and done in order to commence the delivery of the proposed product or service. Often these are called "**capital costs**" (to distinguish them from costs incurred once the proposal's operational phase begins) and any cost added to the capital budget or plan is referred to as being "**capitalized**".

Operation includes proposal implementation: the sale and distribution of the product and service at the centre of the proposal. Generally, the operating phase of a proposal has both revenues and costs. In preparing a proposal it is important to estimate the revenue components both in units of output (e.g., number of kilowatt-hours, number of bed-nets) and in the value of the units.

Thus, an **"operating budget and plan"** picks up where the "capital budget and plan" leaves off. It is the budget of both revenue and expenses once the proposal begins to deliver the promised goods or services. The word "budget" has become associated primarily with costs but an operating budget and plan – much like a household budget – must reflect both incoming funds and outgoing costs. An operating budget includes:

- Revenue estimates that show both the number of units expected to be produced and the value of each unit
- Labour costs (separated between labour to produce the product or service and labour to run the company or the programme)
- Raw materials to produce the product or service (e.g., fuel to produce electricity or untreated bed-nets and the special coating to be applied)
- Transport: fuel, maintenance
- Communications: phone, fax, e-mail, postage
- Utilities: heat, cooling, water, electricity
- Packaging
- Office supplies
- Equipment rental
- Insurance
- Accounting and auditing services

Operating costs also include other elements that require explanation: depreciation, interest, taxes and amortization (principal payments), which are needed to translate operating results (revenues less costs) into an estimate of the cash flow which the proposal will generate after all costs are considered.

Interest expense is the estimate of the amount paid on monies borrowed to implement a proposal. If the interest is paid or accrued (recorded in the time period during which it applies but paid at some time in the future) before the operation commences, this is generally called "interest during construction" and is included ("capitalized") in the capital budget and plan. Once operations begin, the interest paid or accrued is treated as a normal expense such as labour or raw materials.

Depreciation is the only part of the operating budget and the income statement that is **not represented by a cash payment** during the period or at some time in the future. "Depreciation" is an allowance used for tax purposes – an operating expense – that reflects a share of the capital cost spread out year by year during its useful life. The purpose of depreciation is to reduce your taxable income and match the revenue of a proposal with the wearing out of the assets.

Taxes come in many forms. Most important to proposal preparation is to estimate the **income taxes** due as a result of the proposal's implementation. Usually, taxes are calculated as a percentage of revenues minus all operating expenses (including interest and depreciation).

"**Amortization**" **or** "**principal payment**" is a cousin of depreciation. Depreciation represents an estimate of the loss of value of an asset. It is a "non-cash" item (cheques or wire transfers are not made to "pay depreciation" as it is an accounting convention). Conversely, when money is borrowed to acquire or build a capital cost item, that money must be repaid. This repayment is referred to as amortization or principal payments. Since depreciation accounts for the declining value of all capital assets, it would be double counting to deduct principal payments (which represent payments for a portion of the asset) too, so amortization is not part of the income statement. However, unlike depreciation, this is a cash payment, so accounting makes an adjustment after finishing the income statement. What happens is that depreciation is added back and amortization/principal payments deducted; the result is the cash flow available to owners–investors. This concept is important to understanding the concepts of rate of return and the financial "bottom line."

Note: when principal and interest payments are combined this is called "**debt service**", another important concept to remember.

An "**income statement**" reflects operating revenues and expenses for a specific period of time, usually a year for formal statements and three months (a quarter of a year) for internal management purposes. It includes interest, depreciation and taxes.

If the purpose of an income statement is to reflect what has happened in a specific year or quarter, a "**balance sheet**" gives a picture of a company at a particular moment. It has three parts (the parts are sometimes given different names, but the ideas behind them are the same):

Assets represents something owned or controlled, something that has a value – almost always measured by its original cost minus depreciation – that is expected to be used to produce income or deliver a specific good or service. Buildings, equipment and inventory are examples; cash in the bank or in investments and expenses paid ahead of time are other examples.

Liabilities: if assets are "things owned", then liabilities are "things owed". These represent all future obligations, especially loans to be repaid, monies owed to suppliers and pension obligations to employees.

Net assets are an important and somewhat difficult concept. Net assets represent the difference between assets and liabilities (assets = liabilities + net assets) and comprise the amounts provided

by owners (these amounts are called "equity") **plus** the accumulated results of operations (called profit or loss) **minus** any amounts paid to owners (these are called dividends). When liabilities exceed assets, "net assets" are a negative rather than a positive number (not a good sign).

2.2.2 Finance

Although the world of finance is full and complex, mastering just six concepts with a pencil, paper, calculator or computer is sufficient grounding to have the most sophisticated conversations with "experts". These concepts are: interest rate; return on investment; net present value; internal rate of return; debt service; and debt service coverage ratio.[6]

Interest is the cost or the value of money. It is the expense of borrowing money. Usually quoted as a percentage (and most often quoted as a fixed percentage per year or month), it is the fee paid by a borrower to a lender for the lender making funds available to the borrower. It is important for Champions to understand how interest is calculated and the best way to do this is by doing a simple exercise.

An amount of 1,000[7] borrowed for one year at 12 per cent simple interest requires a repayment of 1,120. The same amount borrowed at one per cent per month, compounded monthly (interest charged on interest) requires a payment of 1,127 at the end of a year. If the period is two years rather than one the result is 1,254. Do the exercises of multiplying 1,000 times 1.01, first 12 times (equals 1,127) and then 24 times (equals 1,254). This is the process of "compounding". Interest is compounded without being stated as such (simple interest is the exception rather than the rule).

A calculation showing 1,000 at 12 per cent interest compounded yearly for five years follows:

Year 0 (when the money is borrowed) = 1,000
Add 12% for year 1 = 120
Balance at end of year = 1,120.00
Add 12% for year 2 = 134.40
Balance at end of year 2 = 1,254.40
Add 12 % for year 3 = 150.53
Balance at end of year 3 = 1,404.93
Add 12% for year 4 = 168.59
Balance at end of year 4 = 1,573.52
Add 12% for year 5 = 188.82
Balance at end of year 5 = **1,762.34**
(See box)

On a calculator or spreadsheet, getting this answer would be a function of entering the present value (PV) of 1,000, interest rate (i or R) of 12%, the number of periods (n or nper) of 5 and then solve for future value (FV). In an algebraic presentation, this calculation is as follows:

$$FV = P(1 + R)^N$$

Where:
FV = future value
P = principal (initial amount)
R = annual rate of interest (also abbreviated as lower case i)
N = number of years

$FV = 1000(1+.12)^5$
* = "multiplied by"
1.12 * 1.12 * 1.12 * 1.12 * 1.12 = 1.7623
1000 * 1.7623 = 1762.34

Debt service and payment plans

Once the concept of interest is comfortably understood, the next step is to understand that there are different types of "payment plans". It is possible to pay only the interest on a loan for a period of time and then pay the principal amount in one or more payments. When a single payment of principal is made at the end, this is sometimes called a "bullet" payment.[8]

6 These terms are abbreviated so often – especially in conversation – that their abbreviations should be learned as if they are words: "i" for interest, "ROI" for return on investment, "NPV" for net present value, "IRR" for internal rate of return, "p+i" for debt service and DSCR for "debt service coverage ratio".

7 This guidebook does not focus on any particular currency.

8 Some of the illustrative calculations used here for interest, net present value and internal rate of return appeared in the Toolkit for Energy Entrepreneurs, © 2002, E+Co, UNEP and AREED.

It is possible to pay the same amount every period (whether monthly, semi-annual, annual or any other equally spaced period). This is called the "mortgage payment" or "equal annual" method.

Another possibility commonly explored makes equal payments of *principal* amounts over a specified period of time. The interest amount paid at each time varies because the balance of the loan is declining.

Repay 1,000 over five years at 12 per cent – three methods.

Payment options	Year 1	Year 2	Year 3	Year 4	Year 5	Total payment
Bullet	120	120	120	120	1,120	1,600
Mortgage	277	277	277	277	277	1,385
Equal principal	320	296	272	248	224	1,360

Each of these schedules employs the same interest rate and time period; what varies is the debt service (schedule of principal and interest (p+i) payments).

Return is a closely related concept. It is the rate of interest earned on an investment over time. It is usually a function of the amount of money invested at the beginning when compared to the amounts of money received back over time. The difference between interest and return is that interest is generally a fixed payment for the use of money, whereas return is the sum of variable payments over time.

Interest represents the rate charged for the use of money. It looks forward in time and is predictable. Return occurs over time and is not as predictable, but both represent what is often called the "cost of money". A proposal can be to a bank (lender) to borrow money at a fixed interest rate. A proposal can also be to an investor, offering a share of future cash flow as a return on their investment (often abbreviated ROI).

One way of comparing returns and interest rates is called "**net present value**" (NPV). By taking a certain rate of interest it is possible to compare the value of future flows of monies to the amount to be invested today. When this technique is used, the percentage rate used has a different name. It is called a "discount rate", but this is nothing but an interest rate looking back in time rather than forward in time. The technique is quite simple to perform, either manually with a calculator or with a spreadsheet computer program such as Excel. The purpose served is quite clear: if the net present value is a positive number, that is one measure of the profitability of a proposal. If the number is zero or negative, that is a good estimate of the additional funding needed (whether by grants, subsidies, cost-cutting or revenue improvements). The most important step is selecting an appropriate discount rate.

To demonstrate this point, the preceding cash flow estimates can be looked at in reverse. What if someone offered three different ways in which they would pay for a particular product (costing 1,000) over five years?

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Case A	120	120	120	120	1,120	1,600
Case B	277	277	277	277	277	1,385
Case C	320	296	272	248	224	1,360

Each payment plan looks different. The way to compare them is to choose an interest rate that

represents the fair value of having money in hand or a promise of money in the future. If the rate selected was 12 per cent and it was applied to each of the above proposals, it would be found (mathematically) that each of the proposals equals the others.

Five-year net present value at 12 per cent discount rate

	Year 1	Year 2	Year 3	Year 4	Year 5	Total payments	NPV, 12%, five years
Case A	120	120	120	120	1,120	1,600	1,000
Case B	277	277	277	277	277	1,385	1,000
Case C	320	296	272	248	224	1,360	1,000

There are a few ways to check these results: using a spreadsheet program or the financial functions on a calculator; using factors from a present/future value table; or using an algebraic formula. Each of these solutions is demonstrated in annex V, which also illustrates and explains the composition of the present/future value table.

While all of these calculation methods show that the results of the three payment plans are *mathematically* the same, there are other reasons to choose between these options. Inflation may make 12 per cent too low a discount rate, so either choose a higher one or choose the proposal that brings cash earliest. There may be a need for cash at a certain time that also makes one method more appropriate than another. The core problem with NPV analysis is that the choice of discount rates can greatly affect it. Otherwise, it is a wonderful tool for comparing different options.

With the mass introduction of more sophisticated calculators and spreadsheet programs, an alternative methodology has gained currency: this is called "internal rate of return". Internal rate of return (IRR) is the interest rate that a future stream of monies will return on an investment made today. It allows different investments to be compared. When compared to these alternatives (and to the cost of money which an enterprise might incur), the IRR on a proposal can be reliably presented.

Let us examine three cases where 1,000 is invested and three different choices exist for being repaid.

	Year 0 Amt. out	Year 1 Amt. in	Year 2 Amt. in	Year 3 Amt. in	Year 4 Amt. in	Year 5 Amt. in	Total net cash flow *
Case D	-1,000	300	240	240	270	350	400
Case E	-1,000	350	280	350	280	140	400
Case F	-1,000	350	350	300	200	200	400

* Total net cash flow is the total "undiscounted" cash remaining after investment has been fully repaid (difference between total amount in and total amount out).

If we assign a discount rate of 13 per cent, we can determine which has the higher net present value.

	Year 0 Amt. out	Year 1 Amt. in	Year 2 Amt. in	Year 3 Amt. in	Year 4 Amt. in	Year 5 Amt. in	Total net cash flow	NPV @ 13%
Case D	-1,000	300	240	240	270	350	400	-22
Case E	-1,000	350	280	350	280	140	400	+17
Case F	-1,000	350	350	300	200	200	400	+20

Case F has the highest NPV and is the best of the three cash flows from an NPV perspective.

What IRR (internal rate of return) allows us to do is to say mathematically how much better it is by calculating the discount rate that would produce a zero NPV result. See annex V for a detailed explanation of how to calculate IRR.

	Year 0 Amt. out	Year 1 Amt. in	Year 2 Amt. in	Year 3 Amt. in	Year 4 Amt. in	Year 5 Amt. in	Total net cash flow	NPV @ 13%	IRR
Case D	-1,000	300	240	240	270	350	400	-22	12.0%
Case E	-1,000	350	280	350	280	140	400	+17	13.9%
Case F	-1,000	350	350	300	200	200	400	+20	14.1%

Debt service is the amount paid each year to repay a loan. It consists of principal repayments (the amounts borrowed) and interest payments (the cost of money). Debt service equals principal plus interest (p+i). There are many different ways to calculate debt service, and as we have seen there are many different ways to produce the same net present value. The objective in learning about debt service is to try to match the future monies expected to the obligations being accepted. When seeking a loan, annual debt service coverage calculations are important.

Let us go back to the three debt service examples used previously and explore how to calculate debt service coverage ratios (DSCRs).

Debt service options	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Case A	120	120	120	120	1,120	1,600
Case B	277	277	277	277	277	1,385
Case C	320	296	272	248	224	1,360

For each of these years, a certain amount of money will be available to make the expected debt service payment. This amount of money is the excess of revenues over day-to-day costs. It is the amount available to pay debt service, to reinvest in the company or to pay to owners in the form of dividends. Let us make the following assumption regarding funds available to meet debt service.

Year	1	2	3	4	5	Total
Funds available	400	420	440	460	480	2,200

A debt service coverage calculation compares the amounts available by year (and for the total period of the loan) to see if there is a match (or mismatch) between the amounts to be paid under the different payment plans and the amounts required to be paid. Say you choose case A as your debt service option: in year 3 the debt service expense totals 120 and your funds available total 440, giving you a debt service coverage ratio (DSCR) of 3.7 (440/120), meaning that in this particular year for every unit of money owed you have 3.7 units available for payment. If you were to choose case B, the DSCR for year 3 is 1.6 (440/277).

Debt service options	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Case A	120	120	120	120	1,120	1,600
Case B	277	277	277	277	277	1,385
Case C	320	296	272	248	224	1,360

Debt service coverage ratio	Year 1	Year 2	Year 3	Year 4	Year 5	Years 1–5
Case A	3.3	3.5	3.7	3.8	0.4	1.4
Case B	1.4	1.5	1.6	1.7	1.7	1.6
Case C	1.3	1.4	1.6	1.9	2.1	1.6

Of importance also is the sum of all the debt service payments when compared to the sum of all the monies available to make those payments. This indicates the "average" DSCR, although differences in time make this, at best, a rough measure.

Compare these results, first as a Champion: which result produces the best cash flow for reinvestment, expansion or dividends to owners?

Now place yourself in the shoes of the person making a loan: which result is the least secure?

Answer: Case A. It is good for the project in that it frees up much cash in the early years to reinvest in the project or reward owners. It is bad for the lender because it produces the lowest overall debt service coverage ratio (1.4) and has a very risky fifth year (what if the Champion has spend all the excess monies from years 1 to 4?).

There is no right or wrong answer. Case A could be structured in a way that reduces the risk to the lender (setting aside a reserve of cash in years 1–4). The purpose of the exercise is to open our minds to the options that exist when the time value of money is incorporated into the analysis.

The most important common ingredient of the six concepts discussed in this section is **time.** The time value of money and other benefits is an important ingredient of any proposal. Champions and Enablers need to assess carefully what expenditures and revenues must occur over the different blocks of time.

2.3 Classifying projects

Not all projects or proposals are created equal. Some are destined to disturb the environmental and social status quo quite a bit. Some, less so. And some will have significant impacts – both positive and negative.

A classification system of sorts has been adopted by organizations, especially multilateral development and commercial banks, which tries to create broad categories of projects.

It is important for Champions to understand these categories both because of the work involved and the ease or difficulty of obtaining approvals and financing.

Projects with significant impacts → **Category A**

Projects with impacts → **Category B**

Projects with no or minimal impacts → **Category C**

Category A → Projects with significant impacts

A proposal is classified as category A if it is likely to have significant adverse environmental impacts that are sensitive,9 diverse or unprecedented. These investments may affect an area broader than the sites or facilities proposed by the Champion. An environmental assessment for

9 A potential impact is considered "sensitive" if it may be irreversible (e.g., lead to loss of a major natural habitat), affect vulnerable groups of ethnic minorities, involve involuntary displacement and resettlement, or affect significant cultural heritage sites.

a category A investment examines the potential positive and negative impacts, compares them with those of feasible alternatives (including the "without project" scenario), and recommends the measures needed to prevent, minimize, mitigate or compensate for adverse impacts and improve performance. A full environmental assessment is required, which is normally called an environmental impact assessment (EIA).

Typical category A projects	
Projects affecting indigenous people	Construction of dams and reservoirs
Projects involving resettlement of communities/families	Pesticides and herbicides: production or commercial use
All projects which pose serious socioeconomic concerns	Major irrigation projects or other projects affecting water supply in a given region
Projects associated with induced development (e.g., inward migration)	Domestic or hazardous waste disposal operations
Projects which impact on cultural property (e.g., religious and archaeological sites)	Hazardous chemicals: manufacture, storage or transportation above a threshold volume.
Projects which pose serious occupational or health risks	Oil and gas developments, including pipeline construction
Impacts on protected natural habitats or areas of high biological diversity, including wetlands, coral reefs and mangroves	Large infrastructure projects, including development of ports and harbours, airports, roads, rail and mass transit systems
Forestry operations (commercial logging operations or logging in primary humid tropical forests)	Metal smelting, refining and foundry operations
Large thermal and hydropower developments	Mining (opencast and pit)
Large-scale industrial plants and estates	International waterways
Use of chlorofluorocarbons (CFCs) or other ozone-depleting substances	Hazardous materials, air pollution, noise or odours

Category B → Projects with impacts

Projects are classified as category B if their potential adverse environmental impacts on human populations or environmentally important areas – including wetlands, forests, grasslands, and other natural habitats – are **less adverse than those of category A**. **Impacts are site-specific**; few if any of them are irreversible; and in most cases mitigation measures can be designed more readily than for category A projects.

The scope of an **environmental assessment for a category B investment may vary** from project to project, but it is narrower than that of an environmental assessment for category A, but, like a category A environmental assessment, it examines the potential positive and negative impacts and recommends any measures needed to prevent, minimize, mitigate or compensate for adverse impacts and improve environmental performance.

A wide range of environmental guidelines have been developed by local or country authorities, and also by a number of organizations, including the World Bank Group (e.g., ***Pollution Prevention and Abatement Handbook, Occupational Health and Safety Guidelines***), to clarify the category of a project and its appropriate handling.

Typical category B projects	
Specific waste disposal issues	Solar photovoltaic (if batteries used)
Waste handling	Biomass/biogas
Routing, partially storing river flows	Small to medium-sized hydroelectricity projects

Category C → Projects with no or minimal impacts

A proposed investment is classified as category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening (documenting), no further action is required for a category C project.

Typical category C projects	
Pre-feasibility study preparation	Energy efficiency
Consulting firms	Share registries
Service industries	Stock broking
Technical assistance	Retail banking

Exclusions

Of course, there are activities with the clear potential to pose unacceptable social and environmental risks that tend to be "unclassified" as A, B or C. Examples of projects to be avoided include:

- Production or activities involving harmful or exploitative forms of child labour
- Production of or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements
- Production of or trade in weapons and munitions
- Production of or trade in alcoholic beverages (excluding beer and wine)
- Production of or trade in tobacco
- Gambling casinos and equivalent enterprises
- Trade in wildlife or wildlife products regulated under Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- Production of or trade in radioactive materials
- Production of or trade in or use of unbonded asbestos fibres
- Commercial logging operations in primary humid tropical forest
- Production of or trade in products containing polychlorinated biphenyls (PCBs)
- Production of or trade in pharmaceuticals subject to phase-outs or bans
- Production of or trade in ozone-depleting substances subject to phase-out
- Drift-net fishing in the marine environment using nets in excess of 2 km in length

2.4 Champion and team assessment

There are many good ideas, and for every good idea that is successfully implemented, there are hundreds that never go forward. And while there are many ingredients that need to come together for a good idea to translate to successful implementation, the most important ingredient is the

Champion: that individual or small group committed to the idea. However, **more than commitment is needed**. Before beginning the serious work of preparing a proposal, its Champion needs to undertake a rigorous inventory of two things: motivation and capabilities.

Motivation: what are the underlying reasons why the Champion is committing his or her time, money and reputation to this proposal? Is it about an amount of money (income or wealth creation)? About building a track record and experience base? About social or environmental change? Or for a combination of these things or other reasons?

Is the commitment serious, meaning full-time involvement (few Champions engage part-time)? Is there a match (or a mismatch) between the objectives of the Champion and the likely outcome of the proposal's success? (If the Champion wishes to build some wealth in five years, creating even a successful household energy programme in poor rural communities is probably not the way to do so.) The first order of business is for the Champion to take inventory of his or her or the team's motives:

- Regular income
- Wealth creation
- Permanent organization
- Gain experience
- Social improvement
- Environmental improvement
- Other

The second order of business is to determine, honestly and openly, whether these motivations are consistent with the proposal being prepared or if there is a mismatch. Proposals are difficult enough to implement without having a conflict between the Champion's motivation and the work in hand.

Capabilities: having the will and the motivation is not enough (being ready to do something is not the same as being ready and prepared). Enabling organizations will look closely at the skill set and experience base presented in a proposal. The greatest engineering design capability must be balanced with many other skills, and the financial wizard needs to possess and demonstrate planning and implementation skills. Most proposals require a mix of skills, including:

- Day-to-day operations and management
- Financial planning
- Legal and regulatory matters
- Negotiations

Lessons learned:

- A Champion is willing to invest his or her money, time and reputation to turn a viable core idea into a successful enterprise and a full-time opportunity. Early in the relationship, an enabling organization needs to have a tangible sense as to the money, asset and time commitment of the entrepreneur.
- Champions need easy-to-use guidance that responds to the needs of enabling organizations. Further, Champions need information to access, particularly with respect to sources of funding and other support. These exist, need to be scrutinized and evaluated and classified for ready reference by Champions once their plans and needs are clear.
- Providing active assistance and support entails a three–five-year "marriage" with a Champion that has much against it. Enablers need to choose the right Champion and vice versa. At the same time, do not let personal preferences cloud judgments. The "right partner" is a good business partner, though he or she might not be someone with whom you want to share a social meal.
- Champions who come to business sectors via politically connected entry points and without experience should be challenged as to their ability to implement.

- Bank and investor relations
- Design
- Engineering
- Procurement and purchasing
- Construction
- Operations and maintenance
- Sales and marketing
- Reporting, monitoring and evaluation

What the Champion possesses needs to be honestly evaluated. What are weak or missing needs should be balanced by additions to the team or be clearly identified as gaps to be filled (and budgeted for!). These additions can come from other owner-investors, employees or contractors. The finished picture, however, should show the requisite expertise across a number of disciplines:

- Technical
- Operational
- Financial
- Legal
- Sales and service
- Marketing
- Political
- Fund-raising

It is quite easy and natural to overrate what we each bring to a proposal; investors, donors and lenders can be convinced sometimes. However, the reality will be much harsher during implementation. An honest self- and team assessment may result in a more costly proposal. It may even result in a proposal that is not feasible. Nevertheless, having a smaller project or an infeasible proposal is quite a bit easier on the Champion than having an approved, under-resourced proposal that fails in the field.

This guidebook includes a template (the "WHO" template) in annex I) to assist in the process of gathering and organizing information to address all the pertinent questions which Champions should consider.

3. Preparing a proposal

Armed with the seven-question approach, a fundamental grounding in accounting, finance, impacts, scheduling and environmental assessment, and knowing the motivation and capability of the Champion, it is now possible to proceed with **a series of tasks and questions** that together create a proposal: a plan to do something and a request for resources.

3.1 Tasks and questions

So how do Champions get to the point where clear statements can be made in a few pages and aimed at specific enabling organizations? As should be pretty clear by now, Champions get to this point by answering seven questions and assembling their base case.

The case developed in this chapter refers to the templates contained in annex I and is also included in the accompanying CD-ROM.

Task 1: Describing the concept (answering the question "What?") – keeping the technology, service, product and client description factual and clear

1.1: Describe the product or service

1.2: Describe the technology

1.3: Describe the client group or customers

Underlying questions: Why is ***this*** product the correct one to offer to ***these*** customers? Why choose ***this*** technology?

One way to start this process is with a pad of paper and a pencil. Tear off eight sheets of paper and label these **What, Where, Who, How, Why, What If** and To **Whom**. On the eighth sheet, write **"Base Case"**. A few of these pages will probably grow beyond a single sheet; others may not. Most important, by labeling these eight sheets of paper, you have started a proposal!

1.1 Product and service description

- Description: Water or cooking fuel and heat or lighting are products. So is electricity sold to an electrical utility, and so are drought-resistant sweet sorghum varieties. By way of contrast, biogas produced from poultry litter mixed with water in a fixed-drum, below-ground digester, run through an adapted diesel generating set to produce electricity to power a pump to transport water to a tank for gravity-fed on-demand water distribution to a village is not a product or a service. It is a technology.
- The need being satisfied: Clean water at the household satisfies convenience, health and labour needs and avoids a variety of inconveniences, and also unhealthy, time-consuming chores.
- New product, new market or both? Has this been done before? Has it been done in a market like this market?
- Testing of product or service in the proposal's market: It is expected to be accepted as a new or replacement product or service because… FILL IN THE BLANK!

1.2 Technology description

- Description: How it works in clear, non-technical terms, combined with references for further information. An eight-page technology description in a 12-page proposal is not a good sign.

- Experience of and with the technology: Global, country, immediate market and Champion, installation, operations and maintenance.
- Testing of technology in proposal's market.
- Components.
- Source(s) of inputs and outputs.
- Various sizes, approximate cost and approximate price to customers.
- Alternative sources (plan B).
- Determination that price is transparent and competitive.
- Maintenance requirements.
- Other technologies delivering similar products or services.

1.3 Description of client group or customers

- Types of customers and clients targeted
- Approximate number of customers (current and next three years)
- Customers' income and fluctuations in it
- Current product or service being used
- Why customers will use the new product or service
- How customers will be reached

Note: If the proposal involves revenue from one large or a few customers (such as a utility or municipality), then the "health" of that customer needs to be examined:

- Core business performance of large customer (just because it is big does not mean that it is sustainable and competitive)
- Credit rating and track record of paying bills
- If the customer fails, what are the options?

Competitors

- Other companies or programmes targeting these customers
- Similarities between those competitors and this proposal
- Differences between those competitors and this proposal
- Why customers will choose the proposed new product or service

Note: Competitors include all activities, whether charitable or for profit, where the activities touch even lightly on the product or service being proposed. For non-profit activities, competitors also include any programmes competing for the same source of funding.

Task 2: Describing the setting (answering the question "Where?") – researching and describe the setting in a balanced and transparent manner to show that the local setting is understood

2.1: Describe the general location and the conditions in the country or region

2.2: Describe the market

2.3: Describe the rules that govern operation and the approvals needed

2.1 Description of market setting

- Size
- Population
- Per capita GDP
- Income distribution
- Exchange rate
- Inflation rates (three years)
- Interest rate for deposits
- Interest rates for bank loans

2.2 Description of regulatory setting

- Permits needed to start a business
- Non-governmental organization permits needed
- Permits needed to study a project or undertake a feasibility study
- Permits needed to obtain a concession
- Permits needed to use a natural resource
- Permits needed to use roads or cross public lands
- Environmental permits and processes
- Construction permits
- Operating permits
- Applicable taxes and regulations

2.3 Description of operating setting

- Obtaining land or premises
- Security and corruption
- Hiring and firing
- Getting loans
- Contractors
- Transport
- Contract enforceability
- Interaction with inspectors and other public officials

Questions on rules: What are the laws, regulations and local conditions that must be observed? What permits must be obtained and from whom? What formal and informal approvals and permissions must be obtained in advance and observed throughout the period of operation?

Questions on market: What products and services are used now? Why would customers switch to the proposed product or service? Who else offers products and services that these customers might use? Why would they choose the proposed product or service?

Task 3: Introducing the team (answering the question "Who?") – evaluating and presenting the team and the stakeholders; showing who will be involved

3.1: Describe the Champion and evaluate his or her strengths, weaknesses and motivation.

3.2: Describe the owners or sponsors, what they are bringing, the level of their commitments and their motivation.

3.3: Describe the employees, staff and advisors who will be involved and match the assembled skill set of the Champion, owners, employees, staff and advisors against a list of the skills required for the proposal's implementation.

3.4: Show how the plan will be organized at its various stages. This is an important juncture for being clear about the schedule and timing of what is proposed.

3.5: Describe all the formal and informal parties who will be involved, including different levels of civil society and government. Start thinking about all the things that others might do to disrupt what is planned, for personal or political gain.

Questions: What are the shortcomings of the team? What skill sets and experience are missing? How will this be managed? What are the roadblocks that others can put in the way of getting the plan implemented? What will it mean? How can this potential roadblock be avoided?

Team skills and objectives
Champion's objectives:

- Regular income
- Wealth creation
- Permanent organization
- Gain experience
- Social improvement
- Environmental improvement
- Other

Champion's skills and experience base:

- Marketing and ales
- Day-to-day operations and management
- Financial planning
- Legal and regulatory matters
- Negotiations

- Bank and investor relations
- Design
- Engineering
- Procurement and purchasing
- Construction
- Reporting, monitoring and evaluation

Team skills and experience base:

- Technical
- Operational
- Financial
- Legal
- Sales and service
- Marketing
- Political
- Fund-raising

Participants
Company or organization making the proposal:

- Name
- Legal address
- Legal status
- Owners and percentage of ownership
- Managing Director
- Technical head
- Finance head
- Board of Directors
- Bank account
- Accountants
- Lawyers
- Brief history

Organizations or companies offering similar products or services:

- Organization
- Product or service
- Similarities

- Differences
- → *Repeat as needed*

Organizations supplying raw materials or products:

- Organization
- Raw material or product supplied
- Status of contract
- → *Repeat as needed*

Organizations supplying specialized services (and their credentials)

- Design
- Construction
- Technical analysis
- Financial advice
- Legal
- Carbon benefit
- Other
- → *Repeat as needed*

Landowners selling or leasing or giving permission to use land or grant access:

- Parcel of land (location, description)
- Landlord
- Status of contract
- → *Repeat as needed*

Task 4: Explaining the plan (answering the question "How?") – organizing and presenting the steps to implementation: How will the core idea be turned into an operating reality?

4.1: Describe the proposal in terms of blocks of time ("To finish planning" "To reach financial closure" "To build" "To commence operations"). Under each block of time itemize the subtasks that need to be accomplished and the approvals that need to be obtained. Add for each subtask an estimate of the cost and revenues.

4.2: Sketch out how the proposal will be managed (organization chart or organigram).

Questions: Is everything included? Do all critical tasks fit within identifiable blocks of time? What are the critical items that can bring the plan to a halt? Have cost and other resource estimates been prepared for each ***and all*** of the tasks? Are there details for just the construction or roll-out phase or have the operational tasks been planned for the entire life of the project? Are there different staffing plans for the different phases? How are these reflected in estimates? How will the technology, product, service or facility be built or acquired? What are the sources of equipment, raw materials

and labour? Is there a clear division of labour and accountability during each phase?

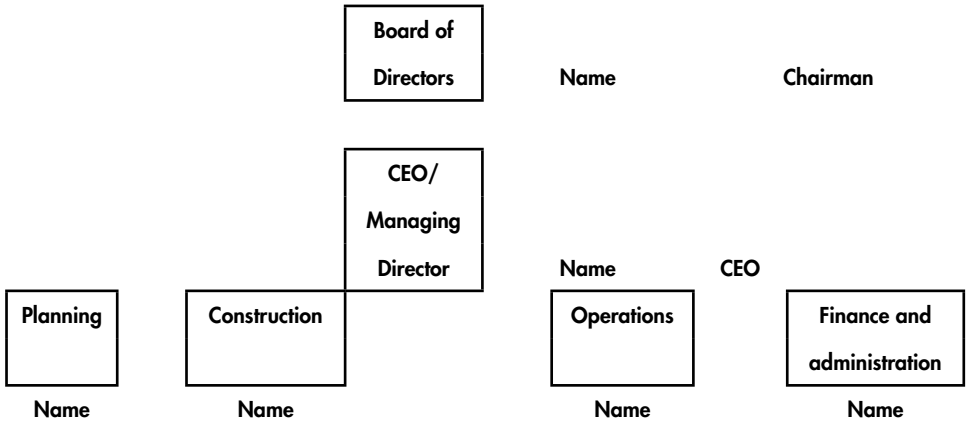
The following table illustrates the combination of describing an "organization", setting milestones, estimating and classifying costs, revenues and activities for a typical project, and most important, fixing responsibility. As will be shown, this is the first building block of financial planning for a proposal.

Title	Name
Board member 1, Chairman	Name
Board member 2	Name
Board member 3	Name
Board member 4	Name
Board member 5	Name
Chief Executive Officer/ Managing Director	Name
Chief Financial Officer	Name
Chief Operating Officer	Name
Chief of Planning	Name
Chief of Construction	Name

				Month	Number
	Planning tasks	**Responsible person**	**Estimated cost**	**Start**	**Finish**
P1	Permits	Name	15,000	1	12
P2	Technical analysis I	Name	10,000	1	12
P3	Contracts I	Name	5,000	1	12
P4	Contracts II	Name	10,000	13	24
P5	Technical analysis II	Name	5,000	13	24
P6					
P7					
P8					
P9					
P10					
			45,000		
	Construction tasks	**Responsible person**	**Estimated cost**		
C1	Land acquisition	Name	240,000	6	12
C2	Engineering	Name	110,000	6	12
C3	Machinery 1	Name	2,381	6	12
C4	Machinery 2	Name	200,000	13	24
C5	Machinery 3	Name	111,000	13	24
C6	Machinery 4	Name	22,333	13	24
C7	Testing 1	Name	300,000	25	36

				Month	Number
C8	Testing 2	Name	33,334	25	36
C9					
C10	Interest during construction	Name	50,952	6	36
			1,070,000		
	Revenue & operations tasks	**Responsible person**			
	Open for business	Name			37
R1	First year revenue	Name	AMOUNT	37	48
R2	Second year revenue	Name	AMOUNT	49	60
O1	First year labour – payroll	Name	AMOUNT	37	48
O2	First year rent	Name	AMOUNT	37	48
O3	First year materials	Name	AMOUNT	37	48
O4	First year general administration	Name	AMOUNT	37	48
O5					
O6					
O7					
	Finance and administration	**Responsible person**			
F1	Financial closing	Name		Date	12
F2	Accounting manual & system 1	Name		6	12
F3	Accounting manual & system 2	Name		13	36
F4	Report to investors/ lenders 1	Name			15

What follows – and grows from the preceding list – is a simplified organization chart that focuses on relating people to responsibilities in one place. It also serves (later) as a template for preparing job descriptions.



P1	C1	O1	F1
P2	C2	02	F2
P3	C3	O3	F3
P4	C4	04	F4
P5	C5	05	F5
P6	C6	06	
P7	C7	07	
P8	C8	R1	
P9	C9	R2	
P10	C10	R3	

Done properly, almost all the information needed to complete financial planning is at the Champion's fingertips.

Task 5: **Describing the benefits and impacts (answering the question "Why?") – estimating and preparing the impacts, outcomes and expectations of the proposal: itemizing benefits, creating a matrix of benefits, and inventorying proposal impacts and mitigation measures.**

5.1: Estimate and describe all benefits. Establish impacts and conditions to monitor.

5.2: Identify and describe all environmental and social impacts and measures to mitigate negative impacts.

Question: Have all the financial, social, environmental, emotional, market growth and replicability benefits and impacts been investigated?

There are just a few parts of this Guidebook that require sitting back and thinking outside the confines of the evolving plan. This is one of those. Proposals tend to begin and evolve around a core idea or two, but often there are many other benefits. Not only that, there are potential impacts that need to be understood earlier rather than later. A proposal to build a hydroelectric facility can begin with a renewable energy focus, but there are construction job, operating job, land reclamation, rural development, greenhouse gas, reforestation and market development possibilities. **Champions tend to be driven by their core objectives and that is a very good thing because focus gets things done.** It is not suggested that side activities should be added to core ones for the sake of gathering up additional benefits. What is suggested here, however, is to make a careful appraisal of **all the impacts, positive and negative** that might occur because it is essential to understand them as they may prove important to others. Donors, lenders and investors are all conscious of these issues, so a complete assessment and an understanding of the language (the language of category A, category B and category C projects as described in chapter 2) will make a proposal more balanced and complete. Thus, make sure to count all the potential benefits of the proposal and make sure to account for all its potential social and environmental consequences.

Itemize benefits

- Introduction of new technology, construction and operating skills and jobs
- Income value of new jobs
- Indirect income benefits
- Land area improved – soil, vegetation, water, appearance

- Number of new seedlings and trees
- Improved public areas and infrastructure (linear feet of road or hectares of land)
- Clean water (litres)
- Sustainable fuel (kg of oil equivalent)
- Total funding mobilized
- Public utilities (electricity, water) supplied
- Educational and informational activities

Special benefits for "strategic" investor or donor

What follows is a short but potentially important subtask depending on whether a specific type of investor (strategic investor) has an interest in a proposal. The Champion should identify any special knowledge, infrastructure, experience or reputation benefit that the proposal might offer to a special type of investor: one who wants to learn and gain experience or "test the water" but would rather do so through someone else.

Will the proposal ***create*** groundbreaking policy changes that could open the market to others?

Will the proposal ***offer information and experience*** at a fraction of the cost of someone new gathering the information directly?

Will the proposal ***teach skills*** that will allow others to expand if they had those skills and that experience?

Itemize potential impacts

Category A

A proposal is classified as category A if it is likely to have **significant adverse environmental impacts** that are sensitive, diverse or unprecedented.

Projects that require particular attention include:

- Dams and reservoirs
- Large-scale industrial plants and estates
- Major oil and gas developments, including major pipelines
- Large thermal and hydropower developments
- Domestic and hazardous waste disposal operations
- Pest management (significant use of man-made pesticides/agrochemicals)
- Properties occupied by indigenous peoples or containing cultural heritage sites or critical natural habitats
- Locations requiring the involuntary loss of land, housing or livelihoods by occupants
- Forests (commercial logging operations or logging in primary humid tropical forests)
- International waterways
- Hazardous materials, air pollution, noise or odours

- Use of chlorofluorocarbons (CFCs) or other ozone-depleting substances

Category B

Projects are classified as category B if their potential adverse environmental impacts on human populations or environmentally important areas – including wetlands, forests, grasslands, and other natural habitats – are less adverse than those of category A. Impacts are in this case site-specific; few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects.

Category C

A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening (documenting), no further action is required for a category C project.

The points under task 5 can be summarized as follows: Champions need to think outside the proverbial box to identify **all** the positive benefits of the proposal. At the same time, Champions need to anticipate the wide variety of impacts which the proposal can have (others certainly will!) and deal with them sooner rather than later.

Task 6: Building the base case: Using a building-block approach begins with putting words and numbers in boxes and then running those numbers through a process that each of us can understand and duplicate.

Champions new to this process should go through each subtask until every one of the numbers is identified. Enablers should inventory this approach and determine how it does or does not fit into their own base case financial analysis. Once this flow is mastered it will seem natural.

6.1: Building the basic assumptions

6.2: Evaluating feasibility

6.3: Adding a financing plan

6.4: Testing

Question: What is available and what is needed to implement the base case successfully?

Basic assumptions take two forms: The first is a narrative explanation of what is expected to occur. The second is the conversion of those assumptions into numbers that represent the costs and revenues explained.

	Planning costs	Year -2 months 1–12	Year -1 months 13–24	Year 0 months 25–36	Total
P1	Obtaining all permits	15,000			15,000
P2	Technical analysis	10,000			10,000
P3	Negotiating and preparing contracts	5,000			5,000
P4	Negotiating and preparing contracts		10,000		10,000
P5	Technical analysis		5,000		5,000
	Total	**30,000**	**15,000**	**0**	**45,000**

Narrative description and conversion into numbers

1. Planning costs will total 45,000, consisting of P1, P2, P3 and P4 etc., carried out in years -2 and -1[10] of the proposal as follows.
2. Construction will occur over three years and total 1,070,000, comprising the following: C1, C2, C3, C4, etc. Prices are based on a lump-sum estimate with a 15 per cent contingency factor for unforeseen events.

	Construction /pre-operations costs		Year -2 months 1–12	Year -1 months 13–24	Year 0 months 25–36	Year 1 months 37–48	Year 2 months 49–60	Total
C1	Land acquisition		240,000					240,000
C2	Final engineering and design		110,000					110,000
C3	Machinery		2,381					2,381
C4	Machinery			200,000				200,000
C5	Machinery			111,000				111,000
C6	Machinery			22,333				22,333
C7	Testing				300,000			300,000
C8	Testing				33,333			33,333
	Subtotal		352,381	333,333	333,333			1,019,047
C9	Annual interest during construction	5%	17,619	16,667	16,667	0	0	50,952
	Total		**370,000**	**350,000**	**350,000**	**0**	**0**	**1,070,000**

3. Full-year revenue equals 304,000 and may be reached after six months. For planning purposes it is assumed that full-year revenues will not occur until year 4 and years 1, 2 and 3 have been estimated at 140,000, 241,000 and 261,000 based on lower prices and production in year 1 and lower production in years 2 and 3. Revenues are expected to grow at the rate of inflation but are held constant throughout the proposal so as to be conservative.

	Revenues	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6–15
	Units	400	550	650	700	700	700
	Revenue per unit	200	200	200	200	200	200
R1	**Revenue from 1**	80,000	110,000	130,000	140,000	140,000	140,000
	Units	300	520	520	670	670	670
	Revenue per unit	200	200	200	200	200	200
R2	**Revenue from 2**	60,000	104,000	104,000	134,000	134,000	134,000
	Units		180	180	200	200	200

10 -2 and -1 equal "minus two" and "minus one", meaning two years and one year before operations (product or service delivery) commences.

	Revenue per unit		150	150	150	150	150
R3	**Revenue from 3**	0	27,000	27,000	30,000	30,000	30,000
	Revenues	**140,000**	**241,000**	**261,000**	**304,000**	**304,000**	**304,000**

4. Operating costs include O1, O2, O3, O4, etc., and total a yearly average of 122,000, of which an average of 110,000 relates to direct costs and 12,000 relates to the cost of general administration. Operating costs are expected to grow at half the rate of inflation. Because revenue growth is not included and because it exceeds expected operating cost growth, operating costs for years 5–15 have been held constant.

	Operating costs	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Years 6–15**
O1	Labour	5,000	6,000	7,000	8,000	9,000	9,000
O2	Rent	50,000	50,000	50,000	50,000	50,000	50,000
O3	Communications	5,000	5,000	5,000	5,000	5,000	5,000
O4	Materials	50,000	50,000	50,000	50,000	50,000	50,000
	Operating costs subtotal	110,000	111,000	112,000	113,000	114,000	114,000
	General and administrative costs	12,000	12,000	12,000	12,000	12,000	12,000
	Total	122,000	123,000	124,000	125,000	126,000	126,000

Grants totalling 62,500 will be received from NAME organization to reduce the capital cost and to cushion the first year of operation.

	Grants and subsidies	**Year -2**	**Year -1**	**Year 0**	**Year 1**	**Year 2**
1	For planning or construction/pre-operation					
	NEW requests			25,000		
	Existing or other requested grants and subsidies			25,000		
2	For operation					
	For operation – existing or other requested				12,500	
	Total	**0**	**0**	**50,000**	**12,500**	**0**

Note: This is a very straightforward, methodical process of placing all the financial inputs and outputs into their proper classification – planning, construction or operation – and placing these estimates into their appropriate time periods. If done carefully, this detailed but simple exercise serves as the foundation for what can sometimes seem to be complex calculations. In reality, the resulting calculations are nothing but the refinement and manipulation of the basic data prepared in tables such as the ones above.

Feasibility analysis uses the basic assumption information to determine a rough project or proposal **rate of return** on a before-tax basis. It is simply a matter of posting the capital costs and the operating revenues and costs in their appropriate years. If dealing with a project proposal, then the time limit is set by the proposal. For enterprises or more open-ended proposals, 15 years is a good time frame for estimates. Net present value and internal rate of return techniques give a time value to money. Anything beyond 15 years tends to have very little impact on these.

Place planning, construction and operating results in their appropriate years (year 1 being the first year of operations, prior years being zero, minus one, minus two, etc.)

- For each year, total the amounts outgoing and incoming. Total capital costs are a minus because these are outflows; grants are a plus because these are inflows; operating cash flow is a combination of ins and outs
- For each year, total the cash flow (out equals minus; in equals positive)
- Calculate the internal rate of return
- Interpret results

Results	Total all years "undiscounted cash flow"	Year -2	Year -1	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6–15
Planning costs	45,000	30,000	15,000							
Construction/ pre-operations costs	1,070,000	370,000	350,000	350,000						
Capital costs	**1,115,000**	**400,000**	**365,000**	**350,000**						
Grants and subsides										
For planning , construction or pre-operation	50,000			50,000						
For operations	12,500				12,500					
Grants and subsidies	**62,500**			**50,000**	**12,500**					
Revenues	4,290,000				140,000	241,000	261,000	304,000	304,000	304,000
Operating costs	1,880,000				122,000	123,000	124,000	125,000	126,000	126,000
Net revenue from operations	2,410,000				18,000	118,000	137,000	179,000	178,000	178,000
Operating grant	12,500				12,500					
EBITDA[1]	2,422,500				30,500	118,000	137,000	179,000	178,000	178,000
Simple feasibility test using pre-tax IRR for 15 years	**10%**	**(400,000)**	**(365,000)**	**(300,000)**	**43,000**	**118,000**	**137,000**	**179,000**	**178,000**	**178,000**

1 EBITDA = Earnings before interest, taxes, depreciation and amortization.

How to interpret IRR:

- If negative, revenues and existing grants cannot cover the capital and the operating costs of the proposal. Without *additional revenues, grants or subsidy*, the proposal is probably not financially viable.
- If positive but below 5–7 per cent, the proposal is financially self-sustaining but may be of limited interest to the private sector. Specialized lenders, investors and donors who value development, environmental and market transformation impact may consider such a proposal.
- If positive and over 5–7 per cent, the proposal's financial details (especially tax implications, debt structure and any additional revenues) need to be developed further and different financing schemes considered; the result may or may not be of interest to the private sector. Specialized lenders, investors and donors who see the blended value potential of investments are likely to be targets.
- If over 10 per cent, the financial details need to be developed with a strong view towards engaging private-sector investors and lenders.

A financing plan is an approximation of how much of a proposal's cost will be covered with its future revenues, divided between the "big three" sources of funding for launching proposals: grants from donors, loans from lenders and equity from owner-investors.

- Over its life (say 15 years), what will be the excess or deficit of revenues versus day-to-day operating costs?
- How much of the capital cost can reasonably be expected to come from grants?
- Of the balance, how much do the present owners expect to contribute? (Note: if the value of "sweat equity" has been included in the capital-cost estimate then that value can be combined with the cash that an owner will bring.)
- Of what remains to be financed, what is a reasonable split between new investors providing equity and loans? The higher the simple feasibility test number the more likely will be the prospect of securing loans. Rarely will banks finance more than 70 per cent of this total regardless of the attractiveness of the project return calculation.
- Estimate the cost of a loan (interest rate). This will probably be a few percentage points higher than is offered to the best companies in a country.
- Test a few different loan methods.
- Determine annual debt service coverage results.
- Repeat, modifying the percentage of debt and method until a reasonable coverage can be shown. "Reasonable" begins somewhere around 1.3 times to about 1.6 times (that is, the amount available to pay debt service is between 130 per cent and 160 per cent of the amount which must be paid).
- Repeat with different combinations of grants, investment and equity.

Lesson learned:

- Champions attempting to convert grant funded institutions, programmes or projects into financially self-supporting and market-based ones will need substantial and perhaps disproportionate support from enabling organizations. A spin-off or start-up operation may have greater chance of success.

From the previous steps we now know the following:

Capital costs are:	**1,115,000**	
Amount to be paid with grants:	50,000	
Balance:	1,065,000	
Owner's equity investment (amount from Champion):	100,000	
Balance to be raised:	965,000	
Equity from new owner – investors:	365,000	
Balance to be raised from loans:	**600,000**	**56%**

In order to implement this proposal, a 600,000 loan is needed. The next steps are to calculate what terms are affordable, so let us assume:

Loan amount	**600,000**
Assumed interest rate	8.5%
Number of years of loan	10

There are three debt service coverage methods that need to be compared:

1. Interest only for three years, followed by equal payments every year
2. Equal payments every year
3. Interest based on the unpaid balance (principal) with equal principal payments every year

	Method 1	**Year**	**1**	**2**	**3**	**4 etc.**
Enter this amount in years 1, 2 and 3	51,000		51,000	51,000	51,000	
Enter this amount in year 4 to the end	117,222					117,222
		Debt service*	51,000	51,000	51,000	117,222
		Loan balance	600,000	600,000	600,000	533,778
		Interest	-51,000	-51,000	-51,000	-51,000

	Method 2	**Year**	**1**	**2**	**3**	**4 etc.**
Enter this amount in year 1 to the end	91,445	Debt service*	91,445	91,445	91,445	91,445
		Interest	-51,000	-47,562	-43,832	-39,785
		Loan balance	559,555	515,673	468,061	416,401

	Method 3	**Year**	**1**	**2**	**3**	**4 etc.**
Enter this amount in year 1 to the end	60,000	Principal	60,000	60,000	60,000	60,000
		Interest	51,000	45,900	40,800	35,700
		Debt service*	111,000	105,900	100,800	95,700
		Loan balance	540,000	480,000	420,000	360,000

* Debt service coverage is the combination of principal and interest to be paid on a loan.

One very important measure of whether a loan makes sense is to compare the amount of monies expected in that year from all sources (after paying all the bills) to the debt service payment to be made.

	Year 1	Year 2	Year 3	Year 4
Net revenue available for debt service	**30,500**	**118,000**	**137,000**	**179,000**
Debt service method 1	51,000	51,000	51,000	117,222
Debt service method 2	91,445	91,445	91,445	91,445
Debt service method 3	111,000	105,900	100,800	95,700

If a debt service payment (p+i) totals 51,000 and the monies available total 118,000 in the same currency, the debt service coverage ratio is 2.3. Such would be the case for a loan for which only interest is paid in the early years. However, if the loan repayment is principal and interest such that an equal amount is paid every year, then the debt service could total 91,000. The resulting debt service coverage ratio (DSCR) is then 1.3 (118,000/91,445). When seeking a loan, annual debt service coverage calculations are important.

	Year 1	Year 2	Year 3	Year 4
Debt service coverage ratio method 1	0.6	2.3	2.7	1.5
DSCR method 2	0.3	1.3	1.5	2.0
DCSR method 3	0.3	1.1	1.4	1.9

In this example, method 2 arrives at and remains at a reliable, conservative coverage ratio.

Keep in mind:

- That lenders tend to worry about DSCRs that are 1.4 or below.
- That lenders may restrict the amount of cash that can be distributed to investors/owners.
- That lenders can insist that certain debt service coverage "tests" must be met.
- That lenders can insist on reserves being set aside for future debt service before payments to investors/owners (called "dividends") can be made.

A **base case** is the best available thinking on the combination of grants, loans and investment to finance a proposal and the cash flows that result from operations. Once a financing plan is in place, it is a straightforward process to calculate depreciation and taxes, combine that result with principal and interest information and build a complete picture: cash flow incoming and outgoing items, debt service structure and results, income statement and investor return. A balance sheet can also be built up, but it is really an extra at this point.

Base case – financial, social and environmental

				Year -2	Year -1	Year 0	Year 1	Year 2	Year 3	Year 4
Capital costs										
From donors	Capital grants		50,000			50,000				
From owner-investors	Equity investment		465,000	174,648	159,366	130,986	44%		of total value	
From lenders	Loans		600,000	225,352	205,634	169,014	56%		of total value	
	Capital costs		**1,115,000**	**400,000**	**365,000**	**350,000**				
Operations				**Year -2**	**Year -1**	**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**
Revenues	4,290,000						140,000	241,000	261,000	304,000
Operating grants or subsidies	12,500						12,500	0	0	0
Operating costs	1,880,000						122,000	123,000	124,000	125,000
Net revenues from operations (EBITDA)	1,532,500	(For length of loan only)					30,500	118,000	137,000	179,000
Interest	314,446						51,000	47,562	43,832	39,785
Taxes							0	0	792	12,304
Depreciation							90,000	90,000	90,000	90,000
Net income							(110,500)	(19,562)	2,376	36,911
Add back: Depreciation							90,000	90,000	90,000	90,000
Less: amortization/ principal payments	600,000						40,445	43,882	47,612	51,659
Net cash flow to owner-investors		IRR	**8.4%**	(174,648)	(159,366)	(130,366)	(60,945)	26,555	44,763	**75,252**
DSCR	1.68						0.33	1.29	1.50	1.96

Obviously, most of the above information is simply a build-up of previous work. What is new here are a few simple statements: the return to investors and the debt service coverage results. These metrics, combined with the social and environmental impacts of the proposal, are what is being offered to donors, lenders and investors.

Impact	Year -2	Year -1	Year 0	Year 1	Year 2 etc.
Construction jobs (no.)					
Operating jobs (no.)					
Improved income (amt.)					
Clean water (litres)					
Land improvements (hectares)					
Education and information inputs (hours)					
Reduced unsustainable fuel (kg)					
Avoided greenhouse gas (CO2)					

Once mastered, this building-block process can be applied to many proposals and situations and will allow conversations between Champions and Enablers (and even with financial experts).

Task 7: Preparing sensitivity analyses (answering the question "What If?"): How reasonable is it to expect these results?

7.1: Itemize the list of things that might not go as planned (timing, cost, revenue, output variations).

7.2: Itemize the list of things outside the plan that might affect its implementation (loss of a key person, macroeconomic factors, instability).

Questions: What if the primary source of raw materials, products or construction is not available? What if costs are higher or lower? What if units sold or delivered are fewer or more? What if key members of the team are not available?

Template: Sensitivity matrix.

This process is not as complex as it might seem. It is built on an understanding of the interrelationships between the pieces of a proposal. Many things can cause costs to be 5 per cent higher. It is not necessary to calculate each one. It suffices to say that a 5 per cent cost increase can be caused by any or all of the following factors X, Y or Z and that such an increase will have the following effect on the proposal's results measured by the financial, social and environmental metrics (in the case of the financial metric, IRR).

Impacts on base case

Let us look at seven "What If" questions (scenarios):

Base case			What If	IRR	Average DSCR
Capital cost	**1,115,000**	A	5% higher, all equity	7.3%	no change
Year 1 revenue	**140,000**	B	20% lower	7.9%	1.65
Year 2 revenue	**241,000**	C	20% lower	7.7%	1.62
Revenue all	**4,290,000**	D	10% lower	3.6%	1.37
Revenue all	**4,290,000**	E	10% higher	12.6%	1.98
Operating costs, all	**1,880,000**	F	15% higher	5.3%	1.47
Cost of debt	**8.5%**	G	9.5%	8.0%	1.60
IRR to investors	**8.4%**				
Average DSCR	**1.68**				

Social and environmental impact sensitivity

Case A no change unless programme is curtailed to avoid higher cost

Case B less local employment and income generation pro rata

Case C same as B

Cases D and E – 10 per cent changes will have minimal impact on social and environmental improvements

Case F no impact

Which cases pose serious threats to the viability of the proposal?

There are other factors that need to be considered, some within the control and estimation of the Champion and some not. A currency revaluation can be translated quite easily into increased costs or revenues. But what about civil disorder?

Global oil prices can be translated into higher transport costs and, perhaps, into greater revenues depending on the pricing arrangement, but what about the death or illness of the Champion? The point is this: when looking at a reasonable list of "What If" questions, some can be translated into impacts and actions and some cannot. A life insurance policy can repay a lender if a Champion dies suddenly, but a succession plan is needed if the proposal is to continue. This is a paper-and-pencil and thinking exercise, not a calculation. Some of the results can be included in the "risks" section of a proposal; others represent good planning and may come up in donor, lender and investor discussions.

Risks

Risks come in a variety of categories (a more detailed discussion of risk and risk management appears in the next chapter; some of that information is repeated below).

Completion risk involves the risk that something started might not be completed after a lender has made funds available. This can happen when a proposal costs far more than originally expected or

the market has changed significantly during construction. Completion risk can be managed through the type of contract entered into to design, build and commission (start operation).

Technology risk involves something not performing as planned or becoming obsolete far more rapidly than expected. If the technology never performs as agreed to in the installation phase this can be part of completion risk, but generally it is considered to be in a separate category. Technology risk is most often managed through guarantees and warranties from the suppliers of equipment and also through the acceptance testing process. Longer-term performance can be enhanced through operations and maintenance contracts and various types of insurance.

Supply risk involves raw materials not being available. This can include resources which the project is going to use (e.g., a mine or a plantation forest) or buy (e.g., fuel or supplies). Managing supply risk sometimes requires entering contracts for sufficiently long enough periods of time and with predictable prices to assure an uninterrupted supply of inputs.

Economic risk exists even after a project is completed, the technology is working and the inputs are available. The result might be inefficient or the estimated market ("demand") evaporates. Confidence in (conservative and realistic) market projections and the Champion's demonstration of market knowledge and awareness are crucial in managing economic risk.

Financial risk occurs either when variable interest rates are used, refinancing of the project is assumed sometime during its life or additional financing is required in the future. Interest rates change. Large changes can make an enterprise non-competitive or not "liquid" ("liquidity" means having the cash to meet repayment obligation to lenders).

Currency risk is closely related to financial risk and could be lumped into that category, but the very nature of technology transfer projects warrants it being treated separately. Currency risk involves the difference between the value of the currency that impacts income or expenses and the value of the currency in which the loan repayments must be made.

Political risk involves the risk that the rules and regulations governing a proposal might change. A good example might be the risk that a government may arbitrarily raise the taxes on a project to render it not economic.

Environmental risk involves unknown environmental conditions that might disrupt a plan after it is begun.

Social risk is a category that takes into account all manner of social disturbances or disruptions that can impair a proposal's implementation.

Force majeure risk is the risk that something catastrophic – a storm, an earthquake, a devastating accident – may cause a project to fail. Insurance programmes directly address force majeure risks.

Task 8: Targeting the result (answering the question "To Whom?"): Knowing the audience and the request.

8.1: Itemizing what to ask for; that is, itemizing what is needed.

8.2: Researching the categories of financial support and other resources.

8.3: Narrowing the search: make inquiries. Identify contacts. Network!

Itemizing what to ask for means knowing what to ask for in three different dimensions:

- Type of funding or support (grant, loan, investment, assistance).
- Stage of funding (planning, construction, operations).
- Amount and timing of funding (in advance, pro-rata to others, last in).

In the illustrative proposal set forth here, the Champion is seeking grants from donors totalling 62,500, investment capital from new owners of 465,000 and a loan of 600,000 (for 10 years at 8.5 per cent annual interest).

Researching the categories means spending time (quite a bit of time) on the internet, phone and e-mail finding out what programmes and organizations exist, what they offer and what they are looking for. Too often the search begins with what is available rather than what is needed, causing disconnected conversations between Champions and Enablers.

Clearly this is a "middle of the pack" proposal, neither very profitable nor decidedly unsustainable. Social investors and donors will emerge as "best bets".

Narrowing the search means being careful and patient; sending a 20-page proposal to someone "cold" rarely works. With e-mail and a few low-key inquiring phone calls, it is pretty easy to figure out how to approach a donor, lender or investor. A simple inquiry that introduces the proposal being formulated (three to five sentences) and expresses the need requiring attention will normally get a simple and clear response. Seeking grants, loans and investors is neither simpler nor more complex than the tried and true process of **inquiry leading to interest leading to information exchange**. All the more reason for the Champion to have a well-developed proposal, with a plan of action and a request for resources.

3.2 Sample proposals

When all the tasks have been completed, a proposal can take different forms – from a few paragraphs to a small tome – but the basic package must incorporate the following in one form or another:

- Date
- Name of project or enterprise
- Location
- Champion's contact information
- Product or service
- Technology
- Customers/clients
- Current status
- Project size, expected schedule and cost, divided between planning, construction (or pre-operation) and operation
- Current needs and request
- Market conditions

- Operating conditions
- Regulatory conditions (including all required approvals)
- Owners and sponsors
- Team
- Stakeholders and approvals needed
- Governance and management structure (decision-making, authority and responsibility)
- Implementation steps and plan
- Cash flow and schedule details
- Impacts and returns
- Risks and measures to handle them

What follows are three "summary" sample proposals. The first is for a cooking and heating fuel distribution company supplying liquid petroleum gas (LPG). The second is a solar electricity enterprise. The third is for a company developing a small hydroelectricity project. These three presentations are summaries because not all the work and information that a Champion must accumulate and be prepared to present is shown here. To reinforce this point, and illustrate the level of detail which a Champion should consider, a more detailed document for the first sample summary – the LPG distribution company – will be found in annex II and is also included in the accompanied CD-ROM.

In each of these summaries, the names and locations have been replaced.

Sample summary 1: Cooking and heating fuel distribution company

- **Date**: November 2005
- **Name of project or enterprise**: KOALA GAS Distribution Company Ltd.
- **Location**: Koala Gas is a new LPG business in N, a peri-urban community in the north-western region of country G.
- **Champion's contact information**: Mr. Harish Campos, Director Koala Gas Distribution Company Limited; 160 Avery Road, North-western Region, "G", Tel: xxx; Fax: xxx; E-mail: xxx
- **Product or service**: LPG cylinder refilling services
- **Technology**: Liquefied Petroleum Gas (LPG) filling plant and filling station
- **Customers/clients**: Koala Gas will deliver LPG to 12,069 rural and peri-urban households over the next five years and will also serve institutional and commercial customers in the surrounding area. The target market consists of rural and peri-urban customers (75 per cent of total sales), and commercial and industrial customers (25 per cent of total sales).
- **Current status**: The site has been identified, purchased and prepared for construction, the company has been formed and registered as a limited liability company, management systems and business plan have been completed, physical and market planning have been completed, and EIA has been undertaken. Engineering plans are currently being finalized for the site drainage system, the construction firm and needed permits have been identified and obtained. Construction: currently in search of needed financing to commence work.

- **Project size, expected schedule and cost**: The start-up company will operate a 30-tonne LPG stationary filling plant for refilling cylinders ranging between 6 kg and 30 kg in size.

Activity	Schedule	Planning	Construction	Pre-operation
Start-up costs	Year -1	3,650		
Capital infrastructure	Years -1 and 0		109,300	4,000
Initial LPG inventory	Year 0			18,390
Working capital	Year 0			11,300
Totals		**3,650**	**109,300**	**33,690**

- **Current needs and request**: A total investment of 146,640 is needed. The sponsor is prepared to contribute 29.8 per cent (43,650) from his own resources and is requesting a loan in the amount of 102,990 with a term of no less than five years. Cash-flow projections estimate that the project can pay an interest rate of up to 7 per cent on an annual basis.
- **Market conditions:** The north-western region is the largest consumer of charcoal and firewood in G. Of a household population of 722,590 in the north-western region, only 38,918[11] (5.3 per cent) of households presently use LPG. There is full national support for the promotion of LPG in rural communities in G. The Government has identified LPG as its solution to deforestation, which is rampant around rural communities. In 2004, the region accounted for only 6.4 per cent of the total LPG supplied nationally. Unreliable supplies have been a key contributor to the present low level of demand for LPG in the region. Koala Gas will serve as a link between the LPG refinery and end users, improving the reliability of fuel delivery. A reliable supply is expected to encourage prospective consumers to invest in accessories and switch to LPG.
- **Operating conditions:** By legislation, retailers such as Koala Gas cannot purchase LPG directly from the refinery. They must do so through oil marketing companies (OMCs) such as S. Unfortunately, not all OMCs have the infrastructure and systems to ensure consistent supplies. Therefore, Koala Gas has selected three reliable OMCs based on recommendations from existing LPG entrepreneurs in G.
- **Regulatory conditions (including all required approvals):** Koala Gas needs to obtain loan approval, a permit from the environmental protection authority, a licence from the energy commission and a building permit before it can begin construction. It is estimated that construction of the facility will be completed over a four-month period. Koala Gas will than need to pass a fire service inspection, obtain insurance coverage and an approval note from the Country Planning Department to begin operations.
- **Owners and sponsors**: Mr. Harish Campos (45) is the sole owner and Managing Director of Koala Gas. Mr. Campos is an experienced engineer and manager. He holds a Bachelor's degree in mechanical engineering, a Master's of Business Administration in corporate finance and a Master's degree in telecommunications management obtained from the Lafayette College and the University of Dallas in the United States of America.
- **Team**: The company will employ other key personnel such as a plant supervisor, a cashier, four filling attendants/loading boys and a security man.
- **Governance and management structure (decision-making, authority and responsibility)**: Mr. Campos will oversee the operations of the business.

11 2000 population census.

- **Implementation steps and plan**: The proposal contains a tentative project implementation schedule (see annex II).
- **Cash flow and schedule details**: The selected base case shows that the project will generate enough cash to sustain its operations. The cash flow and the balance sheet represent a financially sound company, which should position it to secure finance from local sources for expansion.
- **Impacts and returns**: This enterprise falls within the LPG distribution chain in G. Financial support for this business is critical to extending LPG access to rural and underserved communities in the northern regions of G. By doing so, Koala Gas will help displace the use of charcoal and kerosene thereby reducing indoor air pollution and contributing to the better health of women and children in the north-western region. It will also create seven new jobs and several microenterprises that utilize LPG as their main source of fuel.
- **Risks and measures to handle them**: The largest risk to this investment is unmet sales targets. This could result in an inability to sustain operations and repay the loan. This risk is assumed to be mitigated because the filling plant will be located in a rural area of an underserved market in a country with 13 per cent annual growth in LPG use. Other risks include fluctuations in foreign currency rates; competition; unreliability of LPG supply; deregulation policy; and price increases. A mitigation strategy for all these known risks has been explored and developed in the business plan.

Sample summary 2: Solar electricity using photovoltaic panels

- **Date:** March 2006
- **Name of project or enterprise**: Rite Rural Electric (RRE)
- **Location**: RRE is a nine-year-old on-grid and off-grid electrification business located in city B of country T.
- **Champion's contact information**: Emmanuel O'Hara; 121 Franklin Street, B - T; Tel: xxx; E-mail: xxx.
- **Product or service**: Delivery of electricity services through diesel minigrids and photovoltaic solar home systems (SHS). Both technologies will be supplied through a fee-for-service model to rural communities in southern T.
- **Technology:** Photovoltaic solar home systems and diesel minigrids
- **Customers/clients**: Clients include the Government of country T, non-governmental organizations, commercial real-estate developers and other private clients.
- **Current status**: In January 2006, RRE was awarded the concession to electrify the rural communities of O and S in the administrative region of K, 80 km from B in southern T. The concession contract is for a maximum of 1,000 connections. This number of connections will allow RRE to prove its operational abilities. The market potential within the concession area is an estimated 4,400 households. RRE has been granted a 15-year exclusivity in its concession and has the ability to submit future proposals to "XYZ"[12] to build upon its successful implementation of the first 1,000 connections. XYZ has allowed RRE to design the details behind the actual implementation and collection strategy.

12 "XYZ" is the implementing agency of the new rural electrification programme for the government of "T" and the World Bank. It is expected to award 20 other contracts over a five-year period.

- **Project size, expected schedule and cost, divided between planning, construction (or pre-operation) and operation**: The total cost of the programme is estimated at $834,829, comprising $600,284 in equipment and $234,545 in operational costs. XYZ will provide financing of $550,000 as a subsidy to cover 100 per cent of the equipment costs of the photovoltaic and diesel minigrid installations; RRE must provide financing for $284,829 to cover operational costs of the programme and logistics requirements. Of this, RRE has already provided XYZ with backup to support investment worth $50,284 by RRE for the programme. XYZ will begin disbursement of the subsidy only upon proof of the availability of the remaining $234,545 in the bank account of RRE.

Activity	Schedule	Pre-operational	Operation
Market survey etc.	Year -1	16,209	
Land and building	Year 0	22,102	
Plant and equipment	Years 1–3		646,881
Vehicle	Month 0	21,818	
Office furniture	Month 1		8,391
Working capital	Years 1–3		119,428

- **Current needs and request**: RRE is requesting financing of $234,545 to cover its contribution. The remaining ~$50,000 needed to fulfil the financing mandate from XYZ has already come from existing equity. This has already been validated by XYZ. Financing will be in the form of a loan with a repayment period of five years, including a grace period of nine months on interest and principal, with an annual 10 per cent interest rate.
- **Market conditions**: Of the 5,700 villages in rural T, barely 1 per cent currently enjoys electricity from the national power grid; in total, approximately 8.5 million people live without electricity. Extending the grid to this population is not economically or financially viable because of low population density and low electrical energy demand. Surveyed households and commercial units within the target concession area showed a strong preference for obtaining electricity services based on monthly payment as opposed to direct purchase of alternative systems either outright or on a credit payment plan. The survey indicated that the average monthly energy expenditure for lighting is about $9.82 including cost of fuels, related costs such as transport, and accessories. Kerosene sells for about 0.46 cents per litre and a typical family uses six–eight litres per month. Monthly battery recharging for customers currently using batteries for television and/or lighting ranges from ~$1 to ~$3.50.
- **Operating conditions**: Most of the equipment and materials for both the minigrid and SHSs will be sourced from overseas. Potential suppliers for this equipment include A, B, C and D. The remaining components for the installation of SHSs and the minigrid systems are all readily available on the market. RRE has the technical experience to install and service photovoltaic systems and diesel minigrids.
- **Regulatory conditions (including all required approvals)**: The Government of T has set a goal of increasing rural electrification to 10 per cent by 2015 using both on-grid and off-grid approaches. For this purpose, reform of the energy sector has led to the creation of an institutional framework for rural electrification, with the establishment of XYZ and a Rural Electrification Fund. With $10 million of support from the World Bank and the Global Environment Facility (GEF), over the next five years XYZ will provide subsidies to an estimated 20 private operators

for 100 per cent of the equipment costs for the photovoltaic and diesel minigrid systems. XYZ has already received the money from the World Bank for this programme. RRE is the first business to be awarded a contract under this programme.

- **Owners and sponsors**: Emmanuel O'Hara (43) is the founder and General Manager of RRE and the Champion of this investment. He graduated from the Polytechnic Institute of Leningrad (Russia, 1988); he also holds a Master's degree in industrial information systems from the Ecole Supérieure d'Electricité (France, 1989). He spent 13 years in Canada working with several organizations on mechanisms for delivering demand-driven community energy infrastructure and on small-enterprise development projects in Africa (Burkina Faso, Niger and Senegal) and Eastern Europe (Hungary, Poland and Turkey). He returned to T in 1996 and founded RRE in 1997.
- **Team:** RRE currently has a staff of two engineers and two technicians. Additional staff will be trained and hired as needed. A particular focus will be on hiring local individuals to assist RRE in implementing the concession.
- **Governance and management structure (decision-making, authority and responsibility)**: The two engineers, Emmanuel O'Hara and Henry Pell, are the managers of the company's overall operations.
- **Implementation steps and plan**: Using a fee-for-service approach, RRE will provide electricity services to a total of 980 customers. The breakdown is 739 households, 142 productive applications and 99 public lighting installations in clinics, schools and community centres, raising the electrification rate of the area from 0.5 per cent to ~13 per cent. The power will come from both individual solar home systems (50–200 watts) and diesel minigrid stations for those villages with a larger concentration of households. Installations will be completed over a three-year period.
- RRE will provide four service levels. Each level will have its own tariff and will be determined by the number of lights installed and the need for radio and/or monochrome television connections. The tariff is ***not*** determined by whether the energy is provided by diesel minigrid or by photovoltaic SHS. The minigrid will run from 3 p.m. to 10 p.m. every day.

- Cash flow and schedule details:

Income statement ($)								
	Actual				**Projections**			
				Year 1	Year 2*	Year 3	Year 4	Year 5
No. of systems installed				326	327	327	0	0
Total revenue	**97,094**	**133,546**	**180,303**	**149,749**	**244,121**	**327,716**	**342,632**	**359,041**
Cost of sales				60,135	99,396	68,229	63,512	69,255
Gross profit				**89,614**	**108,565**	**238,062**	**257,696**	**268,362**
Gross profit %				59.8%	44.5%	72.6%	75.2%	74.7%
Operating expenses				69,415	110,715	137,588	151,460	165,006
EBITDA	10,420	18,177	33,768	20,200	34,010	100,474	106,236	103,356
Interest to E+Co					21,609	16,392	10,633	4,276
Interest other								
Depreciation				5,357	25,108	46,310	44,782	44,782
Taxes				5,195	0	13,220	17,787	19,004
Net income	**6,773**	**11,815**	**21,949**	**9,648**	**(12,706)**	**24,552**	**33,034**	**35,294**
Net cash flow				135,005	97,151	112,541	129,126	141,614

* Loss in year 2 as a result of the conservative projection that company will have fully invested in the infrastructure but total connections will not be completed until year 3.

A profitability and cash-flow sensitivity analysis was carried out based on the following key financial variables.

Sensitivity variables	Sensitivity ranges
Ramp up schedule for completing connecting of target customers	Two-year implementation, three-year implementation
Percentage of photovoltaic SHSs as part of the customer mix	30%–40%
Battery life and replacement assumptions	One-, two-, three-, four- and five-year
Customer collection rates	85%–100% collection
Other revenue from traditional revenue sources of RRE	30% reduction from three-year historical average
Cost of diesel fuel	25%–40% increase from today's prices

Results of sensitivity analysis: Even when all the variables were set to their most conservative levels, RRE remained, overall, slightly profitable and with sufficient cash to service the required debt.

- **Impacts and returns**: The provision of electricity to the remote communities will have a direct impact on job creation and economic development through the productive uses to be implemented in those localities. It will improve quality of lighting in households as they shift from kerosene lamps and candles to electric lights. Women and children will be the prime beneficiaries of the activities of RRE as they will be able to spend more time in the household.
- **Risks and measures to handle them**: The financial success of the company is clearly based on its ability to collect monthly revenue from its customers. If customers cannot or will not pay, then the company will fail. The owner of RRE was brought up in the concession area and has first-hand knowledge of the financial situation there. RRE has also conducted a study of 250 homes in a number of villages to determine customers' ability to pay. The data from the survey and the sponsor's knowledge of the area both suggest that there is an ability to pay for these services. Other risks include political risk as the project is partly financed by a government programme, and operational risk surrounding the implementation of the services.

Sample summary 3: Small hydroelectric

- **Date:** June 2000
- **Name of project or enterprise**: Rio Uno Hydroelectric Company
- **Location**: The project's 2.65 MW of capacity would be located in A province of the Republic of K, 190 km from the capital, at the confluence of River One and River Two.
- **Champion's contact information**: José Smith, River One Development Group, 286 Main Street, C City, C province; E-mail: xxx
- **Product or service**: The project is a proposed 2.65 MW run-of-river hydroelectric project in A province of the Republic of K. The project will provide 1.55 MW of guaranteed capacity and 18.1 million kWh per year for sale to the national utility.
- **Technology**: The project will provide peaking capacity and energy through an efficient, high-head hydroelectric installation comprising a reservoir, an open canal and a tunnel connected to a penstock and a powerhouse. The project will connect to the tail of the national interconnected system through a 3-km transmission line.

- **Customers/clients:** The national utility, under a 15-year power purchase agreement. The national utility has six similar PPAs, all indexed to foreign currency, and the utility has met all its obligations under those agreements.
- **Current status**: The River One Project involves four parcels of land which are owned or under the control of the project sponsor. The project will be built under an engineering, procurement and construction (EPC) contract. The EPC contract and bid documents have been completed. Operations and maintenance will be provided by a subsidiary of the successful EPC contractor or by a subsidiary of the national utility, which is operating a similar project for a private-sector generator. Three of the four national permits needed have been obtained.
- **Expected schedule and cost**: The total capital cost of the project is expected to be under $3.45 million, which is $1,337 per kW for the "nameplate" installed capacity of 2,580 kW.

  The estimated capital cost comprises the following:

	$	Percentage of total
Land	275,000	8.0%
EPC 2	2,125,000	61.6%
Taxes (VAT)	71,600	2.1%
Legal and financing	85,000	2.5%
Pre-construction	215,000	6.2%
Sponsor's fee	200,000	5.8%
Working capital	65,000	1.9%
Insurance	77,800	2.3%
IDC (interest during construction)	207,000	6.0%
Contingency	128,600	3.7%
Total	**$3,450,000**	**100%**

  This estimate includes all costs up to the date project operations commence, including interest capitalized during the construction period. The estimate is the result of an independent assessment prepared for the feasibility analysis, confirmed by preliminary quotes from two qualified turnkey contractors. Construction can commence immediately after all contracts have been signed and all needed permits have been obtained (approximately seven months from the date of this proposal); operations can commence 12 months later.

- **Current needs and request**: At the present time, the sponsors are seeking $1,310,000 in equity financing for the project and $1,725,000 in debt (see cash flow and schedule details below).
- **Market conditions**: The Republic of K is a stable democracy. Orderly transitions in government have taken place for over 30 years. The currency of K has traded in the 10:1 to 11.5:1 range with the dollar for the last five years. The population of K is 11.2 million, growing at a rate of 2.3 per cent per annum. GDP per capita is $1,175 nominal and $4,800 in terms of comparative purchasing power. The Economist Intelligence Unit (EIU) Country Risk Service gives K an overall B- rating (A being the highest and D the lowest). Real GDP has grown by 3.5 per cent–4.3 per cent over the last three years and inflation (consumer prices) has

averaged 3.5 per cent per annum. The electricity system has 534 MW of installed capacity and last year generated 2,921 GWh. Those figures are projected to be 1,400 MW and 7,700 GWh in 10–12 years.

- **Operating conditions**: The project will be constructed under a lump-sum, turnkey EPC contract. Preliminary estimates have been received from two credit-worthy and experienced firms which have each agreed to provide appropriate performance bond and insurance policy coverage. The project will provide 2,580 kW of "nameplate" capacity. At an 80 per cent plant factor this equates to 2,064 kW of firm capacity. Because of significant penalties for failure to deliver firm capacity, the project sponsors have chosen to contract for only 75 per cent of this amount in the early years of the project. Thus, all the financial projections are based on selling only 1,548 kW of firm capacity to the national utility's distribution company. Based on 20 years of water data, the project will comfortably produce 18.1 million units of energy (kWh) per year.
- **Regulatory conditions (including all required approvals)**: The Energy Act of 1997, which mandated the creation of a private sector for generation of electricity for sale to the national utility under long-term power-purchase contracts, governs the energy sector. The key features of this legislation and its implementing regulations and bylaws include the separation of energy generation, energy transmission and energy distribution within the national utility. Distribution companies must contract for firm capacity from the national utility generation company, which in turn will contract with independent power producers (IPPs) such as the project. Generators using renewable sources of energy – wind, hydro, biomass, solar – will receive up to a 10 per cent price premium over and above the standard offer included in the power purchase agreements available to all generators of electricity. Renewable energy projects will receive a five-year income tax holiday and will be exempt from import duties on equipment. Three national permits are required to build and operate the project: water use permit, energy generation permit and environmental permit. All three permits have been obtained. One local permit, to improve a public road used in site access, is pending.
- **Owners and sponsors**: The sponsors of the project are an experienced civil engineering firm, an experienced business manager and one investor with prior experience in similar projects. The project company, Rio Uno Hydroelectric Co., is owned by River One Development Group comprised of S&C Consultants, a 15-year-old civil engineering firm, and Thomas Higgins, Esq. S&C Consultants has 16 full-time employees. It has been involved in over 10 projects of a similar nature. The firm presently owns 51 per cent of the project company. Thomas Higgins, Esq. has been managing businesses for 20 years directly and through a management company (TH Investments, Inc.). Mr. Higgins and THI own 49 per cent of the project company and provide legal and general management expertise.
- **Governance and management structure (decision-making, authority and responsibility)**: A team of technical, legal and financial advisors has been formed by the owner and sponsors and are in charge of all implementation activities.
- **Implementation steps and plan**: The project will require 12 months to complete from the issuance of a notice to proceed to the designated engineering, procurement and construction (EPC)) contractor by the sponsors. The following events, estimated to require seven months from the date of this business plan, must be completed in order to issue such a notice to proceed:
    1. Complete the negotiation and enter a final contract with the EPC contractor (four months).

2. Complete term sheet, due diligence and document preparation for construction and permanent debt (seven months).
3. Complete equity agreement and closing with shareholders (seven months).
4. Execute power purchase agreement with the national utility (three months).
5. Final land payment on parcel no. 3 of the project site (one month).

- **Cash flow and schedule details**: The following data summarize the financial aspects of this business plan: capital cost – $3,450,000; sponsor's equity – $415,000; equity to be obtained – $1,310,000; debt to be obtained – $1,725,000

Project year	Year 0	Year 1	Year 2	Year 3	Year 4
Capital expenditure	(3,450,000)	0	0	0	0
Revenues	0	881,446	891,669	902,046	912,578
Operations and maintenance	0	130,000	136,500	143,325	150,491
Net from operations	0	751,446	755,169	758,721	762,087
Overhead	0	0	0	0	0
Net before interest, depreciation and taxes	0	751,446	755,169	758,721	762,087
Interest	0	192,214	162,643	133,071	103,500
Depreciation	0	138,000	138,000	138,000	138,000
Taxes	0	0	0	0	0
Net income	0	421,231	454,526	487,650	520,587
Add back: Depreciation	0	138,000	138,000	138,000	138,000
Less principal payments	0	246,429	246,429	246,429	246,429
Net cash flow	(3,450,000)	312,803	346,098	379,221	412,159

- The project has negotiated a 15-year contract to sell its 1,548 MW of capacity at $10.76 per kW per month. This contract can be extended for an additional five years. Energy sales are based on the newly established national utility rate of $37.70 per MWh.

  This business plan has been organized on the basis of a 50-50 split between debt and equity. Debt is assumed to be at 12 per cent annual interest over a period of seven years, with interest accrued for the construction year. Equal principal payments will be made each year.

- **Impacts and returns**:

  10-year equity IRR – 19.16%

  Lowest-year debt service coverage ratio – 1.7 times

  Seven-year average DSCR – 2.1 times.

  Sensitivity analysis:

Case	IRR	DSCR average
If no debt available (all-equity deal)	15.90%	
If 60% debt is available	20.42%	1.7 times
If no tax holiday	14.00%	1.8 times
If capital cost 10% higher	15.02%	1.9 times
If capital cost 10% lower	24.15%	2.3 times

The social and environmental benefits of this project include the following. The project replaces the need for additional fossil-fuel capacity additions to the national electricity grid. The site and the dam construction for the project meet national and international standards. No displacement of people would occur as a result of the project. The project will employ no fewer than 45 local workers during the construction period. The project will permanently improve access to the area and reduce erosion through the upgrade of presently unpaved roads.

- **Risks and measures to handle them**: This business plan poses the following risks to lenders and investors:
  (1) The consequences for the project of normal hydrological risks have been mitigated by the use of conservative estimates of water flow, but the risks from changing weather patterns, especially increases in violent storms and hurricanes, cannot be quantified;
  (2) Construction: Adopting a turnkey EPC approach with a qualified and insured contractor mitigates the risk that construction will not be completed or that substantial cost overruns will occur;
  (3) Operation: Selection of a local, experienced and well-established contractor mitigates the risk that operating interruptions will occur;
  (4) Other risks include currency fluctuations; expropriation of assets; and changes in regulatory policy and tax incentives.

4. Presenting a proposal

One of the frequently heard laments is that there is no shortage of money but there is a shortage of quality proposals. There are two elements to this lament. The first is that there is a "disconnect" between Champions and Enablers. Up to this point, this guidebook has been devoted to repairing that "disconnect" by creating a framework and common understanding as to the requirements of a well-prepared proposal. The second element of this lament reflects another "disconnect": **well prepared proposals need to be presented by Champions to the right group of enabling organizations**. A brilliant proposal for financing the construction of a proven wind-biodiesel hybrid energy system on a remote island is of little value if presented to a technology development/technical assistance programme of a European government.

Lesson learned:

- One of the most important and patient things an Enabler can do is look at a Champion's proposal from a flexible perspective: what can be done to match, for example, the early-stage cash-flow problems of a proposal with later-stage stable periods?
- As much as possible, avoid delays in delivering promised or implied assistance or answers. Wasting time puts the Champion under unnecessary stress bordering on torture. Enabling organizations need to be prepared to take calculated risks and move on with the investment, or say an early "no".
- Champion and Enabler need to agree to a regular and reliable reporting schedule on progress. This evolves into actual implementation, when it is crucial for the Champion not to deviate from the implementation plan without prior discussion and agreement on what needs to be done. Anticipate this possibility when drawing up the investment or service contract.

There are thousands of sources of funding and services. Even focused on just clean technology, the list easily reaches hundreds if not thousands. This chapter places this vast collection into a few simple categories which will allow a more focused search by Champions for compatible Enablers. It then describes a process for undertaking that search and reaching out to those individuals, organizations and programmes. Sadly, there is no right way to do so – just some guidance to share – and there is no substitute for the difficult chore of knocking on doors.

This chapter is short because, if a proposal has been assembled in a clear manner, this next step is ***very, very focused***. At this point, the job of the Champion is to get his or her proposal, in the right form, in front of the right person in the right organization that has the appropriate resources and interests.

4.1 Review of funding types

Types of funding and services

Loans are based on the ability of the proposal to repay amounts, generally under fixed terms and conditions. It must be demonstrated that a very conservative output of the proposal can more than repay the loan. This requires matching the schedule of revenue generation with the scheduled loan repayment and exceeding that schedule by a factor of say 50 per cent (which is called a 1.5 times debt service coverage, meaning that for every dollar, euro, rupee, peso or CFA of loan to be repaid, 1.5 units are expected to be available at the time the payment is due). A lender wants to know that all the other funding needed to build and operate the facility is in place, that there are guarantees that costs will be managed and that if there are additional costs others are prepared to pay them and capable of doing so.

Grants and donors: If the request is for grant funding to provide important goods or services, because revenues cannot cover costs and the proposal has a negative rate of financial return, the donor will need to understand why the plan is an efficient use of scarce resources, where the plan fits in with other programmes and priorities, how the proposal meets the donor's stated core objectives and, very importantly, what will happen when the donor funding is used up. Key words to understand and deal with include efficiency, effectiveness, sustainability and context. A customized "logical framework" may help to communicate the Champion's mastery of the needs and responses proposed.

Development, specialized and "triple-bottom-line" investor-lenders: Lending and investment oriented to development, environmental and financial objectives. Usually involves the creation of human and physical infrastructure with modest financial return expectations and higher risk, but the payoff is a sustainable operation and good developmental and environmental impacts. Funding to create such infrastructure and begin such an operation may or may not be recovered over a commercially reasonable period of time. If start-up capital is being sought, then the ability to repay it over time and upon success needs to be demonstrated. Whether or not the capital will actually be repaid is a separate issue. Initially it needs to be shown that the revenues from repayments, after allowing for defaults and allowing for administrative costs, are sufficient to cover the cost of capital to achieve operational self-sufficiency, meaning that the proposal is on a path towards institutional self-sufficiency, which implies the ability to borrow capital regularly through a variety of commercially available sources, manage operations and repay those borrowings while increasing equity (the original start-up capital plus profits).

Venture capitalists and specialized investors: If the request is to obtain risk capital for something new, it needs to be shown that there is either a very handsome return to be made on the initiative or a larger market with high returns to tap once the proposal has proved its case. Venture capitalists understand the assumption of risk, so after the return and market potential are demonstrated it needs to be shown that the assembled team can manage the expected bumps in the road. If the technology is new or new to the setting, how will breakdowns and setbacks be managed? If the profitability of the initiative is ultimately determined by the monetization of carbon benefits, how will this occur and why is this place the best place and why is this the best team to make it happen, especially if it has not happened before? If the market is going to grow, how will the venture grow and handle competition? Is there a first-mover advantage? How will these investors convert success into cash (exit strategy).

4.2 Review of financial return

Project or proposal rate of return is derived by posting the capital costs and the operating revenues and costs in their appropriate years. Net present value and internal rate of return techniques give a time value to money. Anything beyond 15 years tends to have very little impact on these two results. (Year 1 is the first year of operations, all other prior years being zero, minus one, minus two, etc).

- For each year, total the amounts outgoing and incoming. Total capital costs are a minus because these are outflows; grants are a plus because they are inflows; operating cash flow is a combination of ins and outs.
- For each year, total the cash flow (out equals minus; in equals positive).
- Calculate the internal rate of return.

- If negative, revenues and grants cannot cover the capital and operating costs of the proposal. Without *additional grants or subsidy*, the proposal is probably not financially viable.
- If positive, but below *5–7* per cent, the proposal is financially self-sustaining but may be of limited interest to the private sector. Specialized lenders-investors-donors who value development, environmental and market transformation impacts may consider such a proposal.
- If positive and over *5–7* per cent, the proposal's financial details (especially tax implications, debt structure and any additional revenues) need to be developed further and different financing schemes considered; the result may or may not be of interest to the private sector. Specialized lender-investor-donors who see the blended value potential of investments are likely targets.
- If over 10 per cent, the financial details need to be developed with a strong bias towards engaging private-sector investors and lenders.

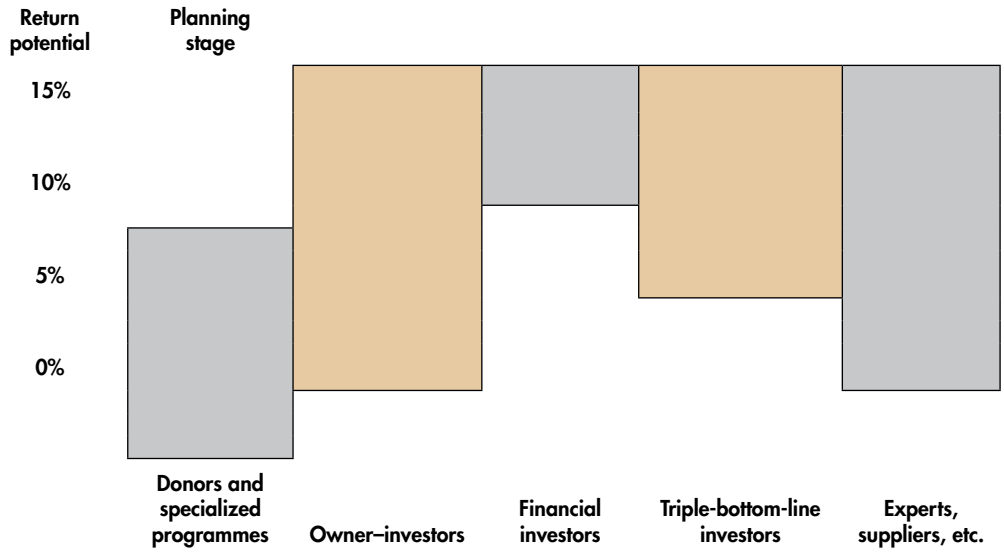
Estimated rate of return	Type of funding
Negative or zero	Grants and subsidies
Zero to between 5 and 7 per cent	Donors and investors who consider social and environmental returns as well as financial ones
Over 5–7 per cent	Specialized lender-investor-donors who see the blended value potential of investments are likely targets
Above 10 per cent	Private-sector investors and lenders

The following section attempt to summarize how a Champion must link what is needed with whom to ask.

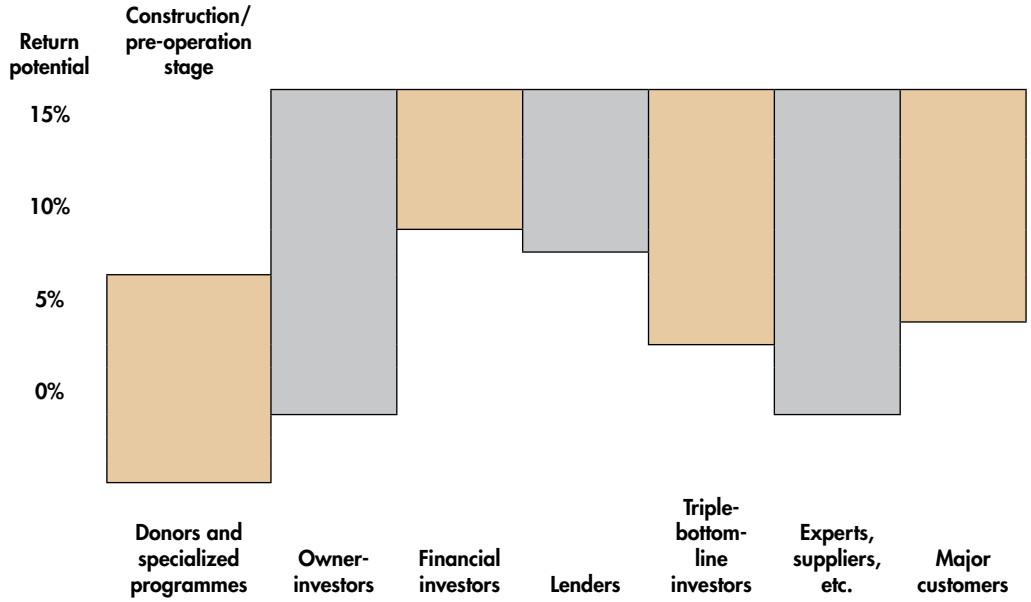
Project return – stage-of-funding matrix

Depending on the return potential, a sample of funders' interests is represented by the following three charts.

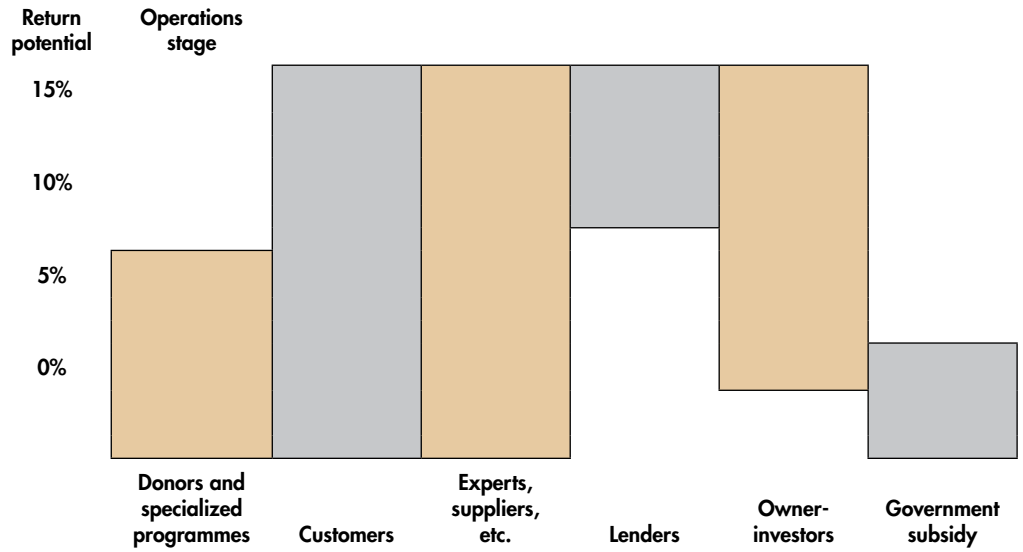
Planning



Construction



Operations



4.3 Undertaking the search

- What is being sought?
- Who has it?
- What is known? Unknown?

"A proposal consists of a **plan** to do something, combined with a **request** for resources… combined with **knowing the audience**…"

That quote comes from this guidebook's introduction. If all has gone well, by now a Champion will have formulated a plan and refined that plan into a specific request for a loan, a grant, an investment, a partner or a combination of those and other things. Along the way, the Champion should have studied more than 10 and less than 100 websites and printed resources, many of which point in the direction to needed resources. What remains to be done is for the Champion:

- To put more effort into identifying groups and types of enabling organizations that can provide resources. This is called "researching the categories". For their part, enabling organizations could post clear and current information on the types of proposals being sought.
- To narrow the search to a shortlist of enabling organizations that are compatible with the needs of the proposal.[13]
- To make contact and follow up with as many enabling organizations as possible while staying motivated, and to seek leads from others (network!) until a few possibilities emerge. The Champion should avoid putting all his or her eggs in one basket (should keep the search going) until a mutual commitment between the Champion and the enabling organization is clear and in writing.

Lesson learned:

- After submitting a proposal it is appropriate, after a few days, to confirm that the proposal has been received and inquire as to the timing of next steps. Rarely is it useful to press for a reaction or decision at this point. Determine the enabling organization's procedures and approach and ask about the timing of additional follow-up. Respect the guidance given. If you receive no response to an initial follow-up, send an e-mail asking for confirmation of receipt and for guidance. If nothing is heard, the next e-mail should indicate that you plan to call at a convenient time for a two-minute conversation on next steps. If still nothing is heard, the silence speaks volumes. If you were invited to submit a proposal in the first place, some carefully managed frustration is appropriate. If this is a "cold" submission, frustration is neither appropriate nor effective.

"Researching the categories" means spending time on the internet, phone and e-mail finding out what programmes and organizations exist, what they offer and what they are looking for. Too often the search begins with what is available rather than what is needed, causing many disconnects in conversations between Champions and Enablers. At this point in the development of a proposal, the Champion knows what is needed. That narrows the search greatly. Begin with a shortlist of organizations and websites and collect information. A sample of websites is listed in annex IV.

"Narrow the search" means being careful and patient. Sending a 20-page proposal to someone "cold" rarely works. With e-mail and a few low-key inquiring phone calls, it is quite easy to figure

13 One of the most depressing experiences for a Champion is to identify an enabling organization that appears to match well with a proposal only to find out after much effort that the programme promoted on the website is unfunded, fully subscribed or not looking for proposals until two years from now. Enabling organizations have a profound responsibility to be clear, current and transparent in the information posted on websites and in brochures.

out how to approach a donor, lender or investor. A simple inquiry that introduces the proposal being formulated and expresses the need requiring attention has the best chance of getting a simple and clear response (very often disappointing, by the way), such as "Thank you for your inquiry. We no longer support or invest in new technologies, concentrating only on commercially proven technologies in Central America. Best of luck with your proposed project". As this response demonstrates, it was very important that the original inquiry was clear in the first place. Short, clear inquiries will get responses because what is being asked is easy to answer. A long letter about a "Once in a Century Opportunity to Eliminate Poverty" will most likely go unanswered. Why? Because it was not an inquiry, it was a sales pitch. The publishing profession is a good model: writers make inquiries, editors express interest or not and a process of communications begins. Seeking grants, loans and investors is neither simpler nor more complex than the tried and true process of **inquiry leading to interest leading to information exchange**. All the more reason for the Champion to have a well developed proposal: a plan of action and a request for resources.

4.4 Making contact

"Making contact" means getting some expression of interest (usually in learning more) between Champion and Enabler, which usually entails the submission of the now fully prepared proposal. This is a period of time when it is hugely important for a Champion to listen very carefully and understand the process of the man or woman on the other side of the communication. How should the proposal be presented? Is there an application procedure and schedule? Is this competitive and how is the competition managed? Are there costs involved in making proposals for loans or investment? What is the decision-making body and how are decisions made? The Champion and the Enabler can then – only then, after all the hard work of preparation – really begin the back-and-forth of getting to "yes".

"Mutual commitment" means that Champions and Enablers agree on the basic shape of their relationship (grant, loan, investment, etc.). They agree on the terms that will govern that relationship and – most important – the steps and requirements for arriving at financial closure. While both Champion and Enabler want to be enthusiastic at this point, is extremely important for each to be clear with the other about three points: what is being offered and accepted in principle; what terms and conditions apply to that offer; and what steps need to be fulfilled by the two parties. Only when these points are clear – in a letter, in a term sheet[14] – has the process of preparing and presenting a proposal been completed.

4.5 Follow-up: The etiquette of seeking funds

For Champions their proposal is the centre of the universe. Even so, it is important to recognize what succeeds and what does not. Lenders and financial investors want facts and documentation of those facts. Donors want facts and context, with a particular interest in efficiency and sustainability. Not all proposals that reach the point of back-and-forth succeed, but screened proposals certainly reach "yes" more often than "cold calls". Also, pressing too hard rarely works. While the whole process of preparing and presenting a proposal is about money, **it is not only about money**. Loans, grants and investments tend to be made based on the people and the plan. The resources requested are a means to enable the people to implement the plan.

14 See annex VII for a sample term sheet that has enough information to warrant a small celebration and moving on to the next phase of the relationship between Champion and Enabler.

The most important step in getting to "yes" is when Champions and Enablers succeed in seeing proposals from each other's perspectives. This is not about filling out a form and passing some examination. It is about building trust and confidence.

How intensely should the Champion follow up? This is a difficult and sensitive issue. After submitting a proposal it is appropriate, after a few days, to confirm that the proposal has been received and inquire as to the timing of next steps. Rarely is it useful to press for reaction or decision at this point. A Champion should determine the enabling organization's procedures and approach and ask about the timing of additional follow-up. He or she should then respect the guidance given (and Enablers should respect the request). If a Champion receives no response to an initial follow-up (e.g., a message left on a voice-mail system), it is appropriate and acceptable to send an e-mail asking for confirmation of receipt and for guidance. If nothing is heard, the next e-mail should indicate that you plan to call at a convenient time for a two-minute conversation on next steps. If still nothing is heard, the silence speaks volumes. If you were invited to submit a proposal in the first place, some carefully managed frustration is appropriate. If yours is a "cold" submission, frustration is neither appropriate nor effective. Move on!

5 Customizing a proposal

Thus far, the common ingredients of a proposal have been described. Often, however, four additional elements **may or may not** be needed before a proposal can be presented. This chapter describes four such "customizations".

- Proposals to grant-makers and donors may require a **logical framework**
- Proposals to climate change professionals may require elaboration of **carbon benefits**
- Proposals to **lenders** need to address risk and risk management
- Proposals to **equity investors** need to address their special interests

5.1 Logical framework customization

Especially for grant proposals to donors, it is very important to place the proposal in its broader context. This allows donors and other enablers to see how the proposal fits within their planned activities and also to see the connection between the broad goals being pursued (e.g., "improve global climate") and very specific activities (such as "training entrepreneurs to design, build and sell household biogas digesters in rural Bangladesh"). A logical framework analysis and matrix is one way to provide this context. Excellent web-based resources on preparing such presentations are available, but the basic process and presentation can be summarized as follows.

Goal: Within a proposal that employs a logical-framework approach, the goal is the broad (global, national or sector) benefit being pursued (such as improving the global climate). It is what the proposal will contribute towards achieving but will not in itself achieve or be solely accountable for. The goal must be described and indicators established to measure progress in reaching the goal (e.g., carbon dioxide emissions per capita). The indicators need to be verifiable and the proposal must set forth how such verification is going to occur (for example, using biannual estimates of household consumption of non-renewable fuelwood, other biomass and liquid fuels). Finally, the assumptions made concerning this goal-setting must be explained (along lines such as a statement that the biogas programme is being implemented with 30 per cent of the funding coming from climate-related activities or that climate-related monitoring and evaluation will suffice to establish the means of verification).

Purpose: The purpose is what the proposal will achieve. After identifying the goal of the proposal, the various development outcomes being pursued need to be identified, and – as for the goals – the indicators, means of verification and assumptions must be described. For example, the purposes of the proposal might include reducing non-sustainable fuelwood consumption, reducing fossil fuel consumption, improving local soil and sanitary conditions and increasing income from sustainable activities.

Objectives are the significant components which the proposal will achieve. Objectives for each of the purposes must be explained; for example, a 60 per cent reduction in fuelwood consumption, a 90 per cent reduction in kerosene use, replacement of chemical fertilizer with dried organic slurry and an average productive workday/study time increase of an hour per household. As was the case for goals and purposes, the proposal must summarize what indicators will be measured, how

those measurements will be updated and verified and – this is important – the assumptions being made by the Champion (which might include, for example, a certain level of funding and flexibility requested in the proposal).

Outputs are the specific results and tangible products which the proposal will produce through a series of tasks and activities. Following the establishment of objectives, the logical-framework approach asks that those objectives be set forth over the time frame of the proposal so that progress can be measured. If a 90 per cent reduction in kerosene usage is expected in each household, will that be immediate? Because the proposal might roll out over many communities over time, is there an aggregate measure for total households that can be monitored? Again, the proposal's assumptions about available resources need to be made abundantly clear. What this technique does is help the Champion understand all the pieces that need to come together to realize success. It can prove a very useful step in answering the "How" question within the seven-question framework.

Activities are the specific tasks which the proposal will undertake to achieve the required outputs. As the final stage, and only after the above context-setting exercise has been carried out, the logical-framework approach requires setting forth the specific activities of the proposal, such as capacity-building of households and entrepreneurs, financing and construction of household biogas units, microfinance collection and performance monitoring, and management reporting and evaluations. By using such a framework, it becomes abundantly clear what activities fit within the goal and purposes set forth and which are questionable.

Logical framework: Sample presentation

Goal: To contribute to sustainable economic development.

Purpose: To provide modern energy to unserved and underserved households, businesses and communities in developing countries through the application of the enterprise-centred model of services and capital.

Objectives:

1. To build and grow **small and medium-sized enterprises** (SMEs) as effective channels of distribution for modern energy products and services to unserved and underserved households, businesses and communities in developing countries.
2. To build and grow **specialized and focused intermediary organizations** and professionals providing support services and capital to small and medium-sized businesses supplying modern energy products and services.
3. To offer an efficient menu of **support services, tools, capital, coordination and quality control** to enterprises (entrepreneurs) and specialized intermediary organizations (professionals).
4. To **expand the application of the enterprise-centred model** of services and capital through:

Outputs:

- SME outputs (related to objective 1): Enterprises created; investments made in enterprises; services and products offered by SMEs; modern energy supplied; direct and indirect economic, environmental and social impacts of SMEs.

- Specialized intermediary outputs (related to objective 2): Affiliated organizations and funds created; products and services offered by affiliates and funds; investment activities of affiliates and funds.
- Product (services, tools, finance, coordination and quality control) outputs (related to objective 3): Standardized services, systems and toolkits available, in the appropriate language; funding raised (quantity and diversity) for services, investment and operations; monitoring and evaluation and asset-management levels; internal and independent evaluations.
- Growth and scale outputs (related to objective 4): Organizations and professionals engaged in the programme, programme implementation and financial partnerships; systems and standardized approaches available; organizations and professionals engaged directly in the enterprise-centred model; major policy interventions; advocacy and communication opportunities.

Activities:

- SME activities

1. Build capacity of entrepreneurs at local level.
2. Develop a pipeline of enterprise opportunities.
3. Provide targeted support services to entrepreneurs and enterprise opportunities.
4. Prepare business and investment plans and proposals.
5. Invest in enterprises.
6. Monitor (and, as appropriate, adjust) implementation of business and investment plans.
7. Achieve acceptable performance (financial, environmental and socio-economic) of the enterprise.
8. Achieve growth in and replication of successful experience.
9. Document and communicate experiences and best practices.
10. Identify opportunities for the creation of affiliate organizations and specialized funds.

- Specialized funds and affiliate activities

1. Identify opportunities for the creation of affiliate organizations and specialized funds (see 10 above).
2. Conduct preliminary analysis of fund opportunities.
3. Identify partner organizations or professionals offering potential as affiliates or affiliate organizations.
4. Prepare initial plan, including targeted fund-raising.
5. Conduct preliminary marketing of fund and affiliate opportunities.
6. Prepare detailed plan and documentation.
7. Conduct detailed negotiations and document preparation.
8. Complete and close.
9. Implement.
10. Monitor and evaluate performance.
11. Achieve acceptable performance.

- Product activities

  Activity list

- Growth activities

  Activity list

The results of such an effort can then be organized into a logical-framework matrix which will also identify indicators, means of verification and assumptions.

Description	Indicators	Means of verification	Assumptions
Goal: To contribute to sustainable economic development	Income distribution… Air, water and soil quality… Households with modern energy… Country and sector investment activity and development assistance	United Nations, specialized-agency and country-level annual and thematic reports and data on socio-economic and human development, and on environmental conditions	Sustained multilateral commitment to sustainable development… Businesslike and market-driven trends continue… Normal business cycle, openness, transparency and professionalism in target markets…
Purpose: To provide modern energy to unserved and underserved households, businesses and communities in developing countries through the application of the *enterprise-centred model* of services and capital	Number of people and households (or equivalent) receiving modern energy through enterprises supported by specialized organizations… Quantity of modern energy supplied	Annual and periodic reports, documented estimates and summaries of monitoring and evaluation results	Normal business cycle occurs… Sufficient human capacity available in intermediary organizations… Generally positive economic and investment results… Openness, transparency, and professionalism
Objectives: 1. To build and grow small and medium-sized enterprises as effective channels for distribution of products and services to unserved and underserved households, businesses and communities in developing countries **Repeat for objectives 2, 3 and 4.**	Number of enterprises, amount of output, customers served	Monitoring and evaluation reports and summaries… Internal and/or independent evaluations	1. Normal business cycle 2. Sufficient human and organizational capacity 3. Generally positive economic and investment trends 4. Transparency 5. Legal services and rule of law 6. Communications infrastructure 7. Reasonable, non-distortive government and official development assistance (ODA) programmes 8. Functioning financial system

Description	Indicators	Means of verification	Assumptions
Outputs: 1. SME outputs: Enterprises created; investments made in enterprises; services and products offered by SMEs; modern energy supplied; direct and indirect economic impacts of SMEs **Repeat for objectives and outputs 2, 3 and 4.**	1, 2, 3 and 4. Number and volume of results compared to agreed baseline (or documented inventory)	Quarterly and annual reports Update of multi-year strategic plan, and/or annual plan and budget Specialized reports or evaluations (tracking growth trends in particular)	
Activities: 1. SME activities a. Build capacity of entrepreneurs at local level b. Develop a pipeline of enterprise opportunities c. Provide targeted support services to entrepreneurs and enterprise opportunities d. Prepare business and investment plans and proposals e. Invest in enterprises f. Monitor (and, as appropriate, adjust) implementation of business and investment plans g. Achieve acceptable performance (financial, environmental and socio-economic) of the enterprise h. Achieve growth in and replication of successful experience i. Document and communicate experiences and best practices j. Identify opportunities for creation of affiliate organizations, specialized funds (see 1 under "specialized funds and affiliate activities" above) **Repeat for activities 2, 3 and 4.**	a. Number of entrepreneurs trained… b. Number of enterprise opportunities produced… c. Type and frequency of services provided d. Number of business plans and investment proposals… e. Approved investments f. Operating (one-star) enterprises g. Operating and performing (two-star) enterprises… h. Operating and performing and growing (three-star) enterprises and number of portfolio clusters… i. Number of M&E reports and subsequent summaries and communications j. Number of opportunities	a. Periodic reports… b. Pipeline data… c. Introduction sheets and time and periodic reports… d. Introduction sheets e. Investment recommendations, approvals… f., g. and h. Periodic and regular M&E reports… i. Periodic reports and summaries… j. Fund and affiliate feasibility analyses undertaken	Reasonable and businesslike legal and regulatory framework… Entrepreneurial work ethic… Local organizational or individual capacity available… Level competitive playing field… Acceptable risk/return ratio for donors, social investors and others… Human, financial and communication resources

Why use a logical framework approach? Quite simply, it allows the Champion to demonstrate a mastery of the situation. Further, it facilitates screening and discarding competing ideas for activities in a logical manner. In addition, it sharpens the Champion's thinking and his or her ability to present a successful proposal. **The most important benefit, however, of this approach is that it allows the Champion to screen potential support organizations**, whether these are donors, lenders, investors or assistance providers. ***Their*** goals and purposes, ***their*** areas of activity support become easy to compare with those of the proposal. The Clean Development Mechanism (CDM) supports climate change mitigation activities – so there is a potential match. Say that the Lemelson Foundation supports innovation and entrepreneurship: there might be a match there, or so we may think until their purposes are explored and it is realized that the core of ***their*** goals and purposes is technical innovations and inventions. We find out that Grameen Shakti supports rural energy and E+Co supports enterprise finance; perhaps productive leads may follow, but we discover that Grameen Shakti is operational rather than a funder of others. Small grants from GEF might make sense also. Thus, the Champion can use the results of the logical framework to rule out, with equal clarity, those uninterested donors, lenders or investors and dozens of others and make the final step in the process – presenting the proposal – easier.

5.2 Carbon benefit customization

There are many reasons to incorporate basic carbon benefit information in a proposal. Some are current and clear – applying for CDM approval, facilitating the sale of carbon benefits, seeking grants or loans from GEF, demonstrating a significant triple-bottom-line impact to a social investor – while some are still to be determined, such as the value of a metric tonne of carbon dioxide equivalent after 2012 (also referred to as "post-Kyoto").

Whether applying to CDM or GEF or seeking other approval or funding resources, there are specific templates and procedures that must be followed when applying. This section points to basic information that should be understood before pursuing such sources and suggests the information that should be incorporated in any proposal including carbon benefits. Such information might interest investors and lenders for whom carbon benefit is not a primary issue.

- Carbon benefit described
- The CDM process
- Carbon benefit estimated

Carbon benefits occur when a sustainable resource displaces an unsustainable one or a quantity of carbon is kept in place rather than being released, for example, through such adaptation techniques as "no-till" farming. If cow manure or poultry litter can be used to produce fuel that can be substituted for unsustainably cut fuelwood, every kilogram of firewood not burned results in 1.5 kg of carbon dioxide equivalent avoided. Avoiding this unsustainable burning of fuelwood reduces the amount of carbon dioxide released into the atmosphere. The release of this man-made carbon dioxide equivalent is one factor in a complex chain of factors disrupting global temperatures. A process has been established to quantify such benefits (the so-called certified emission reductions (CERs)), which can be sold to others who may have a need to demonstrate improvements in ***their*** impact on global climate. For example, an electricity utility in Japan may acquire credits produced by a small hydroelectricity project in Honduras; the benefit may help the utility meet its commitment to reducing

carbon dioxide while helping the project in Honduras become financially viable. Carbon benefits are quoted in tonnes of CO_2e, meaning metric tonnes of carbon dioxide equivalent.

The closest thing that exists to a standard process of quantifying CO_2e and obtaining CERs is the Clean Development Mechanism (CDM). The process (oversimplified for the purposes of this guidebook) has five stages:

1. Design, which involves either the existence or the creation of an approved methodology for measuring the carbon benefit; establishment of a baseline from which the impact of the proposal can be measured; and preparation of a document for submission to the bodies (domestic and international) which must approve it. It is significantly easier to use an approved methodology than try to trailblaze a new one.
2. Validation and registration, which involves an independent review and acceptance of the design and subsequent registration by the main approval body.
3. Monitoring, which involves measuring actual as opposed to design performance.
4. Verification, which is independent confirmation of the monitored results.
5. Actual issuance of the certified emission reductions.

Separate from this process, the Champion, either directly or through intermediaries – the carbon benefit business is growing rapidly – can organize the terms and conditions under which carbon benefits can be sold. There are various markets (one for intraeuropean activities) and funds and other buyers for whom CERs will have value.

In practice, however, the Champion must determine the importance of carbon benefits to the proposal. Landfill gas captured and used for energy production is very valuable because the carbon dioxide equivalent of the captured methane is very high. The carbon benefit value of a well designed and implemented landfill-gas project may exceed the value of the energy produced. A household biogas programme replacing fuelwood may produce a carbon benefit equal to 30–40 per cent of the capital cost, making it affordable to larger numbers of poor households when the carbon benefit is taken into account. A project to substitute sustainably produced alcohol as a cooking fuel instead of kerosene may equalize the cost to the consumer and thus encourage switching from an unsustainable to a sustainable fuel and enhance self-reliance, health and energy security.

Note: The following is an example of the impact of carbon benefits on transactions and how to prepare such an estimate. It is ***not*** meant to illustrate formal CDM calculations (see the CDM website, http://cdm.unfccc.int/, for further information). It ***is*** intended to illustrate the potential of carbon benefits from a financial and proposal impact perspective. The point: formal CDM approval and methodology is a precise and technically sophisticated process. Even so, it is important for Champions and Enablers alike to have a general "order of magnitude" comfort with the disciplines involved.

Example of a proposal presentation incorporating CDM

Household biogas – pro-forma analysis – analysis of impact on customer cost. Based on saving 4 tonnes CO_2e per year (= 1.5 times the annual tonnes of unsustainably harvested fuel wood + 2.5 times the annual consumption of kerosene replaced by biogas cooking and lighting, net of any losses).

Monthly cost calculation			**Capital cost 25,000**
CO_2e per year	4	Tonnes	
Contract crediting period	6	Years	
Price per tonne	6	Euros	
€1 =	81	(↓Local currency↓)	
Price per tonne	486		
Discount rate	12%		
Crediting percentage	100%		
Capital cost	25,000		25,000
CO_2e credit	7,993		Without CO_2e credit
Net cost to household	17,007		25,000
Down payment percentage	15%		15%
Down payment amount	2,551		3,750
Base finance amount	14,456		21,250
Number of years	3		3
Service charge (one year "flat")	6%		6%
Finance amount, including service charge	17,058		25,075
Payment/month/base case	**474**		**697**
Total payments	17,058		25,075
Finance amount	14,456		21,250
Service charge	2,602		3,825
Down payment	2,551		3,750
Grand total	19,610	32%	28,825
		Carbon benefit	

This example also offers an opportunity to reinforce sensitivity analysis skills and explore its usefulness. The following is an analysis of the impacts of various changes to the assumptions used in the base case.

Base case (highlighted)

Sensitivity					
Case A – service charge (one year flat) changes	**6%**	7%	8%	9%	
Monthly payment	**474**	486	498	510	
Case B – discount rate changes	0%	4%	8%	**12%**	16%
Monthly payment	372	413	447	**474**	497
Case C – Crediting percentage changes	80%	85%	90%	95%	**100%**
Monthly payment	518	507	496	485	**474**
Case D – Tonnes per year changes	2.5	3	3.5	**4**	4.5
Monthly payment	557	530	502	**474**	446

Case E – Contract crediting period changes	4	**6**	8	10	
Monthly payment	532	**474**	427	391	
Euro price per tonne changes	**6**	7	8	9	10
Monthly payment	**474**	437	400	363	325

A second example (one that reinforces the net present value technique) follows. This is a proposal showing the impact of carbon benefit on equalizing fuel switching costs. The presentation shows the potential of a combination of carbon benefit and subsidy to opening a market to the very poor.

Switching from fuelwood to kerosene → intercept and offer alcohol stove

Fuelwood per year	1,095	kg
Cost per kg	2	Local currency
Cost per year	2,190	
% unsustainable	90%	
	985.5	kg unsustainable
CO_2e factor	1.5	wood
CO_2e benefit	1,478.25	kg
CO_2e benefit	1.47825	tonnes
Value per tonne	360	Local currency
$	8	
€	6.7	
Local currency	360	
Value per year	**532**	**Local currency**
Alcohol use per year	365	kg
Kerosene use per year	219	kg
Cost of alcohol per kg	20	
Cost of kerosene per kg	30	(Cost per year = 219 €30 = 6,570)
Possible subsidy BOP[2]	15	per kg
Cost of alcohol stove	1,000	
Cost of kerosene stove	1,000	

2 BOP = "bottom of pyramid" = lifeline subsidies.

Case: Customers poised to switch from fuelwood to kerosene – intercept and offer alcohol stove, factoring in carbon benefit to close cost gap

			1	2	3	4	5	Years 1–5
Kerosene		Stove	1,000					1,000
		Fuel	6,570	6,570	6,570	6,570	6,570	32,850
NPV @	10%	**25,815**	7,570	6,570	6,570	6,570	6,570	33,850
Alcohol		Stove	1,000					1,000
		Fuel	7,300	7,300	7,300	7,300	7,300	36,500
		CDM	532	532	532	532	532	2,661
NPV @	10%	**26,564**	7,768	6,768	6,768	6,768	6,768	34,839

Case: Switch from fuelwood to alcohol stove with fuel subsidy and carbon benefit – aimed at very poor

			1	2	3	4	5	Years 1–5
Wood		Fuel	2,190	2,190	2,190	2,190	2,190	10,950
Five-yr. NPV @	10%	**8,302**						
Alcohol		Stove	1,000					1,000
		Fuel	7,300	7,300	7,300	7,300	7,300	36,500
		Subsidy	5,475	5,475	5,475	5,475	5,475	27,375
		CDM	532	532	532	532	532	2,661
Cost of alcohol stove alternative			2,293	1,293	1,293	1,293	1,293	7,464
Five-yr. NPV @	10%	**2,492**	-103	897	897	897	897	3,486*

Savings/(cost

* Difference between wood and alcohol stove alternative.

Customizing for carbon professionals

- Exhibit an understanding of the multi-step process
- Exhibit a sense of the current market
- Estimate the carbon impact of the proposal conservatively
- Incorporate carbon benefit in cash-flow estimates as a separate revenue line
- Quantify the impact on project IRR of adding or deleting carbon benefits

*Useful **carbon estimating, valuation and monetization** information can be found at:*

- Community Development Carbon Fund – CDCF – www.carbonfinance.org – offers a template for a project idea note (PIN) which has some utility for introducing the key features of a greenhouse-gas project. A separate document asks 10 community benefit questions of either a general or "who is involved" nature. Another separate document offers a useful financial template.
- Clean development mechanism – CDM – http://cdm.unfccc.int/projects – provides information and ready access to CDM projects at their various stages. It also describes the process and is a useful information resource for regular, small-scale ("simplified") procedures and afforestation-reforestation activities. The project design document guidelines and templates are easy to access and use in / projects / reference / documents.
- CDM Gold Standard – www.cdmgoldstandard.org – is a non-governmental organization partnership-sponsored website aimed at both quality improvement and ease of filing for CDM projects.
- CDMWatch – www.cdmwatch.org – offers introductory materials on the Clean Development Mechanism and promotes "The CDM Toolkit", which is actually a description of the process rather than a set of tools. Links to carbon funds and other websites are included.

5.3 Customizing for lenders

It is a mistake – a common mistake in proposal writing – to lump lenders and investors together. They are related, but so are brothers and sisters. They have common interests, but their motivations and approach are quite different.

Lenders emphasize risk management and look for:

- Predictable cash flow
- Assumption of major uncertainties by others, including insurers
- Guarantees that all funding is available
- Collateral and security interests
- Clear procedures for default, termination, repossession, etc.

Investors look at these things also but their focus is more on opportunity management, placing emphasis:

- On the size of the market
- On the reasonableness of the base case
- On potential upsides and downsides
- On management's abilities and knowledge

In customizing a presentation for lenders, the Champions must frankly try to put themselves into the bankers' shoes. This involves understanding two processes: one is called "**due diligence**"; the other is called "**risk management**".

What professional lenders call "due diligence" is a process that checks the truth ("veracity") of the proposed loan application and the proposal that underpins it. Due diligence has both quantitative and qualitative dimensions, meaning that all the numbers and calculations are examined, checked and tested, and all the statements are verified. Lenders have quite clear rules and decision-making procedures (credit committees, for example), so knowing the lender's criteria, requirements and processes in advance is the best investment a Champion can make ***before*** presenting a proposal. A lender's quantitative tests might include a requirement that there is always a reserve fund set aside that equals one year's future loan payment; the proposal's cash flow model can take that into account before a loan application is submitted. A lender's qualitative tests might include that the borrower must have certain credentials, income or wealth. When a Champion says that he or she has 10 years' direct

Lessons learned:

- A Champion sees the value of the assistance and services. An enabling organization needs to quickly assess the willingness of a Champion to cooperate in the enterprise development process. Conversely, the enabling organization needs to see the full scope of the Champion's responsibilities and understand that the Enabler's priorities, processes and problems are not the only issues needing attention. Enablers need to avoid "torturing" Champions.
- How much assistance to provide to the Champion and how strict the process of "handholding" is must be based on the Champion's experience, track record and skill set. There are no one-size-fits-all formulae. Performance yardsticks are important.
- Enabling organizations need to assure that regular and effective communication channels exist with the Champion before commencing assistance.
- In assisting Champions with planning and due diligence, most of the effort must focus on understanding the market and developing a marketing strategy and alternative tactics for reaching clients and customers. "Fit for purpose" tools are important here.
- Champion and Enabler must share a common, realistic understanding about what is achievable and how to make it work. They must work as a team, not as investee and investor.
- There may be a need for hands-on coaching and mentoring to take basically sound proposals and direct them into the "system" of financiers and supporters. Champions cannot be expected to know the universe of possibilities and the subtle differences between enabling organizations.

experience supervising this or that technology or has never defaulted on a loan, the Champion must understand that those representations will probably be checked. Knowing requirements in advance can avoid wasted effort, direct a Champion to broaden the owner or management team and avoid situations where credibility becomes an issue.

Due diligence is basically a fact-checking process driven by the lender's criteria. Risk management is a process for which this guidebook's **What If** question has, hopefully, helped prepare the Champion. Lenders go through their own What If exercises with a particular point of view: they are looking for answers that place risk and responsibility on someone else, and they are looking to be convinced that that someone else can deal with the problem if it arises.

The point has already been made that Champions need to place themselves in the lender's position. By being able to deal with lenders' typical questions and issues regarding due diligence and risk management, a Champion will be in a position to anticipate problems and solve them if they arise.

5.3.1 Due diligence, risk and risk management

The following is a very short and modest sample of the types of questions that a bank officer must answer before he or she can even consider recommending to a credit committee that a loan should be granted. The primary purpose here is to introduce some typical issues and concerns.[15]

- What guarantees exist that the project or product will be built or delivered on time and at the stated price? Who has the responsibility for cost and schedule overruns? How are they guaranteeing their ability to absorb these costs or compensate for the lost time? What if they default on their promises? Who will step in then? What assurances do we have of their ability to do so?
- What are the contractual assurances that the project-product-service will perform as promised? Who has the responsibility for performance failures? When? What if they are unable or unwilling to fix the problems? Who will step in, and can they remedy the situation?
- Where will fuel, equipment and raw materials come from? What are the terms and conditions of the contract? What alternative supplies exist in the event of a disruption or dispute? What type of supply

Lessons learned:

- Ensure that reliable management accounting procedures are in place. This can be the single biggest problem in the SME development environment. Ensure, whatever it takes, that the systems, procedures and infrastructure are in place before the doors open. As a general rule: if not confident that the management accounting procedure will function properly, do not recommend approval of the investment.
- Key questions to ask about individual securities in the form of collateral and guarantees: Do they mean something? Can they be turned into money to make up for a partial or total loss? A general procedure for evaluating collateral: Determine the actual value, then scale it down to a forced-sale scenario. To do this, be sure to understand the difference between and the application of the following types of value:
  - Cost (original price)
  - Market value (if put up for sale)
  - Replacement value
  - Forced-sale value (if offered for sale today)
- Investment commitments should not be disbursed until a Champion closes an agreed gap between the management structure and business. Milestones must be real and realistic. Conditions precedent (those conditions which must be fulfilled before a loan agreement becomes operational) must be clear and transparent.
- Due diligence is effective if it ensures that monies requested are indeed required. Nevertheless, avoid falling into situations where due diligence deprives the venture of critical funds required to ensure a sufficiently capitalized start-up and a motivated Champion.
- Post-investment "handholding" is often required to ensure that implementation proceeds according to the agreed plan and that the enterprise is positioned to grow. Enabling organizations need to budget for such efforts.

15 For a more detailed and customized due diligence checklist see annex VI.

disruption or unanticipated cost increase could cause a lowering of debt service coverage below 1.3 times?

- Where will the product-output be sold? What contracts exist for that sale? What percentage of revenue is supported by such contracts? What is the creditworthiness and financial state of the buyers? If they default on their contracts, what alternatives exist?
- How big is the market for the product-service? Based on what? Corroborated by what? What market share must be captured to meet revenue projections? What shortfall in meeting those projections would reduce debt service coverage to below 1.3 times?
- Excluding debt service, what is the amount or percentage of cash flow that comes from "hard" foreign exchange? What amount of debt service requires "hard" foreign exchange? How are fluctuations in the value of the local currency in foreign exchange handled? What are the assumptions regarding foreign exchange conversion rates? Based on what? Are "hedge" contracts available?
- What is the status of each government approval and arrangement? How is this documented? What conditions precedent (those conditions which must be fulfilled before a loan agreement becomes operational) must be met before loan disbursement? What public processes still need to occur? What is the status of environmental assessment? Is there local approval and support?
- What are the insurable risks and what is the proposed insurance programme? For uninsurable items, what guarantees, resources and commitments exist to repair and rebuild, and under what conditions?
- How will the owners' commitment to the equity contribution be met? What documentation demonstrates that the owners have the capacity to do so? What are the owners' credit histories and bank relationships?

5.3.2 Risk

The preceding list of questions comes from an understanding of the kinds of risks which projects and enterprises face. Before attempting to manage those risks, it may be helpful to summarize and sort various types of risk into categories. Many of those items are risks which a Champion knows and – Champions being who they are – are quite comfortable accepting. Banks and other lenders are not!

Risks come in a variety of categories. Like many lists in this guidebook, there are quite a number of ways to organize these categories. The following list follows a common pattern.

- Completion risk
- Technology risk
- Supply risk
- Economic risk
- Financial risk
- Currency risk
- Political risk
- Environmental risk
- Social risk
- Force majeure risk

Completion risk involves the risk that something started might not be completed after a lender has made funds available. This can happen when a proposal costs far more than originally expected or the market has changed significantly during construction. Perversely, it can sometimes make more sense for the Champion and owner group to walk away from such a project than to complete it (and yes, this happens!). Lenders do not want even to consider such a possibility. Therefore, "someone else" – other than the lender – must be deemed **responsible for and capable of** completing the project once it is begun.

Note: Rather than repeating this point throughout the remainder of this list – the point that lenders look for other responsible and capable parties to assume risk – readers should accept and assume the concept as a part of every risk described below.

Technology risk involves something not performing as planned or becoming obsolete far more rapidly than expected. If the technology never performs as agreed to in the installation phase, that can be taken as part of the completion risk, but generally it is considered a separate category. Lenders want to know that someone else stands ready to fix a technology that is not performing. Lenders also want to know that a technology is proven (not untried and not brand new) and competitive (not about to become obsolete).

Supply risk involves raw materials not being available. This can include resources which the project is going to use (e.g., a mine or a plantation forest) or buy (e.g., fuel or supplies). Lenders want to know that what is needed to produce a product or service is available and affordable.

Economic risk exists even after a project is completed, the technology is working and the inputs are available. The result of the project might be inefficient or the estimated market (the demand) may evaporate. Lenders need to have confidence in market projections and the Champion's demonstration of market knowledge and awareness.

Financial risk occurs either when variable interest rates are used or refinancing of the project is assumed at some time during its life. Interest rates change; large changes can make an enterprise non-competitive or not "liquid" ("liquidity" means having the cash on hand to meet repayment obligations on time and in full).

Currency risk is closely related to financial risk, and could be lumped into that category, but the very nature of technology transfer projects warrants its being disaggregated. Currency risk involves the difference between the value of the currency that is relevant to income and expenses and the value of the currency in which the loan repayments must be made.

Political risk is the risk that the rules and regulations governing a proposal may change. A good example might be the risk that a government may arbitrarily raise the taxes on a project to render it uneconomic or may change the rules for construction so as to make it impossible to complete it.

Environmental risk is the risk that unknown environmental conditions may disrupt a plan after implementation has begun. Environmental risk has nothing to do with ignoring or skirting environmental rules, processes and regulations: rather, it is the risk of the unanticipated occurrence of something of an environmental nature. A good example would be the unforeseen disturbance of an important site for an endangered species or an important cultural site.

Social risk is a category that takes into account all manner of disturbances or disruptions that can impair a proposal's implementation. For a long time these were lumped together under "political risk", but a heightened awareness of the power of local disruptions warranted putting them into a separate category if only to highlight the fact that local realities outside the realm of what is generally viewed as politics can greatly impact planning, construction and operation.

Force majeure risk is the risk that something catastrophic – a storm, an earthquake, a devastating accident – may cause a project to fail. In a less secular time, these were called "Acts of God."

5.3.3 Risk management

The preceding section describes 10 categories of risk. What can be done (or cannot be done) to manage these risks? Implicit here is an important and valid assumption: if a lender is satisfied with how a risk is managed, it is likely to be well managed (in case the point has not been clearly presented so far let it be repeated: lenders are unwilling to accept any risk that can be assigned to others).

Completion risk can be managed through the type of contracts entered into to design; build and commission (start operation). One of the terms used often is "EPC". Another is "fixed price". Taken together, this is a type of contract where a single credible company takes on the responsibility to construct a project. "EPC" stands for engineering, procurement and construction. "Fixed price" means that, regardless of the cost, the EPC contractor will complete the project as bid. A fixed-price EPC contract is just one of the risk-management tools available.

Technology risk is most often managed through guarantees and warranties from the suppliers of equipment and also through the acceptance testing process. Another type of contract provides for the operation and maintenance of the technology by a credible party (sometimes the entity that built the project or supplied the equipment).

Managing supply risk requires entering into contracts for sufficiently long periods of time and with predictable prices to ensure an uninterrupted supply of inputs. In the absence of such supply contracts, the Champion needs to be able to demonstrate that the available supply of inputs on the spot market is more than sufficient to meet needs.

Economic risk requires solid data and analysis up front, combined with sufficient resources on the part of the Champion and the owner team to make changes as market shifts occur.

Financial risk can be cushioned by entering longer-term financial arrangements or having multiple alternatives should refinancing not prove sensible (e.g., arrangements to sell the project).

Currency risk depends greatly on the proportion of the cash flow denominated in local currency relative to the cash flow denominated in foreign currency. If the proportion of foreign currency to local currency cash flow is small, so too is the currency risk. However, if 100 per cent of the revenue and expenses is in local currency and debt service is in foreign exchange, and if fluctuations in the exchange rate are significant, the risk rises rapidly. Special contracts ("hedges") and conditions (reserves) can help manage this risk.

Political risk is a category of risk where certain items can be insured against (for example, the risk that a government may nationalize an asset), although this applies more to larger, more complex transactions than to typical technology-transfer transactions. Political risk is best managed by being subject to a predictable, enforceable regulatory structure which applies also to others. This argues

against the tendency to seek exceptions from governments because exceptions often do not survive power transitions and do not have the comfort of affecting others.

Environmental and social risks, like economic risks, require carrying out the proper advance work and planning and building the appropriate relationships. Volumes have been written about engaging the local community and about conducting thorough studies. Failure to heed those volumes produces environmental and social risks. Lenders want to know that things will go smoothly.

Force majeure risk involves catastrophe. Insurance is the most common risk-management tool. Insurance covers so many possibilities – injuries, death, fire, explosions – that, **where affordable and available**, it should be an important component of planning and implementation.

5.3.4 Summary

- Know in advance the lender's requirements with respect to type and length of loans, terms and conditions, indicative interest rates (i.e., today's rates), typical restrictions and reserve requirements, debt-to-equity requirements and debt service tests.
- Know in advance the lender's requirements concerning the credentials and net worth of borrowers.
- Run the base case incorporating the lender's requirements as part of the model. Summarize the results in the executive summary, with an emphasis on debt service coverage.
- Prepare as an annex a set of credentials and documents that prove the case for the borrower. Have available the tax submissions, bank statements, deeds, etc. for any of the credentials or assets cited. Obtain the bank's application form well in advance and create a file with supporting documents.
- Prepare a risk-management table that lists the key risks (from the What If question) and how the risks are addressed.
- What if the Champion's proposal cannot fulfil the bank's requirements? What if the Champion cannot meet the lender's requirements? Well, there a number of things to be done. This list **definitely does not include making fictional adjustments** to the cash flow projections or credentials. Things to be done include:
    - Exploring different combinations of debt and equity to improve the debt service performance of the cash flow projections.
    - Testing different assumptions regarding the terms of loans and the impact on cash flow (mortgage-style versus bullet versus equal principal payments, for example).
    - Expanding the owners' group to improve the credentials of the team as well as to expand the supply of equity and guarantees.
    - Discussing subordinated debt arrangements or other instruments that reduce the lender's risk and improve financial performance.

5.4 Customizing for investors

There are many different categories of investors. A few broad categories will suffice to separate their interests:

1. Venture capitalists
2. Financial investors

3. Strategic investors
4. Development investors
5. Double- and triple-bottom-line investors

Venture capitalists seek opportunities in what are perceived as growing sectors using an ever growing roster of technologies and offering high profit (return) potential. "Clean technology" is an example of a venture capital focus. If a Champion has a proposal to produce a new building product that protects valuable existing surfaces from increasing rain or dryness (an example of an adaptation technology), such a proposal, properly prepared and presented, would engage the preliminary interest of venture capitalists (who gather at meetings known as venture fairs). Venture capitalists want to see growth potential and management skill. They will exercise a great deal of control, especially if things do not go as planned. Their checklists especially emphasize size of potential market, competition, management's track record and how they can exit (a wonderful four-letter word that encompasses the ways that an investor can cash in its investment: listing on the stock market, sale of the company to a competitor or acquirer, buy-back by the original owners, re-financing).

Financial investors target specific returns (called "hurdle rates") and are prepared to accept specific risks in order to achieve those returns, which are higher than a lender may charge for interest. It is essential to understand the "hurdle rate" and "risk appetite" of such investors early in the discussions. Their due diligence will be similar to a lender's but they are more likely to examine a base case and a better case as well as a worse case scenario. Like venture capitalists, financial investors may want to exercise a lot of control if events roll out more slowly than planned or badly. They too would like to hear a Champion's ideas on "exits".

Strategic investors are interested in something in addition to financial return. They may be interested in a new market and see the proposal as an efficient way to become involved in that market. They may be interested in the knowledge and experience of the team. They may be interested in supplying a product or service. It is crucial (not just important) that all the cards are on the table before exploring such a relationship seriously. What does the strategic investor want to achieve? How is that consistent or in conflict with the proposal? How is that consistent or in conflict with the Champion's motivation and objectives? How will hidden agenda items be determined and controlled? How will the price of products and services be set and warranties enforced? These can be excellent relationships, often glowingly described as "partnerships", but like partnerships and marriage, they are to be entered into with eyes open and clearly defined terms and conditions.

Development investors are looking for the opportunity to create a specific impact, usually in a specific sector. They are investors (not donors) because they expect to be repaid. Their interests might include creating small enterprises, growing microfinance institutions, building the capacity to implement adaptation, renewable energy, organic farming or energy efficiency measures. They tend to be found in national, regional and multilateral development banks and tend to have very specific criteria. There is a great deal of generally available information on their websites and exploratory communication is relatively easy to arrange. The bad news is often embedded in the processes and requirements that come along with the interest. Decision-making can be slow and processing and

documentation burdensome. The secret is to understand the requirements of development investors well in advance of making any commitment to this path.

Double- and **triple-bottom-line investors** are also known by other names, including socially responsible investors (and many other confusing subcategories and overlapping titles). They are individuals and organizations (including major foundations) that will accept a lower financial return with or without increased risk because of the blended value of the social and environmental benefits represented in a proposal. They can be very broad in their interests and motivation (they may be high-net-worth families) and may be persuaded to consider new fields and innovations for very targeted investing.

How best to customize a presentation to an investor?

- For those seeking financial return – venture capitalists and financial investors – keep the introduction simple with an emphasis on return and market potential, the team (experience, skills and track record) and the risks.
- For the rest, it is difficult to know what might be interesting ("you never know where lightning is going to strike") but a triple-bottom-line matrix (financial, social and environmental returns), combined with the team and the risks, will allow a quick screening by enabling organizations.

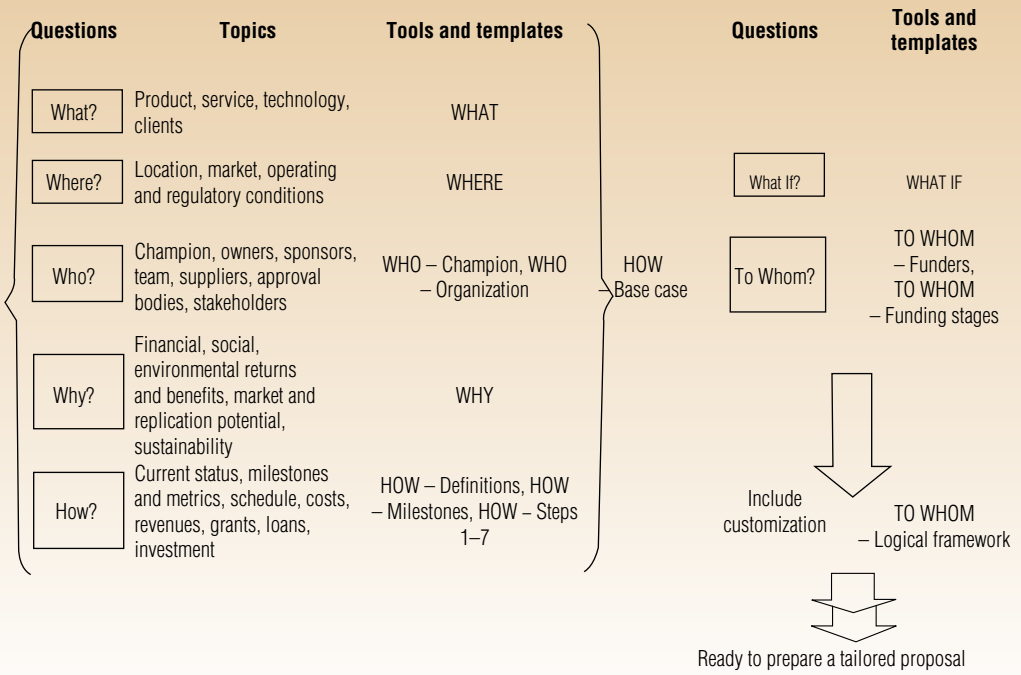
Lesson learned:

- Technology transfer is about all the combinations of products, services and know-how available to fashion the desired result of sustainable development. **"Innovative financing"** for technology transfer is more about connecting new combinations of actors and interests and applying tried and true approaches than it is about creating new, never-before-used products, services and tools.

Annex I: Templates

Template title	Contents
Flow chart	Proposal preparation process, tools and templates
WHAT	Product, service, technology and customer description
WHERE	Market, operating and regulatory information-gathering and description
WHO – Champion	Champion and team assessment
WHO – Organization	Inventory of participants and interests
HOW – Definitions	Definitions of terms
HOW – Milestones	Schedule, milestones and metrics
HOW – Step 1	Capital costs
HOW – Step 2	Grants and subsidies
HOW – Step 3	Revenue
HOW – Step 4	Operating costs
HOW – Step 5	Income statement
HOW – Step 6	Financing needs 1
HOW – Step 7	Financing needs 2
HOW – Base case	Base case
WHY	Triple-bottom-line baseline and expectations
WHAT IF	Sensitivity analysis matrix
TO WHOM – Funders	Selecting the appropriate audience
TO WHOM – Funding stages	Customer, donor, lender and investor matrix for different project stages
TO WHOM – Logical framework	Logical framework template
Proposal formats	Product, service and technology-oriented proposal outlines

Flow chart for preparing and presenting proposals



What? template

Product or service

Are you offering a product or service?

☐ Product ☐ Service ☐ Both ☐ Other _____

Is the product or service new?

☐ New ☐ New to this area ☐ Existing ☐ Other _____

Have customers seen this product or service before?

☐ Never ☐ Saw elsewhere ☐ Yes, exists locally ☐ Other _____

Product or service description

_____

Need being satisfied

_____

_____

_____

Technology

Technology description

_____

_____

_____

Reference for further technical details

_____ _____ _____

Where is this technology used?	Is the technology successful in those places?		
☐ Globally	☐ Yes	☐ No	☐ Don't know
☐ In this country	☐ Yes	☐ No	☐ Don't know
☐ In this local market	☐ Yes	☐ No	☐ Don't know
☐ Nowhere, it's new			
☐ Other _____			

What is your experience with this technology?

☐ Expert ☐ Some experience ☐ Limited experience ☐ No experience

Are there other technologies that deliver the same product or service?

- ☐ Yes, these include: _____
- ☐ No
- ☐ Don't know
- ☐ Other _____

What sizes will be available?	What is the estimated customer price?	What is the average price of competitive products?	What is the estimated cost to you?

List the components of the technology	Sources of each component	Alternative sources	Is maintenance required?

Customer

What types of customers will you serve?

☐ Individuals or families ☐ Small businesses ☐ Large businesses ☐ Other

Approximately how many customers will be served in next three years?

_____ _____ _____

Average customer income / revenue

_____ _____ _____

Average customer income / revenue trends

_____ _____ _____

If there is only one large or a few customers, what is their credit rating and track record of paying bills?

_____ _____ _____

Current product or service being used by this customer: (1) Identify product(s) or service(s) and (2) state reason why customers choose current products or services.

☐ Lower price	☐ Lower price	☐ Lower price	☐ Lower price
☐ Better performance	☐ Better performance	☐ Better performance	☐ Better performance
☐ Better reliability	☐ Better reliability	☐ Better reliability	☐ Better reliability
☐ Better support	☐ Better support	☐ Better support	☐ Better support
☐ No other choice	☐ No other choice	☐ No other choice	☐ No other choice
☐ Other	☐ Other	☐ Other	☐ Other

What other companies or programmes are targeting these customers? Are they similar to this proposal?

☐ Similar	☐ Similar	☐ Similar	☐ Similar
☐ Not similar	☐ Not similar	☐ Not similar	☐ Not similar
☐ Similar	☐ Similar	☐ Similar	☐ Similar
☐ Not similar	☐ Not similar	☐ Not similar	☐ Not similar
☐ Similar	☐ Similar	☐ Similar	☐ Similar
☐ Not similar	☐ Not similar	☐ Not similar	☐ Not similar

Why would customers choose your product or service?

☐ Lower price	☐ Lower price	☐ Lower price	☐ Lower price
☐ Better performance	☐ Better performance	☐ Better performance	☐ Better performance
☐ Better reliability	☐ Better reliability	☐ Better reliability	☐ Better reliability
☐ Better support	☐ Better support	☐ Better support	☐ Better support
☐ No other choice	☐ No other choice	☐ No other choice	☐ No other choice
☐ Other	☐ Other	☐ Other	☐ Other

How will you reach these customers?

☐ New sales force	☐ New sales force	☐ New sales force	☐ New sales force
☐ Existing distributors	☐ Existing distributors	☐ Existing distributors	☐ Existing distributors
☐ NGOs	☐ NGOs	☐ NGOs	☐ NGOs
☐ Government	☐ Government	☐ Government	☐ Government
☐ Other	☐ Other	☐ Other	☐ Other

Where? template

Market setting

Where are you located?

Country	Province	District	City/town

Where are your customers located?

Country	Province	District	City/town

What is the population of the country/ region?

Country/region/district/town	Population

What is the number of expected customers?

Time period	Number of customers
First six months	
First year	
Second year	
Full development	

Average income in the area you operate in is about:

For top 25% _____

For middle 50% _____

For bottom 25% _____

Your local currency is _____

Current exchange rate in terms of dollar or euro =

Foreign currency	Local currency
$1 is equal to	
€1 is equal to	

Inflation rates (past three years)

Year 1 _____ Year 2 _____ Year 3 _____

Interest rates for deposits

_____ For local currency

_____ For foreign exchange (dollars or euros)

Interest rates for bank loans

_____

List requirements to obtain bank loans, such as collateral, guarantees, etc.

_____ _____

_____ _____

_____ _____

_____ _____

Any other information about region/market conditions specific to your business

_____ _____

_____ _____

_____ _____

_____ _____

Operating setting

Property rights mean the right to the exclusive use of property and the right to control, transfer, sell and benefit from the property. In your setting, can property rights be described as well defined and clear cut?

In your setting, can property rights be described as well defined and clear cut?

☐ Yes ☐ No ☐ Don't know

The process for purchasing and taking possession of land can be described as:

☐ Short/fast ☐ Slow/lengthy ☐ Don't know

Security refers to personal safety and the likelihood that property will be destroyed or stolen.

In your setting, the security level can be described as:

☐ High ☐ Medium ☐ Low ☐ Dangerous

Corruption refers to the need to pay people either to process approvals or to protect your rights as a business. In your setting, the Corruption level be best described as:

☐ No corruption ☐ Low ☐ Medium ☐ High

The process for hiring and firing workers/employees can be described as

☐ Easy ☐ Not so Difficult ☐ Difficult

The process for obtaining credit/loans can be described as:

☐ Short/cheap ☐ Slow/costly ☐ Don't know

Interaction with inspectors and other public officials can be described as:

☐ Short/fast ☐ Not so difficult ☐ Slow/lengthy ☐ Difficult

Contract enforceability processes can be described as:

☐ Short/fast ☐ Not so difficult ☐ Slow/lengthy ☐ Difficult

Are reliable contractors easily available?

☐ Yes ☐ No ☐ Don't know

The cost of reliable contractors can be described as:

☐ Low ☐ Medium ☐ High

Infrastructure cost

Cost of	Can be described as		
	Low	Medium	High
Transportation of goods			
Transportation of people			
Electricity			
Gas			
Fuel oil			
Telephone			
Mobile phone			
Water			

Any other information about operating setting specific to your business

_____ _____

_____ _____

_____ _____

_____ _____

Regulatory setting

Do you need a permit to start the business?

☐ Yes ☐ No ☐ Don't know

The process for obtaining the above permit takes about:

- ☐ 6–12 months
- ☐ 3–6 months
- ☐ 1–3 months
- ☐ 15 days–1 month

Do NGOs need permits to operate in the area?

☐ Yes ☐ No ☐ Don't know

The process for obtaining the above permit takes about:

- ☐ 6–12 months
- ☐ 3–6 months
- ☐ 1–3 months
- ☐ 15 days–1month

Is a permit needed to start a feasibility study or a project study?

☐ Yes ☐ No ☐ Don't know

The process for obtaining the above permit takes about:

- ☐ 6–12 months
- ☐ 3–6 months
- ☐ 1–3 months
- ☐ 15 days–1 month

Do you need a permit to obtain a concession?

☐ Yes ☐ No ☐ Don't know

The process for obtaining the above permit takes about:

- ☐ 6–12 months
- ☐ 3–6 months
- ☐ 1–3 months
- ☐ 15 days–1month

Do you need a permit to use a natural resource?

☐ Yes ☐ No ☐ Don't know

The process for obtaining the above permit takes about:

- ☐ 6–12 months
- ☐ 3–6 months
- ☐ 1–3 months

Who? template

Champion self-assessment

What is your main motivation for starting this business?

- ☐ Earn a regular income
- ☐ Be involved day to day
- ☐ Be involved only part time
- ☐ Earn a one-time fee or lump-sum payment
- ☐ Create a valuable business over time by growing it slowly
- ☐ Engage family members
- ☐ Gain experience
- ☐ Improve the well-being of a particular community
- ☐ Improve the environment
- ☐ Other Please specify _____

Skills assessment

Do you have any experience in sales or marketing?

Identifying customers for the product or services of a business and developing a pricing, advertising and promotion strategy to attract them.

☐ Yes ☐ No

If yes, indicate your experience level:

- ☐ Very experienced
- ☐ Experienced
- ☐ Some experience
- ☐ A little experience
- ☐ Knowledge but no experience

Describe where your experience was gained:

_____

_____

_____

Do you have any experience running a business?

Operating and maintaining a cost-effective business. Overseeing and coordinating all of the participants in the business with respect to the company's mission, performance, schedule and budget.

☐ Yes ☐ No

If yes, indicate your experience level:

- ☐ Very experienced
- ☐ Experienced
- ☐ Some experience
- ☐ A little experience
- ☐ Knowledge but no experience

Describe where your experience was gained:

_____

_____

_____

Do you have any experience in financial planning?

Estimating the financial requirements of a business and preparing a mix of financing alternatives, including financial analyses such as cash flows, income statements and balance sheets.

☐ Yes ☐ No

If yes, indicate your experience level:

☐ Very experienced
☐ Experienced
☐ Some experience
☐ A little experience
☐ Knowledge but no experience

Describe where your experience was gained:

_____

_____

_____

Do you have any experience dealing with laws or regulations?

Understanding and complying with the relevant rules and regulations governing a business.

☐ Yes ☐ No

If yes, indicate your experience level:

☐ Very experienced
☐ Experienced
☐ Some experience
☐ A little experience
☐ Knowledge but no experience

Describe where your experience was gained:

_____

_____

_____

Do you have any experience negotiating?

Reaching agreements with different parties, such as contractors, customers, government authorities, employees.

☐ Yes ☐ No

If yes, indicate your experience level:

☐ Very experienced
☐ Experienced

- [ ] Some experience
- [ ] A little experience
- [ ] Knowledge but no experience

Describe where your experience was gained:

_____

_____

_____

Do you have any experience dealing with banks or investors?

Raising debt and equity and building business relationships that result in cost-effective sources of capital.

- [ ] Yes
- [ ] No

If yes, indicate your experience level:

- [ ] Very experienced
- [ ] Experienced
- [ ] Some experience
- [ ] A little experience
- [ ] Knowledge but no experience

Describe where your experience was gained:

_____

_____

_____

Do you have any experience in design, engineering or construction?

Design: Detailing the requirements of a physical project or product and finding resources to achieve the desired performance.
Engineering: Preparing the detailed civil, mechanical, structural and electrical specifications of a product or project and supervising its physical implementation in a way that achieves desired performance at reasonable cost.
Construction: Preparing the site, installing equipment and preparing for operations in accordance with project specifications, budget and schedule.

- [ ] Yes
- [ ] No

If yes, indicate your experience level:

- [ ] Very experienced
- [ ] Experienced
- [ ] Some experience
- [ ] A little experience
- [ ] Knowledge but no experience

Describe where your experience was gained (and what type of design or engineering):

_____

_____

_____

Are you a professional engineer?

☐ Yes ☐ No

Do you have any experience in buying or obtaining supplies for a business?

Buying equipment, products and services needed to implement a project in a cost-effective manner.

☐ Yes ☐ No

If yes, indicate your experience level:

☐ Very experienced
☐ Experienced
☐ Some experience
☐ A little experience
☐ Knowledge but no experience

Describe where your experience was gained:

_____

_____

_____

Do you have any experience in monitoring or evaluating performance?

Maintaining a system of performance measurement and evaluating performance against original plans and benchmarks.

☐ Yes ☐ No

If yes, indicate your experience level:

☐ Very experienced
☐ Experienced
☐ Some experience
☐ A little experience
☐ Knowledge but no experience

Describe where your experience was gained:

_____

_____

_____

Additional skills needed to run the business

	Skills needed	Explain how you will overcome this obstacle (e.g., through finding a team member with this skill)
1		
2		
3		
4		
5		

Champion's team assessment

Do you have a team of people who will help you with your business?

☐ Yes ☐ No

Names:

1 _____
2 _____
3 _____
4 _____
5 _____
6 _____
7 _____
8 _____
9 _____
10 _____

Are these people mostly:

- ☐ Friends
- ☐ Family
- ☐ Members of the community
- ☐ People you don't know very well
- ☐ Other Please specify _____

The reason(s) these people are involved:

- ☐ They have specific skills
- ☐ Desire to help
- ☐ Desire to earn money
- ☐ Desire to learn
- ☐ They own property needed for the project
- ☐ Good reputation
- ☐ They are providing capital
- ☐ Other Please specify _____

Describe the skills your team members have (check all that apply):

	Please specify	Level of competence
☐ Technical		
☐ Operational		
☐ Financial		
☐ Legal		
☐ Sales		
☐ Service		
☐ Negotiation		

☐ Marketing
☐ Political
☐ Fund-raising
☐ Other

If you do not currently have a team, do you plan to put one together?

☐ Yes ☐ No

Organization

Name of the organization making this proposal:

Legal address:

District City/town Province

Country

Legal status:

☐ Incorporated business
☐ Unincorporated business
☐ Community organization
☐ Non-profit organization
☐ Other Please specify

Owner(s): Percentage of ownership:

Management

Position	Name(s)
Managing Director	
Technical head	
Finance head	

IT head

Board of Directors

Accountants

Lawyers

Other

Does this organization have a bank account?

☐ Yes ☐ No

Who has control and authority over the organization's budget?

Briefly describe the organization's history:

Similar products or services

Are there any companies or organizations offering similar products or services?

☐ Yes ☐ No

	Organization	Product or service	Similarities/differences
1			
2			
3			
4			
5			

Raw materials or products

	Organizations supplying raw materials	Raw materials supplied	Status of the contract
1			
2			
3			
4			
5			
6			

Specialized services

	Organization supplying specialized services	Type of specialized service provided
1		
2		
3		
4		
5		
6		
7		
8		
9		

Potential types of specialized services:

Design
Construction
Technical analysis
Legal advice
Environmental assessment
Social development
Accounting
Negotiations
Financial advice
Monitoring and evaluation
Engineering
Carbon benefit
Other (please specify)

Land

Land requirements

	Location/description	Owner	Status of the contract
1			
2			
3			

4			
5			
6			

Approvals

	Organizations whose approval is needed to go ahead with the project	Approvals needed
1		
2		
3		
4		
5		
6		
7		
8		

Potential types of approvals needed:

Use of public land
Operational permit
Safety
Health
Materials
Business
Incorporation
Tax
Other (please specify)

Stakeholders

	People or organizations who have an interest in or will be affected by the project	Why are they interested? How will the project impact them?
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

How? template

Definitions

Legend	Terms that relate to the income statement	Terms that relate to the balance sheet
	Terms that define financial ratios	Terms that relate specifically to the project
Financial terms to learn Revenues	**Definition**	**Notes**
Revenues	Revenues represent what customers are expected to pay for goods and services offered. To investors, revenue is less important than profit, or income, which is the amount of money the business has earned after deducting all the business's expenses	It is very important to take the time to itemize the assumptions regarding both the number of units which will be sold and the price per unit. Arbitrary assumptions about price increases should be avoided
Direct costs	Those costs (labour, material, and other direct costs) that can be consistently related to work performed on a particular project	Also called the cost of goods sold, the cost of services provided, or production costs
Gross margins	Gross margins represents revenues less cost of goods sold	This is one of the most important short-run planning figures
Operating costs	The day-to-day expenses incurred in running a business, such as sales and administration, as opposed to production	Also called operating expenses
Earnings before interest, taxes, depreciation and amortization (EBITDA)	Net income before tax + interest expense + income taxes + depreciation + amortization	EBITDA reports a company's profits before interest on debt and taxes to the Government are subtracted. It is also called net operating income
Interest	Interest is a surcharge on the repayment of debt (borrowed money)	Interest rates may be variable or fixed
Income taxes	Income taxes represent amounts owed to governments based on the profitability of a project or facility	Estimates should be considered "allowances for income taxes"
Depreciation and amortization	The decline in value of an asset over a period of time	Depreciation/amortization is a charge against earnings to write off the cost of an asset over its estimated useful life. It reduces taxable income but does not reduce cash.
Net income	Net profit; the amount of money left over after all costs have been paid	

Assets	What a firm or individual owns	Fixed assets include land, machines and buildings; current assets include cash, money owed, inventory and work in progress; intangible assets include goodwill, trade marks and patents; liquid assets are funds kept in cash or in a form that can be quickly and easily turned into cash
Liabilities	Anything that is owed to someone else (debts and obligations)	Current liabilities are debts due and payable within one year. Long-term liabilities are those payable after one year
Equity	The amount of money that the company owners have in the company	This refers to the difference between a company's assets and liabilities – that is, the value that accrues to the owners. Also called owners' equity or shareholders' equity.
Debt service coverage (DSC)	Debt service coverage is the combination of principal and interest to be paid on a loan	Lenders may restrict the amount of cash that can be distributed to investor-owners to make sure that there is sufficient DSC. They can insist that certain debt service coverage tests be met or they can insist on reserves being set aside for future debt service before payments to investors-owners (called dividends) can be made.
Debt service coverage ratio (DSCR)	The number of times (e.g., 1.2) by which annual revenues after operations and maintenance costs exceed annual debt service (principal and interest)	This is a measurement of a project's ability to repay a loan from revenues. The higher the DSCR, the lower the risk to the lender. This ratio is used by lenders to provide a cushion between the amount of funds remaining after payment of a project's operating expenses and the annual mortgage or debt payments. Usually, lenders like to see a DSCR of over 1.40:1
Current ratio	Current assets divided by current liabilities	This ratio should be 1.0 or greater for liquidity. If it drops below 1.0, the ability to pay bills is impaired. Usually, lenders require a cushion such as 1.25:1
Debt to equity ratio	Long-term debt divided by shareholders' equity	This is a measurement of financial leverage – the use of borrowed money to enhance the return on owners' equity. High ratio may indicate high risk, low ratio may indicate low risk.
Internal rate of return (IRR)	The internal rate of return is the discount rate that will create a zero net present value	Internal rate of return indicates the business return according to alternative return that may be gained on the same investment

Year 0	Equals the year operations start	If it is now 2006 and the proposal will be built during 2007 and begin operation in 2008, then 2009 is year 1, 2008 is year 0 and 2007 is year minus 1. These terms allow us to relate construction and operations activities to each other.
Year 1	Equals one year after start of operations	
Planning costs	Planning costs represent the expenditures that must be made for a proposal to be readied to begin construction.	It is important to recognize the difference between payments to others and keeping track of the time (and its value) spent by the Champions.
Construction /pre-operations costs	Construction/pre-operations costs represent the expenditures made to actually build a project or put in place the facilities to deliver a product or service	The template will automatically and very roughly estimate something called "interest during construction" which is a real cost incurred while a project or facility is being prepared but before it produces revenues.
Grants and subsides	Grants can reduce the construction or pre-operation cost of a project or the facilities to provide goods or services. The operating grants lower the cost of the product or service being offered.	Important: If this proposal is to receive a grant or a subsidy the amounts being requested should be clearly identified and separated from those already obtained.

How? template

Milestones

To do list	To be done by (month)	Responsible person	Cost
Stage of planning milestones			
Completion of planning	**Month 0**		
All the factors that go into a plan have been identified and are understood. The conditions under which something is feasible or infeasible are clear			
Set up new enterprise	**Month 0**		
Factors regarding benefits of incorporating (rather than operating business as a sole proprietorship or partnership) and the implications that incorporating may have should be considered			
Financial structuring	**Month 0**		
Financing structure is arranged. Where will the monies come from? Where will the monies go? How will the financial structure evolve over time? The bank account should be opened			
Authorization milestones			
Closing	**Month 0**		
Financing contracts, construction contracts, land purchase or leases, approvals to build or operate or cross public lands or use natural resources, contracts to sell the output of what is being built or to provide a service in a particular region, contracts to provide fuel, equipment, transport and staff must all come together			
Construction or pre-operations milestones			
Completion of civil works	**Month 1**		
Site acquisition, procurement, civil works, installation and commissioning			
Buildings	**Month 3**		
Purchase/lease production facility. Building construction if needed, civil works, installations and commissioning			
Equipment installation	**Month 4**		
Equipment installation and acceptance testing complete			

Human resources **Month 5**

Selection of management, skilled workers and semi-skilled workers should be carried out

Opening of office/branches **Month 6**

Purchase/lease office; open branches

Operations milestones

Start-up **Month 7**

This refers to a period when the results of construction or pre-operations are ready to be tested and accepted. This can be a hand-off of responsibility from the entity building something to the entity responsible for operating it

Production setup **Month 7**

Ordering supplies and production materials should be complete

Routine maintenance **Ongoing**

Routine maintenance schedule should be complete. This includes: How will the project be operated and maintained? Will its value grow or shrink over time? After it is built, should major repairs and refittings be expected? How will routine matters be handled? What records will be maintained? How will these be shared and discussed? How will decisions be made? How often, and based on what documents?

Major maintenance **Ongoing**

Major maintenance/rehabilitation schedule plan should be complete. This includes: How will the project be operated and maintained? Will its value grow or shrink over time? After it is built, should major repairs and refittings be expected? How will non-routine matters be handled? What records will be maintained? How will these be shared and discussed? How will decisions be made? How often, and based on what documents?

Performance reporting **Ongoing**

Financial reporting schedule should be established. How often will the company report its performance. Monthly, quarterly, annually? Who will keep track of the company's finances? Who will prepare the financial statements? Who will audit the financial statements?

Exit milestones

Exit plan **Ongoing**

An exit plan should be in place. Prepare for the 4 Ds of a business exit strategy. death, disability, divorce, departure (of one of the partners)

How? template (Step 1)

Capital costs

Capital costs are planning and construction costs

Planning costs represent the expenditures that must be made for a proposal to be readied to begin construction. It is important to recognize the difference between payments to others and keeping track of the time (and its value) spent by the Champions.

An input sheet is shown below. These data will be used to come up with the initial base case.

	Planning costs			Year -2	Year -1	Year 0
P1	Obtaining all permits		–			
P2	Technical analysis		–			
P3	Negotiating and pre-paring contracts		–			
P4	Negotiating and pre-paring contracts		–			
P5	Technical analysis		–			
P6			–			
P7			–			
P8			–			
P9			–			
P10			–			
	TOTAL		–	–	–	–

All figures are in local currency

Next we examine construction/pre-operations costs.

Construction/pre-operations costs represent the expenditures made actually to build a project or put in place the facilities to deliver a product or service. This part of the template will automatically calculate rough estimates of something called "interest during construction", which is a real cost incurred while a project or facility is being prepared but before it produces revenues. If you have no interest expenses, please adjust the cell to 0%; otherwise, adjust for the appropriate interest rate.

All figures are in local currency

	Construction/pre-operations costs			**Year -2**	**Year -1**	**Year 0**	**Year 1**	**Year 2**
C1	Land acquisition							
C2	Final engineering and design							
C3	Machinery							
C4	Machinery							
C5	Machinery							
C6	Machinery							
C7	Testing							
C8	Testing							
C9	Testing							
	Subtotal		–	–	–	–	–	–
C10	Allowance for annual interest during construction =	-	–	–	–	–	–	–
	TOTAL		–	–	–	–	–	–

Now that we have the capital costs in place, let us move to the next sheet and fill in the amounts that have been received in grants and subsidies.

How? template (Step 2)

Grants and subsidies

Capital grants and operating subsidies serve two different purposes:

(1) They can reduce the construction or pre-operation cost of a project

(2) They can lower the cost of the product or service being offered

Important: If this proposal is to receive a grant or a subsidy, the amounts being requested should be clearly identified and separated from those already obtained.

As for step 1, a sample of the sheet is shown below, with data which will be used throughout the sheets

	Grants and subsidies	Year -2	Year -1	Year 0	Year 1	Year 2
1	For planning or construction/ pre-operation					
	NEW requests					
	Existing or other requested grants and subsidies					
2	For operation – NEW					
	For operation – existing or other requested					
	TOTAL	–	–	–	–	–

Now that we have the grant and subsidies in place, let us move to the next sheet and fill in the amounts that have been received or are expected under revenue.

How? template (Step 3)

Revenues

Revenues represent what customers are expected to pay for goods and services offered.
This spreadsheet usually takes a while longer to complete, but it is an important step in determining the financing needs of the project.
It is very important to take the time to itemize the assumptions regarding both the number of units which will be sold and the price per unit.
Arbitrary assumptions about price increases should be avoided. Be conservative in your estimates.

	Revenues	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**	**Year 11**	**Year 12**
	Units												
	Revenue per unit												
R1	Revenue from 1												
	Units												
	Revenue per unit												
R2	Revenue from 2												
	Units												
	Revenue per unit												
R3	Revenue from 3												
	Revenues	–	–	–	–	–	–	–	–	–	–	–	–

Now that we have calculated the revenue stream, we can move to the last segment needed for building our income statement (the operating costs).

How? template (Step 4)

Operating costs

Operating costs include the costs incurred to provide a product or service (also known as the cost of goods sold) and the costs of running the company or of managing the team and administering the proposal's implementation.

	Operating costs	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
O1	Labour										
O2	Rent										
O3	Communications										
O4	Materials										
O5											
O6											
O7											
O8											
O9	General and administrative costs										
	TOTAL	–	–	–	–	–	–	–	–	–	–

All figures are in local currency

This sheet will help us create the projected income statement and calculate the proposal's earnings before interest, taxes and depreciation (EBITDA). The next sheet will be built up using data from steps 1–4.

How? template (Step 5)

Income statements

The cells in this sheet have already been linked. All changes made in steps 1-4 will have flowed through to here.

Results	Total, all years	Year -2	Year -1	Year 0	Year 1	Year 2	Year 3	Year 4
Planning costs	–	–	–	–				
Construction/pre-operations costs	–	–	–	–				
Capital costs	–	–	–	–				
Grants and subsides								
For planning, construction or pre-operations	–			–				
For operations	–				–			
Grants and subsidies	–	–	–	–	–	–	–	–
Revenues	–				–	–	–	–
Operating costs	–				–	–	–	–
Net revenue from operations	–	–	–	–	–	–	–	–
Operating grant	–				–			
EBITDA	–	–	–	–	–	–	–	–
Simple feasibility test		–	–	–	–	–	–	–

This pre-tax rate of return is a very important guide for determining sources of funding to seek and the type of financial plan to explore.

Rough guidelines on pre-tax rates of return

- If the pre-tax rate of return is negative, revenues and grants cannot cover the capital and the operating costs of the proposal. Without additional grants or subsidy, the proposal is probably not financially viable.
- If positive, but below 5%–7%, the proposal is financially self-sustaining but may be of limited interest to the private sector. Specialized lenders-investors-donors who value development, environmental and market transformation impact may consider such a proposal.

- If positive, and over 5%–7%, the proposal's financial details (especially its tax implications, debt structure and any additional revenues) need to be developed further and different financing schemes considered; the result may or may not be of interest to the private sector. Specialized lender-investor-donors who see the blended value potential of investments are likely to be targets.
- If over 10%, the financial details need to be developed with a strong bias towards engaging private-sector investors and lenders.

How? Template (Step 6)

Financing needs

From previous steps, we know the following:

Capital costs	–
from grants	–
Balance	–
Owner's equity investment	
Balance to be raised	–
Equity from new owner–investors	
Balance to be raised from loans	–

The amount of cash you are investing, including any fees earned as part of the capital cost.

These are the funds to be raised in return for a share of ownership and profits generated by what is proposed.

This is the percentage of debt in loans needed to finance the venture in year 0. The higher this is, the more risk the lender is taking.

Debt to equity ratio. Amount of debt compared to the amount of equity in the business.

There are many different ways to calculate debt service. Three such methods are illustrated below:

1	**Interest only for a time (e.g., three years), followed by fixed payments of combined principal and interest (p+i) until the loan is repaid**
2	**Equal payments every year**
3	**Equal principal payments every year with declining interest payments**

The objective of the following exercise is to determine whether a loan makes sense and if so what type of terms that loan should have. When seeking a loan, annual debt service coverage calculations are important.

Method 1

Loan amount –

Assumed interest rate –

Number of years of loan –

It is best to use the real rate of the loan

Please fill in the blanks

– **Will apply for years 1, 2, 3**

0 **Will apply for year 4 onwards**

Year	1	2	3	4	5	6
	–	–	–			
				–	–	–
Debt service	–	–	–	–	–	–
Loan Balance	–	–	–	–	–	–
i	–	–	–	–	–	–

Method 2

– **Will apply as a constant debt service for all years**

Year	1	2	3	4	5	6
Debt service	–	–	–	–	–	–
i	–	–	–	–	–	–
Loan balance	–	–	–	–	–	–

Method 3

– **Will apply as a constant debt service for all years**

Year	1	2	3	4	5	6
p	–	–	–	–	–	–
i	–	–	–	–	–	–
Debt service	–	–	–	–	–	–
Loan balance	–	–	–	–	–	–

Year	1	2	3	4	5	6
EBITDA	–	–	–	–	–	–
Method 1	–	–	–	–	–	–
Method 2	–	–	–	–	–	–
Method 3	–	–	–	–	–	–

In order to make a determination, we need to calculate the Debt Service Coverage Ratio (DSCR) as follows:

The table is set up to do it automatically for you. The higher the ratio the better, but not too high!

Year	1	2	3	4	5	6
Method 1	–	–	–	–	–	–
Method 2	–	–	–	–	–	–
Method 3	–	–	–	–	–	–

Things to keep in mind:

- **Lenders tend to worry about DSCRs that are 1.4 or less.**
- **Lenders may restrict the amount of cash that can be distributed to investors/owners. They can insist that certain debt service coverage tests be met.**
- **Lenders can insist on reserves being set aside for future debt service coverage before payments to investors/owners (dividends) can be made.**

Year	1	2	3	4	5	6
Debt Service	–	–	–	–	–	–
i	–	–	–	–	–	–
p	–	–	–	–	–	–

After determining the best debt service coverage method for the venture we can focus on the last piece of the financial puzzle.

How? template (Step 7)

Financing needs 2

Depreciation/amortization is a charge against earnings to write off the cost of an asset over its estimated useful life. It reduces taxable income but does not reduce cash.

Capital equipment degrades at different rates. Such rates are available from your local tax authority.

Sample

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Class 1: Describe asset											
Number of years											
Amount											
Class 2: Describe asset											
Number of years											
Amount											
Class 3: Describe asset											
Number of years											
Amount											
Depreciation allowance											

We can now work out the corresponding income taxes and residuals.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net income	–	–	–	–	–	–	–	–	–	–
Minus interest expense	–	–	–	–	–	–	–	–	–	–
Minus depreciation	–	–	–	–	–	–	–	–	–	–
Taxable income	–	–	–	–	–	–	–	–	–	–
Rate: Use the appropriate rate	25%									
Allowance for income taxes	–	–	–	–	–	–	–	–	–	–

Apply the income tax rate only if taxable income is greater than zero

How? template (base case results)

The following table represents the venture in operation. It brings forward data from How? templates steps 1–7.

Spread out over two years

				Year -2	Year -1	Year 0	Year 1	Year 2	Year 3
Capital cost									
from donors	Capital grants								
from owner-investors	Equity investment			–	–	–	–%	of total value	
from lenders	Loans			–	–	–	–%	of total value	
	Capital cost		–	–	–				
Operations				Year -2	Year -1	Year 0	Year 1	Year 2	Year 3
Revenues	–						–	–	–
Operating grants or subsidies	–						–	–	–
Operating costs	–						–	–	–
Net revenues from operations (EBITDA)	–	For length of loan only					–	–	–
Interest	–						–	–	–
Taxes							–	–	–
Depreciation							–	–	–
Net income							–	–	–
Add back: Depreciation							–	–	–
Less: Amortization/ principal payments	–						–	–	–
–	–		IRR	–	–	–	–		
DSCR	–						–	–	–
	Average						By year		

Actual debt service coverage ratio for the venture

Actual returns for investors, which differs from the pre-tax IRR used for the simple feasibility test because it takes taxes and loans into account.

Why? template

Financial returns

Why will the proposal be profitable?

☐ Strong demand ☐ Urgent need ☐ Lack of alternatives

☐ Government incentives ☐ Other

If "Other" was chosen above, please expand

_____

_____

Have other projects/enterprises tried to be profitable in serving this market?

☐ Yes ☐ No ☐ Unknown

If yes, have these failed? Why?

_____

_____

Why is your proposal different?

_____

_____

Why do you expect to succeed?

_____

_____

What resources – services and funding – do you think are essential to your success?

_____

_____

What amount of equity do you have or project to have in your enterprise?

_____

What amount of third-party equity from partners/associates do you have or project to have?

_____

What amount of third-party leverage do you need from a financial institution?

_____

What kind of funding do you need?

☐ Loan ☐ Investment

From what kind of institution?

☐ Commercial bank ☐ Government-sponsored development institutions and banks

☐ Charitable foundations ☐ Socially responsible investment fund ☐ Venture capital

What is the projected interest rate range that can be paid to a lender?

☐ 0%–3% ☐ 4%–8% ☐ 8%–12% ☐ Over 12%

What are the projected investment terms (i.e., length of time for loan or investment)?

☐ Under 1 year ☐ 1–2.99 years ☐ 3–5.99 years ☐ Over 6 years

What is the projected internal rate of return?

☐ Under 5% ☐ 5%–9.99% ☐ 10%–14.99% ☐ Over 15%

What is the projected growth in net assets over the investment term?

☐ Under 5% ☐ 5%–9.99% ☐ 10%–14.99% ☐ Over 15%

Has this proposal received any grants/subsidies?

☐ Yes ☐ No ☐ If yes, how much? _____

Is this proposal expected to receive any grants/subsidies?

☐ Yes ☐ No ☐ If yes, how much? _____

If yes, who provided (or is expected to provide) the grants and/or subsidies?

Will audited financial statements be available for review on an annual basis?

☐ Yes ☐ No

If no, why not?

If no, what kind of financial statements will be available for annual review?

☐ Internal statements ☐ Notice-to-reader ☐ Review engagement ☐ Not available

Indicate the size of the group who will reap financial benefits from this proposal

☐ Individual ☐ Small group ☐ Community/region ☐ Country

Provide an indication as to the length of time anticipated before profits are realized

☐ Immediately ☐ 1–3 years ☐ 4–6 years ☐ 6+ years

Why would customers choose the product and/or service over those currently available?

☐ New ☐ Improvement ☐ Lower cost ☐ Better quality

Discuss potential negative financial impacts from your proposal that could offset some of the benefits discussed above

---

Social and development impacts

With respect to your proposal, check all of the following social/development impacts that are applicable for your country/region

☐ Better health	☐ Quality of life	☐ Education	☐ Job creation
☐ Jobs for women	☐ Eliminate child labour	☐ Income generation	☐ Water quality/ access
☐ Saves time	☐ Better food production	☐ Energy efficiency	☐ Other

Definitions:

Better health	Less smoke, more light; better ventilation, sanitation and waste disposal
Quality of life	Level of well-being, i.e., access to electricity for home/shop/community centre
Education	Increased income to finance formal education or electricity for school
Job creation	Creation of more or better gainful employment opportunities
Jobs for women	Creation of gainful employment opportunities specifically for women
Eliminate child labour	Improvement in productivity that ensures child labour not needed; time for education
Income generation	Stimulation of economic development in the region through energy services
Water quality/access	Better access to water; higher quality of water
Saves time	Higher productivity through energy services; more free time available
Better food production	Improved food production through safe food storage, lighting, etc.
Energy efficiency	Same level of end-use services (e.g., lighting, heating) with less electricity or reduced economic costs and environmental impacts

If 'Other' was chosen above, please expand

_____

_____

Explain which three of the above answers will have the highest positive impact

(1) _____

(2) _____

(3) _____

Projected amount of clean energy generated from this proposal (MWh) per year

☐ Under 1,000 ☐ 1,000–9,999 ☐ 10,000–50,000 ☐ Over 50,000

Projected number of households served through this proposal per year

☐ Under 100 ☐ 100–999 ☐ 1,000–10,000 ☐ Over 10,000

Projected number of people provided with access to modern energy services through this proposal

☐ Under 100 ☐ 100–999 ☐ 1,000–25,000 ☐ Over 25,000

In the direct new jobs created by your enterprise, how much will each employee earn per year?

☐ Under $250 ☐ $250–$499 ☐ $500–$1,000 ☐ Over $1,000

Projected number of jobs created or sustained through this proposal

☐ Under 5 ☐ 5–10 ☐ 11–20 ☐ Over 50

Provide an indication as to the timeline of the social/development impact of your proposal

☐ Initial impact only ☐ 1–3 year impact ☐ 4–6 year impact ☐ >6 year impact

Why is this proposal important for your country/region?

_____

_____

Discuss potential negative social/development impacts from your proposal that could offset some of the benefits discussed above

_____

_____

Why should your proposal be supported over other proposals?

_____

_____

Environmental benefits

Identify the positive environmental impacts which your proposal will offer

☐ Water quality/access	☐ Reforestation	☐ Decreased reliance on fossil fuels
☐ Improved soil quality	☐ Reduced emissions	☐ Decreased waste
☐ Less landfill material	☐ Greater biodiversity	☐ Decreased reliance on basic fuels
☐ Improved air quality	☐ Energy efficiency	☐ Other

Definitions:

Water quality/access	Better access to cleaner water
Reforestation	Planting or seeding an area where forest cover has been removed.
Fossil fuels	Decreased usage of carbon-based energy sources: coal, oil, natural gas
Improved soil quality	Measures related to both productivity of crops and environmental factors
Reduced emissions	Reduced releases of greenhouse gases into the atmosphere
Decreased waste	Eliminates sawdust/biomass waste
Less landfill material	Using landfill gas as an alternative to conventional fuels
Greater biodiversity	Lower environmental impacts to allow for greater number/variety of organisms
Basic fuels	Decreased usage of fuelwood, kerosene and charcoal
Improved air quality	Air status in terms of pollutants a by-products of energy production
Energy efficiency	Same level of end-use services (e.g., lighting, heating) with less electricity or reduced economic costs and environmental impacts

If 'Other' was chosen above, please expand

_____

_____

Explain which three of the above answers will have the highest positive impact

(1) _____

_____

(2) _____

_____

(3) _____

_____

Provide an indication as to the timeline of the environmental impact of your proposal

☐ Initial impact only ☐ 1–3 year impact ☐ 4–6 year impact ☐ >6 year impact

Do you think your proposal will qualify for carbon credits?

☐ Yes ☐ No ☐ Unknown

If yes, please explain why and when you think your proposal will qualify for carbon credits

_____

_____

Projected amount of CO_2 offset per year (in tonnes)

☐ Under 10 ☐ 10–25 ☐ 26–50 ☐ Over 50

If no or unknown, please explain why not

_____

_____

Projected number of trees planted

☐ Under 10 ☐ 10–50 ☐ 51–100 ☐ Over 100

Projected number of litres of clean water generated (thousands)

☐ Under 2,500 ☐ 2,500–4,999 ☐ 5,000–7,500 ☐ Over 7,500

Projected number of additional households with access to clean water

☐ Under 100 ☐ 100–999 ☐ 1,000–10,000 ☐ Over 10,000

Projected number of barrels of oil displaced

☐ Under 2,500 ☐ 2,500–4,999 ☐ 5,000–7,500 ☐ Over 7,500

Projected number of litres of kerosene displaced (thousands)

☐ Under 500 ☐ 500–999 ☐ 1,000–1,500 ☐ Over 1,500

Projected amount of fuelwood displaced (kg) (000's)

☐ Under 5,000 ☐ 5,000–7,499 ☐ 7,500–10,000 ☐ Over 10,000

Projected amount of charcoal displaced (kg) (thousands)

☐ Under 5,000 ☐ 5,000–7,499 ☐ 7,500–10,000 ☐ Over 10,000

Why do you feel your proposal will result in greater environmental benefits than those achieved from currently available products/services?

_____

_____

Discuss potential negative environmental impacts of your proposal that could offset some of the benefits discussed above

_____

_____

What If? template

Contingency planning

What If things do not go as planned? Professionals know that very few things roll out exactly as planned. A proposal needs to show a mastery of the key events that can alter cost, timing, service delivery and outcome. The Champion can demonstrate how he or she will deal with these contingencies.

Variable	What If	IRR	Average DSCR	Social impact	Environmental impact
Capital cost	5% higher, all equity				
	10% higher, all equity				
Operating costs year 1	15% higher				
	20% higher				
Operating costs year 2	20% higher				
	25% higher				
Revenue year 1	20% lower				
	25% lower				
Revenue year 2	10% lower				
	15% lower				
Transportation costs	10% higher				
	15% higher				
Raw materials costs	10% higher				
	15% higher				
Construction costs	15% higher				
	25% higher				
Exchange rate	goes 5% against you				
	goes 7% against you				
Taxes	Increase by 5%				
	Increase by 7%				
Regulation	Unfavourable changes				

Primary source of raw materials	Dries up				
	Alternative 20% more costly				
Construction schedule	Delayed by three months				
	Delayed by six months				
	Delayed by nine months				
Key personnel	Leave the job				
Flooding	Hits the area				
Rainfall	Decreases sharply				
Customer response	Does not improve in three months				
	Does not improve in six months				
Competition	Resorts to price wars				

To Whom? template

Directing your proposal to the appropriate audience

Estimated pre-tax rate of return

See funding matrix

Estimated rate of return	Type of funding
Negative or zero	Grants and subsidies
Zero to between 5 and 7 per cent	Donors and investors who consider social and environmental returns as well as financial ones
Over 5–7 per cent	Specialized lender-investor-donors who see the blended value potential of investments are likely targets
Over 10 per cent	Private-sector investors and lenders

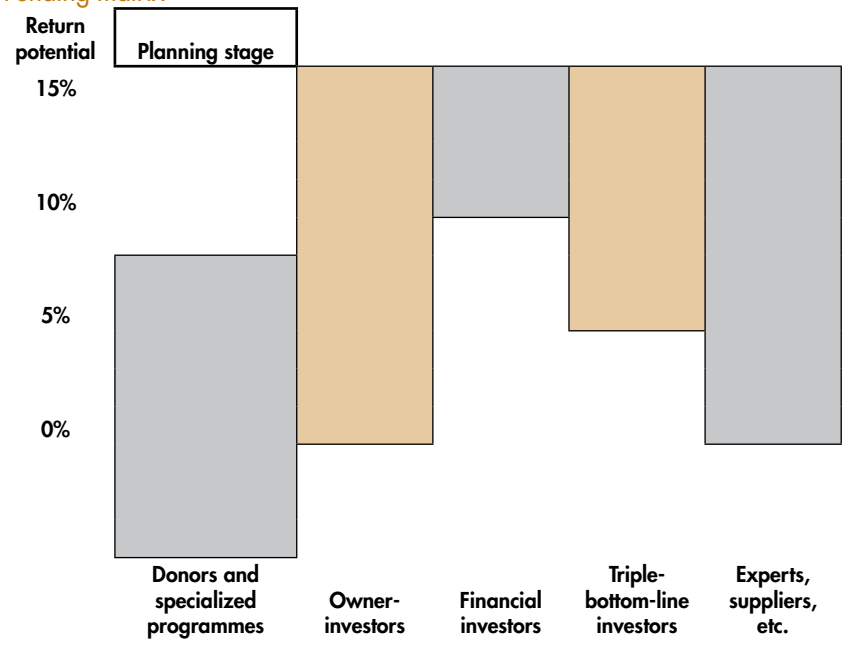
Types of donors (D), lenders (L) and investors (I)			
Type of Enabler		**Type of money provided**	**Expectations/needs**
D	Donors and specialized programmes	Grants	The donor will expect that the grant will be used either as an addition to revenue to run the business (operating grant) or to reduce the cost of the proposal so that loans and equity will cover the balance (capital grant). Donors need to understand why the plan is an efficient use of scarce resources, where the plan fits in with other programmes and priorities, how the proposal meets the donor's stated core objectives and, very importantly, what will happen when the donor funding is used up.
D	Government-sponsored programmes	Grants	
D	Charitable organizations	Grants	
D	Multilateral development organizations	Grants	
L	Government-sponsored subsidy programme	Revenue	The providers expect that revenues will cover the cost of the product or services and contribute to the operation of the business (including repayment of loans). The expectation is that left-over revenues are first applied to the providers of equity; then to other operating expenses (these would include taxes, for example, and any interest on loans); and, finally, to loan payments (such payments are called principal or amortization, while the combination of principal and interest on loans is called debt service).

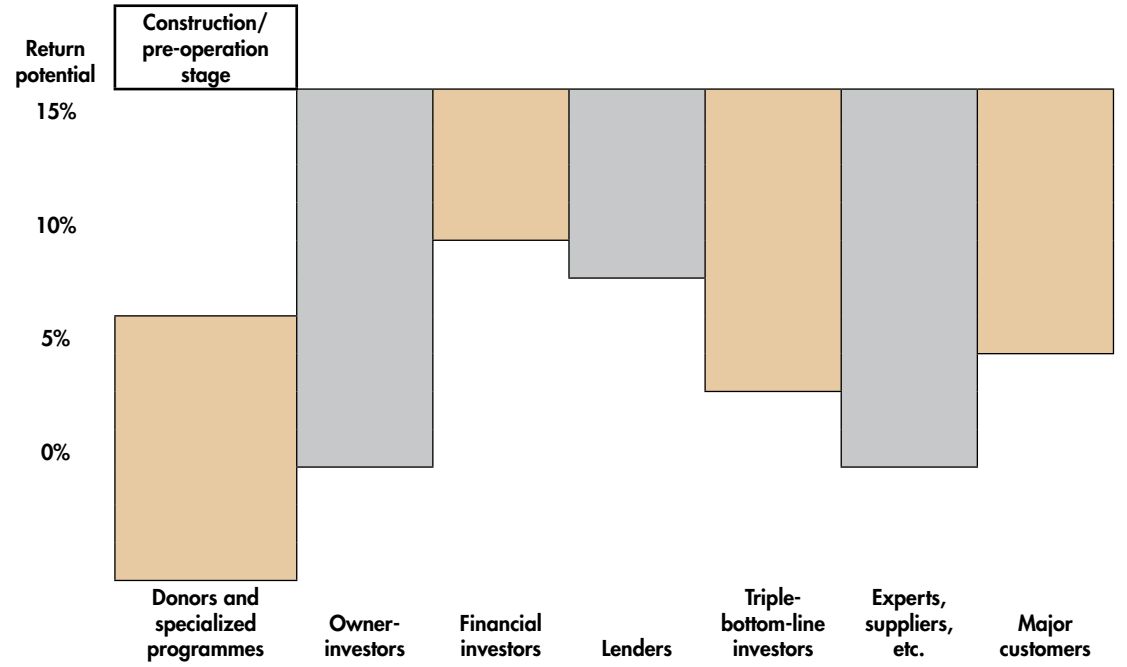
L	Government-sponsored development institution	Loans	Lenders expect a very specific set of payments over time. Requirements are usually well defined in terms of conditions that must be met in advance and over the course of the loan. Lenders do not want to take risks. Lenders want to be repaid and, if the business cannot make that repayment, they want to know that others will make the payment or that assets of equivalent value are available to reimburse them. Loans are made to fund the construction of a project or the purchase of goods or the provision of services where the revenues from the goods or services are expected to be more than sufficient to repay the loans as and when promised. Some lenders are flexible in their loans for a variety of reasons. Others are absolutely not. The project needs to demonstrate that a very conservative estimate of revenue can more than repay the loan. Lenders need clear procedures in place in case of loan default, termination or repossession.
L	Commercial banks	Loans	
L, I	Socially responsible and specialized investment funds	Loans, equity	
I	Development investors	Equity	Investors expect a higher return than lenders and are willing to take more risk, but this should not be confused with being risk-takers. They are equally clear about what they are willing to do or not do. Their interests are in seeing a business succeed and in earning a return on their investment. If they become significant participants in a business, they tend to establish very specific (and stringent) targets to make sure that things are going well. When things are not going well, investors often have the ability to make significant changes in a business, including replacement of the management team. Investors get repaid only if a proposal is successful and profitable. Positive rates of return, market potential and a competent management team must be shown. They are also interested in market size, the reasonableness of the base case, potential upsides and downsides and exit strategies.
I	Strategic investors	Equity	
I	Triple-bottom-line investors	Equity	
I	Venture capitalists	Equity	
I	Owners of businesses	Equity	
I	Sponsors of social programmes	Equity	
I	Financial investors	Equity	

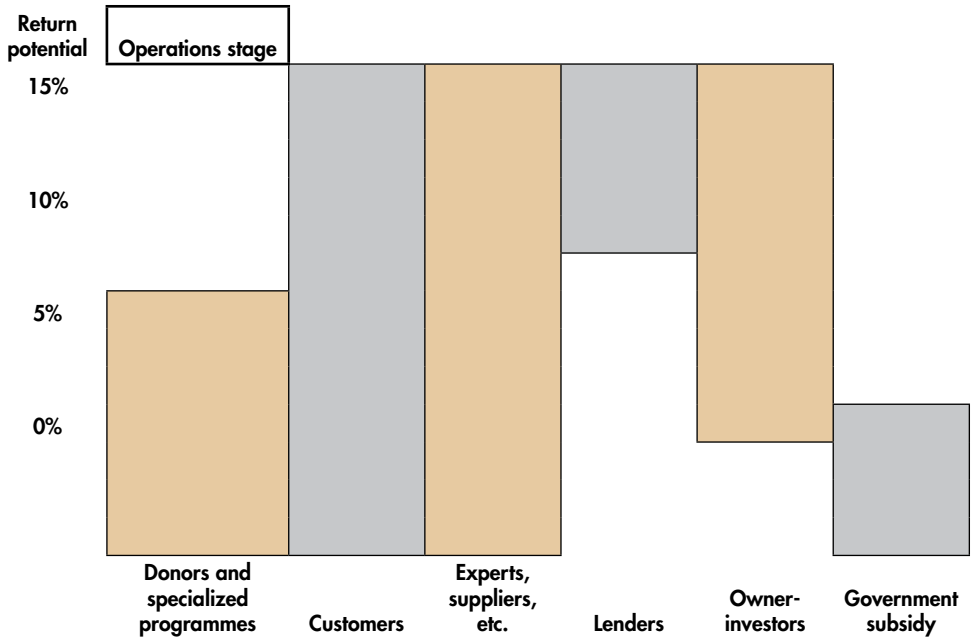
Type of funding	**Definition**	**Other funding models that fall under this type**
Grants	Grants do not need to be repaid	Capital and operating grants
Revenue	Revenue for products and services, including operating subsidies	Sale of carbon credits or pollution benefits
Loans	Loans are made based on the ability of the proposal to repay what is borrowed under clearly defined terms	Leasing, build, operate and transfer (BOT) contracts, instalment sales or purchases (hire purchase), financing or credit terms from a supplier
Equity	Equity investments are made in return for a share of the profits upon the success of what is proposed	Mezzanine debt, preferred shares, quasi-debt and quasi-equity*
* Combinations of loans and equity.		

To Whom? template

Funding matrix






Return potential
Operations stage
15%
10%
5%
0%
Donors and specialized programmes
Customers
Experts, suppliers, etc.
Lenders
Owner-investors
Government subsidy

To Whom? template

Logical framework

Description	Indicators	Means of verification	Assumptions
Goal			
Purpose			
Objectives			
Outputs			
Activities			

Logical framework

Important for charitable and social change organizations

Goal

The broad (global, national or sector) benefit being pursued (e.g., to promote sustainable development).

_____

_____

_____

Logical framework

Purpose	Objectives	Outputs	Activities	Inputs
The development outcomes being pursued (e.g., reducing non-sustainable fuelwood consumption and reducing fossil fuel consumption).	Each of the purposes needs to be quantified (e.g., a 60% reduction in fuelwood consumption and a 90% reduction in kerosene use).	The specific results and tangible products which the project will produce through a series of tasks and activities (e.g., installations).	The specific tasks which the project will need to undertake to achieve the required outputs.	The resources available to perform and enable the activities (i.e., human resources, equipment, capital).

How will the outputs and purpose be measured?

Indicators	**Means of verification**	**Assumptions**
How will you know that you have achieved your purpose? Indicators quantify the outputs, purpose and objectives (e.g., reduced fuelwood consumption, number of installations).	*The information source or process that will enable you to prove that you have achieved the results.*	*Conditions which could affect progress but over which managers have little control.*

Proposal formats

Product-oriented proposal outline

1. Executive summary
    a. Organization (Who)
    b. Product and market (What)
    c. Competitive advantages (Why)
    d. What is being sought (Request)
2. Market (Where)
    a. Size and segments, immediate and over time
    b. Trends
    c. Competition
    d. Opportunity
3. Product (What)
4. Team (Who)
5. Implementation plans (How)
    a. Construction or set-up plans
    b. Marketing plans
    c. Operating plans
    6. Financial information (base case)
    a. Income and expense projections
    b. Balance-sheet projections
    c. Cash-flow projections
7. Sensitivity analysis, risks and risk management issues (What If)
8. Annexes [a]

Reference: See also proposal outline in chapter 1, sample proposals in chapter 3, and annex II.

Service-oriented proposal outline

1. Executive summary
    a. Organization (Who)
    b. Service (What)
    c. Demand for service and ability to pay (Where)
    d. Advantages of organization and service (Why)
    e. Needs (Request)
2. Market (Where)
    a. Size
    b. Customer segments and affordability
3. Marketing plan to reach customers (How)
4. Competition (Where)

5. Team (Who)
6. Competitive advantages (Why)
7. Implementation plans (How)
    a. Marketing and sales
    b. Operations and quality control
    c. Growth
8. Financial projections (base case)
9. Sensitivity analysis (What If)
10. Annexes [a]

Technology-oriented proposal outline

1. Executive summary
    a. Organization and team
    b. Product and technology
    c. Growth potential
    d. What is needed and what is being sought
2. Market and growth potential of product and technology
3. Team
4. Product features, benefits and competitive advantages
5. Competition
6. Implementation plans
    a. Research and development
    b. Sales and marketing
    c. Operations
7. Financial projections: slow-, medium- and high-growth scenarios
8. Sensitivity analyses
9. Risks and risk management
10. Annexes [a]

Annexes [a]

Resumés and curricula vitae of key team
Organization chart
Detailed financial projections
Technology, product or service descriptions
Logical Framework
Generic organization materials [b]

Generic outline for presenting an organization [b, c]

1. Mission statement
2. Strategy
3. Goals and objectives
4. Products and services
5. Markets and competition
6. Sources and uses of funds
7. Target markets and marketing plans
8. Team and organization
9. Financial projections
10. Sensitivity and risk analysis

[c] Items 6–10 may or may not be duplicative of any proposal to which they are attached. If duplicative, the information is unnecessary; if different, the differences need to be explained (different time period, broader scope or product offering, and so on).

Annex II: Sample Proposal

- **Date**: November 2005
- **Name of project or enterprise**: KOALA GAS Distribution Company Ltd.
- **Location**: Koala Gas is a new LPG business in N, a peri-urban community in the north-western region of country G.
- **Champion's contact information**: Mr. Harish Campos, Director

  Koala Gas Distribution Company Limited; 160 Avery Road, North-western Region, G, Tel: xxx; Fax: xxx; E-mail: xxx
- **Product or service**: LPG cylinder refilling services
- **Technology**: Liquefied Petroleum Gas (LPG) filling plant and filling station
- **Customers/clients**: Koala Gas will deliver LPG to 12,069 rural and peri-urban households over the next five years and will also serve institutional and commercial customers in the surrounding area. The target market consists of rural and peri-urban customers (75 per cent of total sales), and commercial and industrial customers (25 per cent of total sales).
- **Current status**: The site has been identified, purchased and prepared for construction, the company has been formed and registered as a limited liability company, management systems and business plan have been completed, physical and market planning have been completed, and EIA has been undertaken. Engineering plans are currently being finalized for the site drainage system, the construction firm and needed permits have been identified and obtained. Construction: currently in search of needed financing to commence work.
- **Project size, expected schedule and cost**: The start-up company will operate a 30-tonne LPG stationary filling plant for refilling cylinders ranging between 6 kg and 30 kg in size.

Activity	Schedule	Planning	Construction	Pre-operation
Start-up costs	Year -1	3,650		
Capital infrastructure	Years -1 and 0		109,300	4,000
Initial LPG inventory	Year 0			18,390
Working capital	Year 0			11,300
Totals		**3,650**	**109,300**	**33,690**

- **Current needs and request**: A total investment of 146,640 is needed. The sponsor is prepared to contribute 29.8 per cent (43,650) from his own resources and is requesting a loan in the amount of 102,990 with a term of no less than five years. Cash-flow projections estimate that the project can pay an interest rate of up to 7 per cent on an annual basis.
- **Market conditions:** The north-western region is the largest consumer of charcoal and firewood in G. Of a household population of 722,590 in the north-western region, only 38,918[16] (5.3 per cent) of households presently use LPG. There is full national support for the promotion of LPG in rural communities in G. The Government has identified LPG as its solution to deforestation, which is rampant around rural communities. In 2004, the region accounted for only 6.4 per cent of the total LPG supplied nationally. Unreliable supplies have been a key contributor to the present low level of demand for LPG in the region. Koala Gas will serve as a

16 2000 population census.

link between the LPG refinery and end users, improving the reliability of fuel delivery. A reliable supply is expected to encourage prospective consumers to invest in accessories and switch to LPG.

- **Operating conditions:** By legislation, retailers such as Koala Gas cannot purchase LPG directly from the refinery. They must do so through oil marketing companies (OMCs) such as S. Unfortunately, not all OMCs have the infrastructure and systems to ensure consistent supplies. Therefore, Koala Gas has selected three reliable OMCs based on recommendations from existing LPG entrepreneurs in G.
- **Regulatory conditions (including all required approvals):** Koala Gas needs to obtain loan approval, a permit from the environmental protection authority, a licence from the energy commission and a building permit before it can begin construction. It is estimated that construction of the facility will be completed over a four-month period. Koala Gas will than need to pass a fire service inspection, obtain insurance coverage and an approval note from the Country Planning Department to begin operations.
- **Owners and sponsors**: Mr. Harish Campos (45) is the sole owner and Managing Director of Koala Gas. Mr. Campos is an experienced engineer and manager. He holds a Bachelor's degree in mechanical engineering, a Master's of Business Administration in corporate finance and a Master's degree in telecommunications management obtained from the Lafayette College and the University of Dallas in the United States of America.
- **Team:** The company will employ other key personnel such as a plant supervisor, a cashier, four filling attendants/loading boys and a security man.
- **Governance and management structure (decision-making, authority and responsibility)**: Mr. Campos will oversee the operations of the business.
- **Implementation steps and plan**: The following is a tentative project implementation schedule.

Project milestone	Task	Weeks															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Excavation	Coordination																
	Trenching																
	Tank burial																
	Backfilling																
	Closeout report																
Drainage	Coordination																
	Piping																
	Manholes																
	Oil-water separators																
	Site drainage																
	Closeout report																
Structural	Coordination																
	Columns																
	Walls/roofing																

	Forecourt																
	Steel structure																
	Punch list																
	Closeout report																
Mechanical	Coordination																
	Piping																
	Plumbing																
	Fire prevention																
	Air conditioning																
	Fuel handling																
	Commissioning																
	Closeout report																
Electrical	Service																
	Wiring																
	Stand-by power																
	Equipment																
	Lighting																
	Commissioning																
	Closeout report																
Control systems	Coordination																
	Wiring																
	Equipment																
	Security system																
	Commissioning																
	Closeout report																

- **Cash flow and schedule details**: The selected base case shows that the project will generate enough cash to sustain its operations. The cash flow and the balance sheet represent a financially sound company, which should position it to secure finance from local sources for expansion.
- **Impacts and returns**: This enterprise falls within the LPG distribution chain in G. Financial support for this business is critical to extending LPG access to rural and underserved communities in the northern regions of G. By doing so, Koala Gas will help displace the use of charcoal and kerosene thereby reducing indoor air pollution and contributing to the better health of women and children in the north-western region. It will also create seven new jobs and several microenterprises that utilize LPG as their main source of fuel.
- **Risks and measures to handle them**: The largest risk to this investment is unmet sales targets. This could result in an inability to sustain operations and repay the loan. This risk is assumed to be mitigated because the filling plant will be located in a rural area of an underserved market in a country with 13 per cent annual growth in LPG use. Other risks include fluctuation in foreign currency rates; competition; reliability of LPG supply; deregulation policy; and price increases. A mitigation strategy for all these known risks has been explored and developed in the business plan.

Task 1: Describing WHAT is being proposed, keeping the technology, service, product and client description, factual and clear.

1.1 Product or service

The business aims to improve accessibility and availability of LPG to rural and peri-urban communities in the region. The main services offered at the location will be sales of fuel, lubricants and LPG sales and delivery. The station will start operating 16 hours daily until other services are fully integrated into site operation. It is our aim to maintain a 24-hour operation as the surrounding area develops.

Country G has a universal price for LPG regardless of where the product is sold. The price of LPG in G is determined by the National Petroleum Tender Board. The international price of crude oil influences the price of the product on the local market. The current price structure of LPG is summarized below.

LPG price breakdown[3]

	Cost/price breakdown (local currency)	Cost/price breakdown (foreign exchange)	Gross profit %
Ex-refinery price	4,235.11	0.455	
Excise duty @ 15%	635.27	0.068	
Excise duty specific	100.00	0.011	
Debt recovery fund levy	640.00	0.069	
Deregulation mitigation levy		0.000	
Cross-subsidy levy	(1,840.42)	-0.198	
Ex-depot price	**3,769.96**	**0.405**	
Unified Petroleum Price Fund (UPPF) margin	429.23	0.046	
Dealer's margin	314.55	0.034	0.034
Marketer's margin	251.47	0.027	
Filling plant costs (margin)	377.21	0.041	0.041
Distribution compensation margin	30.00	0.003	
Ex-pump price	**5,172.42**	**0.556174**	
Gross profit percentage			13.5

Koala Gas will earn a gross profit of 13.5 per cent on every kilogram of LPG sold.

Guide to price breakdown

Filling plant margin:	Owner of filling plant
Dealer's margin:	Owner of land
Marketer's margin:	Oil marketing company
UPPF margin:	Transport
Distribution compensation margin:	Door-to-door retailers

1.2 Technology

The Koala Gas LPG plant consists of a 30-tonne stand-alone bulk storage tank mounted on a reinforced concrete platform above ground level. The storage tank will be fitted with various measuring gauges.

3 This table shows the LPG price structure in the country together with the gross profit margin Koala Gas will earn on each kilogram of LPG sold ([dealer's margin + filling plant margin]/ex-pump price + foreign exchange margin = 13.5%).

The plant will operate within a work pressure of 18.6 and 26 bar and the ambient temperature of the storage tank will be about 50° Celsius. A sprinkler system with water intake from an overhead water tank will be installed above the storage tank to control the ambient temperature of the tank.

A pressure pump which pumps 14.5kg of LPG per minute will be connected to the storage tank. During the filling process, LPG is pumped to the dispensing unit when the pump is activated. The inlet and outlet passages of the storage tank facilitate the intake of LPG from delivery lorries and the release of gas through the pipes to the dispensing unit. The plant will have two filling heads, allowing two cylinders to be filled simultaneously.

The company's refilling plant will be automated to the extent possible to reduce potential human errors and maximize efficiency. The plant will have an integrated equipment system to provide safety measures and also a measure of the level of LPG in the storage tank(s) at any given time for effective stock management and cash control. A stand-by electric generator will switch on automatically upon power failure.

1.3 Customers

Potential clients of Koala Gas can be classified into three main categories:

Households: This market consists of individuals who use LPG mainly for domestic cooking purposes. Clients for this market can be found in the rural, peri-urban and urban areas. Cylinders used by domestic customers range from 5 kg to 14.5kg.

An average family of five people using charcoal spends about $12.90 per month on fuel. If the same family uses LPG, it will spend $8.10. The table below shows the potential savings for such a family from switching to LPG.

Description	Monthly use	Price per kg	Monthly cost ($)
Charcoal	2 bags	6.450	12.9
LPG	14.5 kg	0.556	8.1*
Monthly saving			4.8

* Assumes 25 per cent subsidy on LPG cost

The monthly saving from switching to LPG is estimated to be about $4.80. This can be used to pay for the cost of a 14.5 kg cylinder and a two-burner stove, which costs approximately $66.00. Several rural banks offer 6–12 month finance for LPG equipment and the savings achieved by switching to LPG can be used to cover the payments. Through this facility, customers are able to afford the equipment more easily than having to pay cash up front.

Institutional: Potential customers include hotels, restaurants, hospitals, boarding schools and canteens. These institutions use LPG for large-scale cooking and usually have small and medium-sized storage tanks installed at their premises. Koala Gas will subcontract delivery trucks to service these clients.

Industrial: The potential industrial customers for the company include mines and large foundries that use LPG to fire their furnaces. Most of these industries already have medium-sized storage tanks on site and are supplied with their LPG requirements directly from haulage lorries.

Task 2: WHERE? Research and describe the setting in a balanced and transparent way to show that the local setting is understood.

2.1 Setting

Koala Gas Ltd is a newly created private petroleum and gas distribution company registered as a limited liability entity in N, a peri-urban community on the main road in the north-western region of G. The company's rural location and proximity to the regional capital provides it with a prime physical location to introduce LPG gradually to the rural market while sustaining itself with sales to businesses and domestic customers in the urban areas.

2.2 Country conditions:

The four major occupations nationally are agriculture and related work (49.2 per cent), production and transport equipment (15.6 per cent), sales (14.2 per cent) and professional and technical (8.9 per cent).[17] The domestic economy continues to revolve around subsistence agriculture, which accounts for 46.7 per cent[18] of GDP and employs 60 per cent of the work force, consisting mainly of small landholders. Presented below are some selected financial and economic indicators for G.

	November 2004	December 2004	January 2005	February 2005	March 2005	April 2005	May 2005	June 2005
Inflation (year-on-year, %, end period)	12.3%	11.8%	11.6%	14.0%	16.7%	16.6%	-	-
Local/forex	9,049.36	9,054.73	9,051.26	-	-	-	-	9,054.15
Prime/base rate	Not available	Not available	Not available	18.5%	18.5%	18.5%	16.5%	16.5%
Bank lending rate (base rate): 23–26%								

Source: Central Bank website.

2.3 Pricing

Under the Exchange Control Act of 1961, banks operating in country G are allowed to make only local-currency transactions. All loan transactions are therefore conducted in local currency and converted into the appropriate foreign currency at the prevailing exchange rate if required. For loans sourced externally, however, the Bank of G uses the London inter-bank offer rates (LIBOR) as a benchmark and currently permits a margin of 3 per cent to 4 per cent. Under the Exchange Control Act of 1961, local banks operating in G are not permitted to offer loans denominated in foreign currencies to customers. The prime/base rate announced by the Monetary Policy Committee in May 2005 was 16.5 per cent.

The annualized rate of inflation given by the national consumer price index increased from 11.8 per cent in December 2004 to 16.7 per cent in March 2005. On the foreign exchange market, the local currency continues to be relatively stable and traded within a narrow range against foreign exchange over the last first four months of 2005. The exchange rate currently fluctuates between 9,000 and 9,300 local currency to the dollar.

17 Source: Living Standards Survey (2002).
18 2005 budget statement.

2.4 Market conditions

Only 5.3 per cent of households in the region use LPG as their primary fuel for cooking. Since 1999, the consumption of LPG has grown steadily at an average of 13 per cent per year at the national level. The north-western region has the highest population density in G. According to the 2000 census, the region has a population of 3,612,950. Of this population, 51.3 per cent live in urban areas and the remaining 48.7 per cent in rural areas. This region of G is one of the most richly endowed in terms of mineral resources and agriculture. As shown by the census statistics, most of the communities in the region are fairly big with brisk economic activities. The strategic site of the business provides it with an opportunity to reach out to the large LPG market in B, O, D, F and K, the regional capital and the country's second-largest city.

Traffic volume has increased dramatically since the construction of the main road to the regional capital. This is especially true of commercial vehicles. The five-mile-square area surrounding the location is in a rapid development mode. It is estimated that over the next 10 years the presence of construction lorries and through traffic to the country's capital and main port will continue to grow.

2.5 Marketing plan

Campaign	Objectives	Activity	Output
Rural sales and marketing	1. Identify, make arrangements with and supply LPG to professional groups, associations, and cooperatives in rural areas 2. Discuss and identify means to supply LPG to these entities 3. Implement a selective cylinder-financing scheme with initial deposit from participants	1. Install cylinder cages at secured locations 2. Print leaflets to educate potential customers 3. Use public address system to spread service information in rural areas	1. Secure supply contract with rural entities such as teacher associations, farmers' groups, traders, etc. 2. Work with cylinder suppliers and rural banks to improve supply of 6 kg cylinders to rural communities
Site sales and services (cylinder refilling at site)	Adopt good customer service practices such as maintaining honest weights to retain and increase number of customers	1. Print leaflets to educate potential customers 2. Use public address system to spread services information in catchment areas 3. Call-in services 4. Cylinder checks and valve sales	Consistent increase in patronage at the refilling plant
Commercial and industrial sales	1. Identify and approach potential customers with proposals to adopt/supply LPG 2. Secure signed memorandum of understanding from customers and sign supply contract with customers	Perform energy source audit; deliver efficient energy usage proposal to industrial and commercial clients to switch to LPG. Information to be provided includes economic/ environmental analysis for using LPG	Secure LP GAS supply contract with industrial clients

There are currently eight LPG distribution companies located in the market. These include LGas, GGas, Egas, NGas, PGas, GGas and T Gas. It is worth noting that none of those companies is currently involved in rural distribution of LPG as they operate mainly within the regional capital. The rural focus of Koala and its strategic location will therefore give it an edge over its competitors. The risk, however, is that when the rural market is developed, some of those other firms will invest in rural distribution. To mitigate this risk, the company will be encouraged to provide efficient services in its catchment area to win the loyalty of its rural customers

2.6 Regulatory setting

By legislation, retailers such as Koala Gas may not purchase LPG directly from the refinery. They do so through oil marketing companies (OMCs) such as S. Unfortunately, not all OMCs have the infrastructure and systems to ensure consistent supplies. Therefore, Koala Gas has selected three reliable OMCs based on recommendations from existing LPG entrepreneurs in G.

LPG demand in the country has increased significantly since the beginning of the 1990s. During this period, the Government made great efforts to promote LPG use to forestall the detrimental environmental effects of felling trees for fuelwood and charcoal. This increased national LPG consumption from 5,000 metric tonnes (T) in 1990 to 32,000 T in 1996. National LPG consumption increased gradually from 45,100 T in 1999 to 65,667 T in 2004. It is estimated that national LPG use increases at an average rate of 13 per cent per year.

As part of the LPG promotion programme, the Government has installed an LPG processing plant at the oil refinery, which has increased the production capacity of the country to 166,000 T per year for both domestic consumption and export. This has largely helped eliminate previous intermittent shortages of LPG in G. The Government's fuel-switching programme has been given a further boost with the reduction of the price of the LPG from 5,700 per kg ($0.63) to 5,172.42 ($0.556) per kg.

There is full national support for the promotion of LPG in rural communities in G. The Government has identified LPG as its solution to deforestation, which is rampant around the rural communities. In 2003, the Government adjusted the pricing of LPG to provide an incentive for transporters to supply remote rural communities. The Government is steadily decreasing its subsidy support, and since 2003 has increased LPG prices by 50 per cent per year in an attempt to charge economic prices that are consistent with international market prices. So far it has been successful, and current subsidies on LPG, according to government sources, have been reduced to 25 per cent.[19]

There are firm and comprehensive environmental health and safety regulations and codes for the LPG industry which are enforced by the energy commission, the environmental protection authority and the standards board. Any filling plant that does not comply with those codes of conduct is shut down. Operational permits are issued and renewed biennially.

Koala Gas needs to obtain loan approval, an environmental protection authority permit, an energy commission license and a building permit before it can begin construction. It is estimated that construction of the facility will be completed over a four-month period. Koala Gas will then need to pass a fire service inspection and obtain insurance coverage and an approval note from the Country Planning Department to begin operations.

19 Economic prices for LPG internationally is 25% more than what G customers pay for the fuel

Task 3: WHO? Evaluate and present the team and stakeholders, showing who will be involved and demonstrating their capabilities.

3.1 Champion (owners and sponsors)

Mr. Harish Campos (45) is the sole owner and Managing Director of Koala Gas. Mr. Campos is an experienced engineer and manager. He holds a Bachelor's degree in mechanical engineering, a Master's in business administration in corporate finance and a Master's degree in telecommunications management, obtained from Lafayette College and the University of Dallas in the United States of America. He is a certified professional engineer and energy manager. He has worked as a project development manager and a design engineer for private consulting companies of international repute such as Johnson Controls, the United Illuminating Company, XENERGY, Inc. and Savage Engineering, Inc. Mr. Campos has experience as a design engineer in heating, ventilating and air conditioning (HVAC), refrigeration and building control systems. Most of his work over the past 15 years has been in energy engineering and conservation. He is currently the Technical Director of the Energy Foundation of G. In addition to these activities, Mr. Campos will manage the plant supervisor of Koala Gas.

The entrepreneur is currently involved in the promotion of LPG in G by virtue of his current participation in a national energy trade association. He therefore has ample knowledge of the LPG sector in G. The entrepreneur has high technical expertise and management acumen and it is expected that he will be able to combine all those skills to execute the business plan effectively for the success of the company.

3.2 Team

Koala Gas will initially hire seven employees.

The entrepreneur will oversee the operations of the business. His role will include placing orders for LPG from the oil marketing companies as well as managing the finances of the business.

The company will employ other key personnel such as a plant supervisor, a clerk/cashier, four filling attendants/loading boys and a security man.

The plant supervisor (yet to be hired) will oversee day-to-day plant operations and servicing customers' needs. Among other things, he will supervise the following activities:

- Stocktaking before the commencement of sales and after close of work each day.
- Checking of pressure/temperature levels intermittently in case safety measures such as sprinkling water on the storage tank are required.
- Weighing all cylinders/bottles before LPG is dispensed.
- Examining cylinders and cylinder heads for possible faults.
- Dispensing LPG into examined cylinders.
- Maintaining equipment.

The clerk/cashier (yet to be recruited) will be responsible for the records and cash transactions of the business. The clerk/cashier's activities will include keeping records of daily sales and customers

for accounting and planning purposes. This position will also support the Managing Director in his administrative activities for the business. A chartered accountant will be retained to prepare the company's management and audited accounts twice a year.

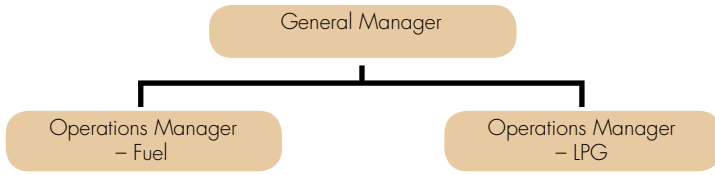
Task 4: Organizing and presenting the steps to implementation, showing HOW the core idea will be turned into an operating reality.

4.1 Implementation plan

The accompanying table lists important project milestones, with dates, managers in charge and budgets for each step. The milestone schedule shows our emphasis on planning for implementation. Commitment to these schedules is of prime importance for the success of the company. The business plan includes complete provisions for plan versus actual analysis, and we will hold monthly follow-up meetings to discuss any variances and the course for corrections.

Activity	Schedule	Planning	Construction	Pre-operation
P1 – Site selection	Year –1, month 10	650		
P2 – Testing conditions	Year –1, months 10–12	2,000		
P3 – Identifying all laws and regulations	Year –1, months 8–12	500		
P4 – Preparing construction documents	Year 0, months 1–5	500		
C1 – Land acquisition	Year –1		27,000	
C2 – Building	Year 0, months 6–9		15,000	
C3 – Utility connections	Year 0, months 8–9		1,000	
C4 – LPG tank installation	Year 0, months 6–9		47,800	
C5 – Overhead water tank installation	Year 0, month 8		2,000	
C4 – Other equipment, office set-up	Year 0, months 8–9		16,500	
Commissioning and trial runs	Year 0, months 10–12			4,000
Initial LPG inventory	Year 0, months 11–12			18,390
Working capital – legal fees	Year 0, month 12			11,300
Open for business	Year 1, month 1			

4.2 Organization chart



Task 5: WHY? Estimate the impacts, outcomes and expectations of the proposal, itemize its benefits and create a matrix of benefits, inventory proposal impacts and mitigation measures.

5.1 Environmental and social impacts and conditions to monitor

5.1.1 Social

Support for this business will provide direct employment for the staff of the plant and also create new jobs in the LPG sector for the beneficiary communities. Those jobs will include openings for rural distribution by agents and retail of end-use equipment and accessories such as stoves, cylinders, etc. The operations of Koala Gas will also create several microenterprises for women (food vendors). Most roadside food vendors depend on large volumes of fuelwood for their businesses. The quality of fuelwood required for their operations is scarce as a result of the acute deforestation in the region. The operations of Koala Gas will offer these microenterprises fuel options. The ready availability of LPG and subsequent savings and health benefits from its use will be an incentive for these prospective clients to switch.

5.1.2 Environmental

The project site lies adjacent to the road to the regional capital **N**. Originally, the project site was farmland used intermittently by a local farmer. Later, sand-winning contractors extracted material for construction from this particular site and adjacent areas. It later lay unused until it was acquired for the proposed project.

The land lies adjacent to the confluence of two small streams. This makes the use of the land very sensitive in terms of potential pollution of the streams. In accordance with environmental protection authority regulations, the structure could not be located less than 30 metres from the stream. It is also a requirement that the facility must maintain the vegetation alongside the stream to minimize water loss through evaporation.

A provisional operating license is required to begin dispensing petroleum products to the public. This has been secured from the energy commission under the sponsorship of Total Ltd. Such sponsorship is required by the energy commission for newly established companies in the fuel distribution business.

Before applying to be licensed, Koala Gas was obliged to acquire an environmental permit from the environmental protection authority. Such permits are issued based on environmental impact assessments by the authority (see NAME of document). They state that the activities of the assessed facility will not degrade the environment. In addition, efficient effluent and emission controls have been incorporated in the design to minimize environmental risk and damage. Also, a fire mitigation plan had to be submitted to the environmental protection authority for approval. The authority required a zoning permit from the district administration office and a geotechnical report which analysed the land formation at the location. The report covered water table movements in terms of their effect on the adjacent streams. This information has been submitted for the licence to be issued.

It is the policy of Koala Gas policy to protect the streams to the best of its ability. We have designed adequate precautions into the facility's drainage system to prevent any contaminating spillage.

The project will be implemented with the utmost care to eliminate any possibility of upsetting the environmental balance as it exists. Wastewater collection systems have been designed into the

drainage system to capture all contaminants, including oil. Two oil separators will be installed in series to prevent any contamination of the adjacent stream.

The streams dry up completely during the dry season but rise to full flow in the rainy season. Koala Gas has therefore found it prudent to incorporate flood control measures into the structural design to prevent future floods from affecting our operations.

The license, when granted, will authorize Koala Gas to sell petroleum products and gas to the public. Koala Gas must obtain a license under final licensing rules and conditions before entering into and executing agreements with the public.

It is estimated that every person in G currently uses around 640 kg of fuelwood a year. Today, forest growth in G is less than half fuelwood demand, which makes fuelwood an unsustainable option. As a result of the limited access to LPG in the northern region, the main sources of fuel for cooking are wood and charcoal. From an environmental point of view, the continuing felling of trees in a region already threatened by desertification is having fatal consequences for the region's flora and fauna, air quality and water bodies. The establishment of this business will therefore support LPG substitution of fuelwood, which will go a long way towards meeting the socio-economic challenges facing the people as a result of the depletion of their forest cover.

5.1.3 Health

LPG burns efficiently without producing smoke and with low emissions of pollutants. These inherently clean characteristics are especially important for reducing indoor air pollution, and consequently the establishment of this business can contribute to improving the health of women and children in the north-western region.

Task 6: Build the base case

6.1 Basic assumptions

Financial projections for the next five years were informed by real case studies of two existing LPG start-ups (M and F) and adapted to fit the market and operating environment of Koala Gas. A sensitivity analysis was conducted for two different scenarios using past trends in price increases, shortages and salary levels as variables and testing their impact on sales levels.

The selected base case offers the following information.

				Year -2	Year -1	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Capital Cost											
from donors	Capital grants		–								
from owner-investors	Equity investment		43,650		8,975	34,675	30%	of total value			
from lenders	Loans		102,990		21,175	81,815	70%	of total value			
	Capital cost		146,640		30,150	116,490					
Operations			–	**Year -2**	**Year -1**	**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Revenues		3,312,505					233,604	467,208	607,370	911,056	1,093,267
Operating grants or subsidies		–					–	–	–	–	–
Operating costs		3,101,880					233,420	441,542	572,527	843,326	1,011,065
Net revenues from operations (EBITDA)		210,625	For length of loan only				184	25,666	34,843	67,730	82,202
Interest		20,925					6,694	5,519	4,266	2,933	1,513
Taxes							–	757	2,843	9,687	12,866
Depreciation							16,360	16,360	16,360	16,360	16,360
Net income							(22,870)	3,030	11,374	38,749	51,463
Add back: Depreciation							16,360	16,360	16,360	16,360	16,360
Less: Amortization / principal payments	102,990						18,089	19,264	20,517	21,850	23,270
Net cash flow to owner-investors		IRR	**5.4%**	0	(8,975)	(34,675)	(24,599)	126	7,217	33,259	44,553
DSCR	1.70						0.01	1.04	1.41	2.73	3.32
	Average						By year				

The projected cash flow of the company shows that it will generate enough cash to sustain its operations. LPG filling plant equipment is notorious for breakdowns; the company will have sufficient capital to manage such situations should they occur. The cash flow and the balance sheet represent a financially sound company, which should position it to secure finance from local sources for expansion.

6.2 Evaluating feasibility

A sensitivity analysis was carried out to showcase two possible scenarios that could occur in the life of the company.

In the first scenario, the company could generate enough funds to cover all the operational and financial expenses. The worst case is presented in the second scenario, in which the company would not be able to service the loan. That scenario might occur in the unlikely event of a long absence on the part of the entrepreneur and a lack of commitment and possible misapplication of funds by his successor. In the event of that scenario, the lender has an option of recovering its investment through the sale of the filling plant.

The first scenario is considered the base case scenario based on conservative projections and guided by the actual sales of similar start-ups in comparatively developed markets. The growth in the sales is also informed by the researched market trends and is not overly ambitious.

6.3 Financing plan

To carry out the proposed business plan, a total investment of 146,640 is needed. The sponsor is prepared to contribute 29.8 per cent (43,650) from his own resources and is requesting a loan in the amount of 102,990 with a term of no less than five years. Cash-flow projections estimate that an interest rate of up to 7 per cent can be paid on an annual basis.

Description of finance required	Lender	Sponsor	Total
Start-up costs	–	3,650	3,650
Capital infrastructure:			
1. Land	–	27,000	27,000
2. Office, shop and fencing	10,000	5,000	15,000
3. Utility connection	–	1,000	1,000
4. Overhead water tank/installation	–	2,000	2,000
5. One 30-ton LPG tank/accessories	47,800	–	47,800
6. Transportation of tank to T	1,500	–	1,500
7. Two Avery industrial scales	2,500	–	2,500
8. Two pumps	2,000	–	2,000
9. Two dispensing machines	8,000	–	8,000
10. Cost of installation, commissioning and trial runs	1,500	5,000	6,500
Working capital (including legal fees)	11,300	–	11,300
Initial inventory (LPG)	18,390	–	18,390
Total	102,990	43,650	146,640
	70.2%	29.8%	100%

With an interest rate of 6.5 per cent, the debt service coverage ratio (DSCR) over the five years of the proposed five-year loan term is 0.01, 1.04, 1.41, 2.73 and 3.32. Even though we have low DSCRs during the first two years of operation, cash from owner's equity will be available to cover the debt obligation. In addition, the sponsor is willing to offer the company's assets including the land where the filling plant will be located as collateral for the loan.

Task 7: What If things do not go as planned? Show how reasonable it is to expect these results by examining and estimating contingencies.

Risks and mitigation strategies

Risk: Inexperienced management team

Mitigation: The sponsor has been in regular contact with LPG dealers and retailers and has developed a good relationship with suppliers, oil marketing companies and prospective clients. For the day-to-day administration of business operations, an experienced plant manager will be hired.

Risk: Non-achievement of sales targets

Mitigation: Failure to achieve sales targets will have significant consequences on the business's financial projections and thus its ability to repay the loan. In recognition of this, the business's financial projections have been prepared based on a conservative sales estimate that takes unforeseen implementation problems into account.

Risk: Failure to comply with safety codes and regulations

Mitigation: The business will provide continuous education to its staff and clients. In addition, the strict enforcement of safety standards by the regulatory bodies is also expected to mitigate this risk. The company will also secure comprehensive insurance coverage for the plant just before it commences operation.

Risk: Unreliable supplies

Mitigation: A lack of a regular and reliable supply of LPG to the Koala Gas plant, which is about 280 kilometres from the refinery, is a potential risk to the business. To mitigate this risk, the entrepreneur has concluded negotiations with LGas to provide the business with regular haulage services.

Risk: Foreign currency

Mitigation: The business will generate revenue in local currency; the repayment of the loan, however, is expected in dollars. A sharp depreciation in the value of the local currency against foreign exchange would therefore affect the repayment of the loan as more local currency would be needed. To mitigate this risk, the interest rate on the loan has been calculated taking into account currency depreciation, inflation trends and the tax rates in the country.

Risk: Competition

Mitigation: All eight filling plants that are potential competitors to Koala Gas are based in the central business district of the regional capital. Typically, LPG customers patronize the services of the closest credible filling station. Customers in the central business district nearest to Koala Gas will naturally patronize its services. Koala Gas will focus on the market towards O and build a strong customer base amongst communities there. Generally, the market in the region is large enough to accommodate at least 15 large retail filling plants.

Risk: Deregulation policy and price increases

Mitigation: The deregulation policy of the Government seeks to erase subsidies on petroleum products completely, which has the potential to increase LPG prices arbitrarily. This could contribute to a loss of customers for Koala Gas as most rural customers would find it difficult to afford the cost of the product. To mitigate this risk, the business will work to attract sufficient commercial and middle-income customers with inelastic demand for LPG to cushion it from any fall in demand from the rural communities as a result of government policies.

Annex III: Glossary

Accounting: The process of recording, classifying, summarizing, communicating and interpreting the economic events of a business or organization to interested users.

Accounts payable: Amounts of money owed to others. These are current liabilities incurred by a company during the normal course of business.

Accounts receivable: Amounts of money owed to a business by customers who purchase goods or services on credit. On the balance sheet, these are current assets.

Asset: Something of monetary value owned by a business or individual.

Balance sheet: An accounting report that summarizes a firm's financial position at a specific date by listing assets, liabilities and owner's equity.

Baseline: A term used in the monitoring and evaluation process; it is the starting point from which the results and impacts of an enterprise are tracked.

Biogas: Typically refers to methane produced by the fermentation of organic matter including manure, wastewater sludge, municipal solid waste or any other biodegradable feedstock under anaerobic conditions.

Build, operate and transfer (BOT) contract: A type of contract where one entity builds and operates a facility for a specified period of time, after which it transfers ownership back to the sponsor.

Break-even point: The point where the level of sales is such that total revenues equal total costs. Break-even analysis serves as a guideline for determining how changes in the volume of sales affect earnings.

Budget: An estimated amount of expected income and expenditure for a specified future period of time. It is a formal financial summary of management plans that allows the communication of previously agreed objectives and once approved it is used for evaluating performance.

Budget/forecast/actual: A comparison between actual results and planned objectives.

Business plan: A formal written strategy that specifies the steps to be undertaken in order to carry out a specific activity and reach the planned objectives of the organization. It is a document that details the past, present and future of a company and is usually designed to attract capital investment.

Carbon dioxide (CO_2): The gas formed by the ordinary combustion of carbon and given out in the breath of animals.

Carbon professionals: Individuals who specialize in carbon estimating, financing and trading activities.

Cash flow: The amount of net cash available in a firm as a result of its operations. It is calculated by adding non-cash expenses such as depreciation to net income after taxes and it helps determine a firm's level of liquidity.

Chief Executive Officer: The highest-ranking corporate officer or executive officer of a corporation, or the president of a small company; the person who is responsible for the company's operations.

Champion: In this guidebook, a Champion is an entrepreneur, business owner, management team, or developer, someone with the necessary skills and commitments required to start and sustain an enterprise.

Conditions precedent: Conditions that must be met before certain events and actions can take place (e.g., the execution of a contract or agreement).

Contribution (margin, percentage): The contribution margin is the amount of revenue remaining after deducting variable costs from total sales. This margin is the amount available to cover fixed costs and to contribute to income. If we divide the contribution margin by total sales we can obtain the contribution margin ratio. This ratio helps us determine the effect of changes in sales on income.

Controller, comptroller: An organization's chief accounting officer responsible for the establishment and maintenance of the firm's accounting system.

Corporation: A business organized as a legal entity separate from its owners, distinguished by having limited liability, easy transfer of ownership and unlimited life.

Cost of goods sold: The total cost of products sold during a specific period. It is equal to beginning inventory plus cost of goods purchased minus ending inventory.

Credit: An accounting entry that records a decrease in assets and an increase in liabilities and owner's equity. It is also the ability to borrow or purchase goods and services without having to pay on delivery.

Current ratio: A liquidity measure that helps determine a company's short-term debt-paying ability. It is obtained by dividing current assets by current liabilities.

Dam: A structure for impeding and controlling the flow of water which increases the water elevation to create a hydraulic head. The reservoir creates, in effect, stored energy.

DBA: Doing business as. Used to show that a company is operating using a name other than its legally incorporated name.

Debt (senior, junior): Words used to prioritize the order in which debt is going to be repaid or claimed in the event of liquidation.

Debt-to-equity ratio: Computed by dividing owner's equity into long-term debt, it shows the relationship between long-term funds provided by creditors and funds provided by owners.

Deforestation: The permanent clearing of forest land and its conversion to non-forest uses such as agriculture. The result of uncontrolled felling of trees for lumber and excessive gathering of fuelwood. Deforestation can have devastating environmental consequences such as loss of biodiversity, soil erosion and reduced and more variable water flow in streams and rivers.

Discount rate: An interest rate looking back in time rather than forward in time; used for net present value calculations.

Due diligence: Pertains to the process leading up to an investment. It includes, among other things, a review of financial statements, market assessment, economic conditions and management background.

EBITDA: Earnings before interest, taxes, depreciation and amortization

Emissions: Flows of gases, liquid droplets or solid particles into the atmosphere. Gross emissions from a specific source are the total quantity released. Net emissions are gross emissions minus flows back to the original source. Plants, for example, take carbon from the atmosphere and store it as biomass during photosynthesis and release it during respiration, when they decompose or when they are burned.

Enabler: In this guide, an Enabler is someone willing and capable of providing financing or services to Champions.

Engineering, procurement and construction (EPC) contract: A type of contract where a single credible company takes on the responsibility of constructing a project.

Environmental impact assessment (EIA): An assessment of the potential positive and negative impacts which a project may have on the environment, human populations or environmentally important areas. The purpose of the assessment is to ensure that decision-makers consider environmental impacts before deciding whether to proceed with new projects.

Equity: In accounting terms, the funds contributed to the firm by stockholders through direct payment or retained earnings; also known as owner's equity.

Exit strategy: A component of an equity investment plan that sets forth one or more mechanisms for an investor to liquidate the original investment and also earn a return. Examples of exit strategies include initial public offerings and buy-back agreements.

Financial leverage: The use of debt to lower the equity investments made in an enterprise; the relationship between debt and equity.

Financial plan: The result of determining the financing needs of a firm and developing a strategy for obtaining those funds.

Financial reporting: Producing reports that provide financial statistics on an organization's operations and financial condition.

Future value: The value of an initial investment after a specified period of time at a certain interest rate.

Grant: An amount of money that does not need to be repaid.

Gross profit: Total sales revenue minus cost of goods sold. Gross profit does not take into account selling and administrative expenses.

Hedge: Something that reduces the risk of future price movements (a contract that specifies a future purchase date and a certain price in an effort to avoid a loss resulting from a change in price).

Hurdle rates: The minimum amount of return that a person requires before making an investment, also known as a required rate of return.

Hydropower: Electricity generated from the energy of flowing water and variations in the altitude of the terrain.

Income statement: A financial statement that reports revenue and expenses and resulting net income or net loss for a specified period of time.

Insolvency: The inability to meet debt obligations.

Internal rate of return (IRR): The interest rate that a future stream of monies will return on an investment made today.

Inventory: The amount of raw materials, work in process and finished goods owned by a company and ready for sale during the course of business.

Investor: An institution or individual that provides funds to others through risk capital (equity) by purchasing income-producing assets (e.g., shares). An investor is someone who puts money into a project or other assets in exchange for income returns or interest.

Joint venture: The joining of two or more parties to implement a new business.

Lenders: Institutions or individuals that provide funds such as loans with a specified interest rate and repayment period.

Limited liability companies: A business form that makes owners responsible for no more capital than they have personally invested in the business. Thus, the maximum which a stockholder can lose is the amount paid for the shares of ownership, regardless of the firm's financial obligations.

Limited partner: A member of a limited partnership that enjoys limited liability; he or she is not liable for the debts of the partnership.

Logical framework approach: A project design methodology that leads to a four-by-four matrix that summarizes the key features of a project at the time of project identification, preparation and appraisal and links them to broader objectives and goals.

Maintenance costs: Any costs incurred in the upkeep of a system. These costs may include replacement and repair of components.

Management: The individuals directing, handling and controlling the affairs of a business.

Market analysis: A study of the economic environment including, among other things, market structure, market size, competition, barriers and growth potential.

Market penetration: The portion of a particular market that a company has been able to acquire.

Methane: A gaseous compound consisting of one carbon atom and four hydrogen atoms per molecule; it occurs naturally, often in association with coal and petroleum (see "natural gas" below), and also as a by-product of the metabolic activities of some microorganisms; it can also be synthesized.

Mezzanine debt: After initial capital is raised for a company, there is a period of time when various combinations of debt convertible to equity are viable tools for financing a company. These debt instruments, which are sometimes accompanied by warrants (options to purchase stock) and are often convertible to equity, are grouped together under the heading of "mezzanine debt", meaning between start-up capital and conventional debt. It is also sometimes referred to as quasi-equity.

Monetization: The process of converting something into cash (e.g., carbon credits can be converted into cash through carbon trading).

Natural gas: A naturally occurring mixture of hydrocarbons (principally methane) and small quantities of other gases found in porous geological formations, often in association with petroleum.

Net income: The income that remains after all expenses, including taxes, have been deducted from revenues; also called net profit.

Net present value (NPV): The present value of a project's future cash flow at a certain discount rate, less the initial investment in the project.

Non-compete agreement: An agreement between parties under which one party promises not to engage in certain business activities in a particular region.

Non-disclosure agreement: A confidentiality agreement.

Operating costs: Expenses incurred during the normal course of business with the exception of interest expense, taxes and cost of goods sold.

Partnership: A business form owned by two or more people who agree to share both profits and losses.

Personal guarantee: A personal pledge, tangible object or formal assurance given as security for a debt obligation.

Preferred shares: A type of security that shows ownership of a company and has preference over **common** shares in the payment of dividends and claims of assets; i.e., they give the holder a prior claim on earnings over common stockholders and, in the event of liquidation, also on assets.

Projections: Calculations of future costs, revenues, rates of growth and the like.

Proposal: A plan to do something combined with a request for resources. Whether called an investment memorandum, grant application, response to a request for proposals, business plan or project description, all these documents are proposals.

Quick ratio: A liquidity measure computed by dividing current liabilities into all current assets with the exception of inventory. It helps determine a company's ability to meet its immediate short-term debt obligations.

Ratios (financial): Relationships between two or more sets of financial data points calculated with the purpose of tracking the performance of a company.

Replicability: For many investors, project replicability is a desired quality of a business proposal as it means that the idea can be easily duplicated and implemented in another country or region, creating more opportunities for investment, growth and development of markets.

Return on equity: Calculated by dividing owner's equity into net income after taxes. A measure of the net income that a firm is able to earn as a percentage of the stockholder's investment.

Return on investment: Calculated by dividing total assets into net income after taxes. Measures the firm's effectiveness in generating income from available assets.

Sales: Revenue gained exclusively from the sale of goods and services.

Sensitivity analysis: An analysis that measures the extent to which "return" factors vary when a variable changes.

Shareholders: Investors that own stocks or shares in a company.

SME: Small and medium-sized enterprise.

Soft loans: Loans at below-market interest rates and less strict terms, possibly even including forgiveness.

Sole proprietor: The one and only owner of a business who is personally liable for all the financial obligations incurred by his or her company.

Special-purpose company: A firm created by a company to fulfil narrow or temporary objectives, primarily to isolate financial risk.

Stock offering: A new issue of securities.

Stocks, shares: Securities that show ownership in a corporation. See also "preferred".

Subordinated debt: Also known as junior debt; refers to the order in which debt is going to be repaid in the event of liquidation; subordinated debt will be repaid only after the requirements of higher priority "senior" debts have been met.

Sustainable: A term used to characterize activities that can be undertaken in such a manner as not to produce an adverse effect on the environmental conditions (e.g., soil, water quality and climate) necessary to support those same activities in the future.

Sweat equity: The contribution in terms of time and effort which a Champion puts into project proposal and implementation.

Technology needs assessments: Assessments that aim to assist in identifying and analysing priority technology needs. They can be the basis for a portfolio of environmentally sound technology projects and programmes which can facilitate the transfer of and access to such technologies and know-how in implementation of article 4, paragraph 5, of the Framework Convention.

Technology transfer: As used in this guidebook, technology transfer assumes the broad definition implicit in the Framework Convention's article 4, paragraph 5 (hardware and know-how), and the

more traditional definition that technology embodies "the entire body of methods and materials available to fashion a desired result". For example, under this broad definition, even the transfer of a single line of legal text from one country's legislation to that of another might effect the freer movement of environmentally sound products into that second country. In that case, the single line of legal text constitutes a "technology" that was "transferred".

Time value of money: Has to do with the theory that cash today is worth more than cash tomorrow. This is because prices are generally expected to rise over time and consequently a unit of currency today can buy more goods than the same amount of currency in the future. For that reason it is important to know the net present value of a project's future cash flow.

Triple bottom line: Assessment of a business from a financial, social and environmental perspective.

Validation: The verification process which companies have to undergo in the carbon-trading world to certify that the project or enterprise can generate the agreed carbon offsets.

Venture capital: Risk capital earmarked for investment in what venture capitalists perceive as enterprises in growing sectors with the ability to offer high returns (profits).

Vision and mission: The goals and objectives of an organization.

Working capital: Computed by subtracting current liabilities from current assets. Represents the amount of funds which a firm needs to cover its current obligations. Consequently, it also serves as a measure of liquidity.

Annex IV: Web and other resources

1. African Development Bank (AfDB) – www.afdb.org. Various search tools in English and French, some tools directed towards project logical frameworks and for monitoring and evaluation efforts.
2. Alliance to Save Energy (ASE) – www.ase.org. Promotes energy efficiency and offers experiences of companies in the household, commercial and industrial sectors. A few checklists are included that would help Champions prepare efficiency projects.
3. American Express – AMEX-Open – www.americanexpress.com "small business". Has a small-business information source that provides basic concepts and advice. Much of the material has also found its way into the International Finance Corporation (IFC) SME Toolkit. It contains useful advice for the newcomer to proposal and business plan preparation, especially where the similarities between a business plan and a proposal are strong.
4. Asian Development Bank (ADB) and Asian Development Bank Institute (ADBI) – www.adb.org and www.adbi.org. ADB and ADBI offer a great deal of information (including the ADB operations manual) on line and it is easy to access many project document examples (in summary form). ADB provides a source of questions to be used in assessing conditions surrounding project implementation and ADBI provides information on experiences in various sectors (finance, microfinance, general environment).
5. Asia-Pacific Economic Cooperation (APEC) and Asia Pacific Energy Research Centre (APERC) – www.apecsec.org.sg and www.ieej.or.jp/aperc. Research and information resources for the Asia-Pacific region, especially at the macro level. Very detailed data and reports at this level. Some good country-level information and lessons learned. Under the more detailed themes (energy, SMEs, etc.) can be found data and also such items as an "Emergency Preparedness Checklist for SMEs".
6. Australian Government overseas development assistance (AusAID) – www.ausaid.gov.au/ausguide and http://akwa.ausaid.gov.au. AusAID provides information for preparing programmes and programme components. Its "AusGuide" is the framework into which its logical framework approach fits. It is a resource for covering most of the steps which a public-sector project must reflect. AusAID also maintains a "knowledge warehouse", including lessons learned and good practices.
7. Barron's Business Review Series Finance (third edition). A 20-chapter streamlined course providing introductory material on risk and return (chapter 4), rates of return (chapter 7), financial structuring (chapter 10), financial planning (chapter 16) and financial statements (chapter 18).
8. Basel Agency for Sustainable Energy (BASE) – www.energy-base.org. BASE offers a few important things for Champions and Enablers alike. It provides a first-level inventory of sources of capital in the form of its sustainable energy finance directory. Users can search by technology and region and obtain short profiles of lenders, investors and others who might provide capital. BASE also introduces a facility (SEFI Transaction Support Facility) which is directed at building financial institution capacity and improving the likelihood of a match between the expectations of proposal Champions and those of enabling financial institutions. BASE provides access to the UNEP environmental due diligence guidelines and useful links.

9. Clean Development Mechanism (CDM) http://cdm.unfccc.int/Projects. Provides information and ready access to CDM projects at their various stages. It also describes the CDM process and is a useful information resource for regular, small-scale ("simplified") procedures and afforestation-reforestation activities. The project design document guidelines and templates are easy to access and use through http://cdm.unfccc.int/Reference/Documents.
10. CDM Gold Standard – www.cdmgoldstandard.org. A website sponsored by an NGO partnership, aimed at both quality improvement and ease of filing for CDM projects.
11. CDMWatch – www.cdmwatch.org. Offers introductory materials on the Clean Development Mechanism and promotes "The CDM Toolkit", which is actually a description of the process rather than a set of tools. Links to carbon funds and other websites are included (both pro and anti carbon trading).
12. Cleantech Venture Network– www.cleantech.com. Offers a variety of information on cleaner technologies and organizes venture fairs where truly venture-capital-quality commercial proposals can be presented to audiences of investors and participants (limited partners) in investment funds.
13. Community Development Carbon Fund (CDCF) – http://carbonfinance.org. Offers a template for a project idea note (PIN) which has some utility for introducing the key features of a greenhouse-gas project. A separate document asks 10 community benefit questions of either a general or "who is involved" nature. Another separate document offers a quite useful financial template.
14. Consultative Group to Aid the Poor (CGAP), Microfinance Management Institute (MFMI), Microfinance Information Exchange, Microfinance Gateway and the United Nations Capital Development Fund (UNCDF) microfinance distance learning course – www.cgap.org, www.themfmi.org, wwwthemix.org www.microfinancegateway.org, www.uncdf.org. CGAP offers access to donor training materials and good practice reports including such items as due diligence guidelines (detailed text and charts) and case studies of organization evolution (Donor Good Practice No.18).
15. Department for International Development (DFID) (United Kingdom)). Operates a network of resource centres that include transport, water and communication nodes (www.transport-links.org www.oasis-water.net and www.iconnect-online.org). See Intermediate Technology Development Group.
16. Energy Research Centre of the Netherlands – ECN – www.ecn.nl. Research and development resource for energy technologies, the built environment and policy. Offers snapshots of technologies and technical policy analyses. Useful for technology background quoting.
17. European Renewable Energy Council (EREC), European Wind Energy Association (EWEA), etc. – www.erec-renewables.org, www.ewea.org. Mostly comprised of publications on policy and results and contains links and reference materials on best practices at the community, company, region and country level.
18. Food and Agriculture Organization of the United Nations (FAO) – www.fao.org. Includes the David Lubin Memorial Library online and a section on energy and technology which compiles specific subject papers.
19. German Technical Cooperation (GTZ) – www.gtz.de. Programme for technical cooperation in specific thematic areas. The site describes programmes and themes.

20. Global Environment Facility (GEF) – www.thegef.org. Site has a templates and guidelines section for preparing GEF full-size or medium-size proposals in biodiversity, persistent organic pollutants and climate change areas. "Fill in the blank" methodology. Also has links to the World Bank Development Marketplace (www.worldbank.org) where $34 million has been awarded to over 800 projects on a competition basis on a "proposal" and (invited) full proposal basis. Offers links to other organizations and grant programmes and introduces country-level competitions.
21. Interenvironment.org – www.interenvironment.org. Published by the California Institute of Public Affairs (CIPA). Provides a directory of United Nations, international and national organizations involved in sustainable development. Offers an inventory of resources for information and links to other sites. Very organization- and environment-focused, with over 350 pages of information.
22. Intergovernmental Panel on Climate Change (IPCC) – www.ipcc.ch. Provide a wealth of highly technical data regarding climate change. Offers also library of data slides to support proposals, if needed.
23. Intermediate Technology Development Group (ITGD) (recently renamed Practical Action) – www.itdg.org. Offers numerous 5–10 page technical briefs on energy, water and sanitation, manufacturing and other sectors, with illustrations and cross references. Also has an extensive bookshop of publications and journals concerning small business and microfinance.
24. International Energy Agency (IEA) – www.iea.org. A large source of information and forecasts concerning energy production and use. Useful source of developing country information through its World Energy Outlook reports. Library on the subjects of energy technology and technology cooperation. Good information source for energy proposals that need context.
25. International Finance Corporation (IFC) SME Toolkit – www.smetoolkit.org. Describes itself as free business management information and training for small business. This includes how-to articles, business forms, free business software to help entrepreneurs in emerging markets. See also American Express-Open.
26. International Monetary Fund (IMF) – www.imf.org. A wealth of country-level information. Combined with the Central Intelligence Agency (CIA) World Factbook (www.cia.gov/cia/publications/factbook/) and www.worldinformation.com , it is a quotable source which proposals can use in providing information at the country and region level.
27. Investment Promotion Network – IPANet – www.ipanet.net. A portal to country-level very focused country information.
28. Miller, Michael. Teach Yourself Business Plans in 24 Hours. An example of a how-to book that contains advice on market research and the cautions to be exercised.
29. Multilateral Investment Facility (MIF) – www.iadb.org/mif/. Managed by the Inter-American Development Bank, MIF is a specialized fund that tends to invest in other funds. Offers a toolkit in English and Spanish for evaluating the potential of fund candidates, together with related forms and questionnaires.
30. National Renewable Energy Laboratory (NREL) (United States of America)– www.nrel.gov, www.nrel.gov/technologytransfer. A large archive of information with an emphasis on renewable energy research and development. Offers a number of sophisticated energy tools (including HOMER, Hybrid2 and RETFinance) and a regular set of updates on technologies (Power Technologies Energy Data Book).

31. Netherlands Development Finance Company (FMO) – www.fmo.nl. Offers development through loans, guarantees, equity and quasi-equity in 40 countries worldwide. It works closely with local banks, international partners and Dutch partners and provides clear information on such topics as stimulating private sector growth. Included here as a good example of the kind of research a Champion should do before approaching an enabling organization.
32. Organisation for Economic Co-operation and Development (OECD) – www.oecd.org. The site includes a section on managing for development results which includes a roster of country examples and a separate chapter on lessons learned (part 5) that are useful for planning programmes.
33. Overseas Private Investment Corporation, United States Small Business Administration, My Own Business, Inc. – www.myownbusiness.org. Provides a series of tools aimed at assisting small business owners in getting started. Offers an online, 13-session course which includes sessions on accounting and cash flow, opening and marketing and business insurance. Mostly narrative, a few templates but good do's and don'ts advice.
34. Practical Action. See Intermediate Technology Development Group.
35. RETScreen (CANMET, NASA, UNEP, GEF, Renewable Energy and Energy Efficiency Partnership (REEEP), Ministry of Natural Resources (Canada)) – www.retscreen.net – is a suite of tools for renewable energy technologies (solar photovoltaic, passive solar, solar hot air, solar hot water, bioheat, small hydro, wind) that include introductory (5–10 page) descriptions followed by 40–50 pages of technical terms, calculations and algorithms that transfer over to their spreadsheets, which provide performance, costing and financial analysis tools and greenhouse gas analysis. RETScreen also offers technically detailed analysis tools that allow first-level financial analysis. The output of the RETScreen-type analysis can then be used as input to further structuring of the kind that may customize a proposal to a private-sector enabler.
36. Theme–based Co-financing Programme (TMF), Ministry of Foreign Affairs (Netherlands) Directorate-General for International Cooperation – www.minbuza.nl – is a programme of the Government of the Netherlands to provide core funding for organizations to grow their service delivery capacity and performance. It is included here as it provides an example of a donor proposal template that is complete, clear and challenging in that the Champion must link its own interests and proposal to a road map and framework that makes it very clear what the donor wants to accomplish.
37. United States Agency for International Development (USAID) – www.usaid.gov. Offers a library, including source of books and articles.
38. United States Department of Energy, Energy Efficiency and Renewable Energy– www.eere.energy.gov. Offers a long list of technology-specific toolkits. These are mostly information resources, including information on companies, in niche markets. Useful for market research purposes. A lengthy list of more technical estimating and evaluation tools can be found, by subject, at other EEERE sites such as www.eere.energy.gov/buildings/tools_directory. Subjects where tools are inventoried include whole-building energy analysis, renewable energy and solar/climate analysis.
39. Wiley business publisher – www.wiley.com. Offers such detailed works as "Project Finance: Asset Backed Financial Engineering", which offers introductions to matters such as cash flow before going into more technical matters.

40. World Bank Carbon Finance Unit. See Community Development Carbon Fund.
41. World Information – www.worldinformation.com. Useful, one-stop source of region and country information, especially if combined with the CIA World Factbook and IMF data.11
42. United Nations Industrial Development Organization (UNIDO) – www.unido.org. Focuses on economy, environment and employment and devotes a section to investment and technology promotion. It offers business appraisal software (BEST), a financial improvement toolkit (FIT) and other tools. Also offers an enterprise development programme which describes the enterprise development and growth process.
43. UNCDF. See Consultative Group to Aid the Poor (CGAP).
44. United Nations Development Programme (UNDP) – www.undp.org. Has a capacity development library and manages Development Gateway's capacity development page (www.developmentgateway.org). Tools such as The Partnering Toolbook are available, and these include some evaluation templates and assessment materials.
45. United Nations Environment Programme (UNEP) – www.unep.org. Offers a large collection of information and links on a wide variety of clean technology issues, although renewable energy, energy efficiency and cleaner production are the most relevant subjects. It also offers tools such as a handbook for financial institutions which provides checklists (due diligence). Also has due diligence checklists for renewable energy technologies from the environmental perspective.
46. UNFCCC Secretariat Technology Transfer Clearing House – http://ttclear.unfccc.int/ttclear/jsp/index.jsp. A compendium of information and reports on activities on technology transfer under the Framework Convention. The site has a huge collection of information ranging from project ideas, concepts and proposals extracted from technology needs assessments and other sources to the exchange of information through a pilot network, including information on projects and companies and links to other information sources.

Annex V: Illustrative calculations and future value table

Calculating the net present value (NPV)

In **Excel** or another spreadsheet program or financial calculator, open the function for formulas (fx in Excel)

Select the function net present value, NPV

Enter the data for the first example

Rate (rate) = 12%

Value 1 = 120

Value 2 = 120

Value 3 = 120

Value 4 = 120

Value 5 = 1120

=NPV(12%,120,120,120,120,1120)

Press "enter", which solves for the net present value = 1000

Repeat for second and third example

=NPV(12%,277.41,277.41,277.41,277.41,277.41) = 1000

=NPV(12%,320,296,272,248,224) = 1000

Using a **present/future value table** (see below), select the factors for 12% for 1, 2, 3, 4 and 5 years

Year	1	2	3	4	5
Factor for 12%:	0.89286	0.79719	0.71178	0.63552	0.56743

Multiply each factor times the scheduled payment in the first case and add the results. This sum is the net present value = 1000

0.89286	0.79719	0.71178	0.63552	0.56743	Total
120	120	120	120	1120	1600.00
107.14	95.66	85.41	76.26	635.52	**1000.00**

Repeat the process for the other two payment plans

0.89286	0.79719	0.71178	0.63552	0.56743	
277.41	277.41	277.41	277.41	277.41	1387.05
247.69	221.15	197.45	176.30	157.41	1000.00

0.89286	0.79719	0.71178	0.63552	0.56743	
320	296	**272**	248	224	1360.00
285.72	235.97	193.60	157.61	127.10	1000.00

Such a calculation can also be carried out using an algebraic formula. Each year's NPV is calculated using the formula

$$PV_a = \frac{A}{(1+R)^n}$$

Where:

PV = present value of a payment from period "a"

A = amount to be paid

R = discount rate

n = number of periods.

For a simple example, take the third-period payment of the third example, 272.00.

The PV of that third year payment:

$=272/(1+.12)^3$

=272/(1.12*1.12*1.12)

=272/1.404928

=193.60

Sample present value / future value discount factors

Period	6%	8%	10%	12%
1	.94340	.92593	.90909	.89286
2	.89000	.85734	.82645	.79719
3	.83962	.79383	.75131	.71178
4	.79209	.73503	.68301	.63552
5	.74726	.68058	.62092	.56743
6	.70496	**.63017**	.56447	.50663
7	.66506	.58349	.51316	.45235

8	.62741	.54027	.46651	.40388
9	.59190	.50025	.42410	.36061
10	.55839	.46310	.38554	.32197
11	.52679	.42888	.35049	.28748
12	.49697	.39711	.31683	.25667
13	.46884	.36770	.28966	.22917
14	.44230	.34046	.26333	.20462
15	.41726	.31524	.23939	.18270

To calculate these factors,

$$\text{Factor} = \frac{1}{(1+i)^n}$$

Where:

i = discount rate

n = number of periods

For example, what is the discount factor to be applied to a payment received in six years if the assigned discount rate – the time value of money –is 8 per cent per year?

Factor = $1/(1+.08)^6 = 0.63017$

Calculating the internal rate of return (IRR)

In **Excel** or another spreadsheet program or financial calculator, enter the data for the first example (case D) in columns A to F as shown in the table.

	Year 0 Amt. out	Year 1 Amt. in	Year 2 Amt. in	Year 3 Amt. in	Year 4 Amt. in	Year 5 Amt. in
Case D	-1000	300	240	240	270	350
Case E	-1000	350	280	350	280	140
Case F	-1000	350	350	300	200	200

Open the function for formulas (fx in Excel),

Select the function internal rate of return, IRR

Enter the entire set of data in the values section as follows: A1:F1

[The formula now reads: IRR=(A1:F1)]

Press "OK"

This will return 12% as the IRR for case D.

Repeat for case E and case F:

Case E, IRR=(A2:F2) = 13.9%

Case F, IRR=(A3:F3) = 14.1%

If you do not have Excel or specialized calculator an NPV should be prepared using 0%, 5% and 10% as the discount rates.

- If the NPV is negative at 0%, the transaction needs grants or subsidies.
- If NPV is positive at 0% but negative at 5%, then the target should be donors, development organizations and socially responsible investors who place a high value on social and environmental returns.
- If NPV is positive at 5% and negative at 10%, then the target should be specialized lender-investors and an effort should be made to develop a financial plan more fully.
- If a positive NPV is obtained at a 10% discount rate, then the private sector is the target.

Note: the only way to determine an IRR manually is to keep carrying out NPV calculations iteratively until the discount rate is obtained where NPV equals zero.

Annex VI: Due diligence checklist

Due diligence checklist for [Name of enabling organization, a triple-bottom-line, modern energy investor]

- Mission:
  - How does loan or investment support NAME's mission?
- Technology:
  - Renewable energy or energy efficiency?
  - Is this an appropriate and affordable technology?
  - Is it proven?
  - Is the Champion proposing an innovative use or innovative delivery mechanism? Or, is the Champion introducing the technology in a new region/country?
- Energy purchaser:
  - Who is buying the energy?
  - What is their ability to pay? How has this been documented? (See also "Energy purchase agreements" in the technical section.)
- Leverage:
  - How are our funds leveraging other financing?
  - Which local or regional financial institutions are interested in this investment?
  - Can we interest a local bank at an early stage if we are involved? If not, how do we interest a financial institution in investing in this type of initiative at a later stage?
- Replicability:
  - How is this project replicable?
  - Does the entrepreneur plan to implement other projects?
  - Does the project have demonstration value for its being replicated by others?
- Market:
  - Would this technology be cost-competitive with existing sources of electricity (kerosene, candles, diesel generators, etc.)?
  - How would it be marketed?
  - What is the market potential?
  - What is the energy regulatory policy?
- Social:
  - How does the energy enterprise improve the quality of life through the provision of energy services (lighting, cooking, water, health)?
  - Are there productive uses involved with this activity? If so, what are they?
  - How many people will benefit from this project?
  - If the project is grid-connected, who will benefit from increased supply to the grid? Will there be long-term benefits (permanent jobs, access to water, grid extension) or will they

be short-term (temporary jobs during construction)?

- Environmental:

  How will the investment improve or protect the local, national and global environment?

  What other energy sources such as diesel, kerosene, candles or fuelwood will be displaced?

  If displacing carbon, can this be quantified now?

  Does the investment have any negative environmental effects (air, water, flora, fauna and land use)?

  Has an environmental impact assessment been carried out?

  Does one need to be done?

- Structure of company:

  What is the overall structure of the company?

  Who are the owners?

  Do they have any political, community or business connections worth noting or being concerned about?

  (CVs for the principal owners and third-party referees need to be filed.)

  Have we carried out a credit check on the sponsors?

  Can we get financial summaries or the net worth of the individual sponsors? (This is particularly important if we are making the investment based to a large degree on the name and reputation of the key sponsor.)

  What insurance exists? If assets are pledged as collateral, are they insured?

- Legal standing:

  Has the company been incorporated? (The following items are needed: incorporation certificate, any shareholder agreements, by-laws and loan agreements.)

- Experience of the company:

  How many years have the entrepreneurs been in business?

  Have they been successful?

- Managerial strength/depth of company:

  Describe the technical and managerial experience of the team and what is required to ensure that the venture is profitable and sustainable.

  Has the project/energy enterprise secured collaboration with applicable third parties such as equipment suppliers, engineers, site owners, etc.?

- Development of operations:

  How will the company operate on a day-to-day basis?

  If the success of the enterprise is dependent at all on the successful collection of credit, what are the systems in place to ensure this? Does the enterprise have any experience in any aspects of extending credit (credit review/approval, credit management, collection process, late payment collections and/or repossession process)? (If not, this should probably be identified as a risk.)

Does the developer live near the project site? If not, how will the developer manage the progress of the company?

If the entrepreneur is entering into a distribution/franchise relationship, does the agreement have any conditions that would prevent the enterprise from growing over the long term?

- Risk management:

  What risks are associated with this investment?

  Country, political

  Currency devaluation, inflation and interest rate

  Managerial capacity

  Access to balance of project funding/other investors ("bankability" of the project)

  Ability of customers to pay

  Construction risk

  Environmental/weather risk

  Contractual liability risk (energy purchase/sale agreements, fuel supply contracts), contract enforceability

  Competition

  What is the level of risk-sharing with the owners, us and other participants?

  If the business is manufacturing-based, then assess the market for its raw material streams. Has there been fluctuation in prices for the material? Are there many suppliers (domestic, international, both?) Carry out sensitivity analysis for profitability and fluctuations in materials costs.

- Some examples of risk mitigation measures:

  Key-person life insurance if enterprise is heavily dependent on a single entrepreneur.

  If the primary source of repayment is weak, are there any secondary sources of repayment in the form of a guarantee that can be executed? These should have a value even when there are collection problems and should not be hard to find and take over.

- Financial viability:

  What financial information is available: financial statements, audited financial statements, project cash flows? Provide a summary table of available info. If the company is already in operation, you must provide a summary income statement and balance sheet for previous years of operation. Indicate whether they are audited or not.

  If no financial statements exist, explain why they do not and explain any plans to install an accounting system. A pro forma cash-flow table should always be presented (even if it is just a summary table).

  What is the company's current financial situation?

  What is the quality of the company's receivables? Can they provide us with an "aging report" of their receivables?

  What is the total project cost?

- Financial structure:
  - What is the financial structure of the investment?
  - Is there a likely market for the collateral that is being offered?
  - If the business is producing a commodity product, you should consider using some or all of the inventory as part of a guarantee.
  - How much has the developer invested to bring the project to this point, in cash or in kind? Provide details.
  - How much will the developer invest in the next phase in cash and/or in-kind? Provide details.
  - What percentage of equity will the developer's investment equal?
  - How has this been valued?
  - Are other organizations investing? Debt or equity? Under what terms? Any subordination?
  - Does the developer have the financial resources to handle unexpected delays?
- Terms:
  - Is this a loan, equity, quasi-equity or loan/equity with a "kicker" (the offer of an ownership position)?
  - Will guarantees be provided?
  - Will this be a dollar-denominated investment?
  - Can funds be repatriated?
  - What is the repayment schedule?
  - Who pays taxes on repayments?
- Legality issues:
  - Does the investment document need to be registered and/or submitted for approval to government institution such as the central bank of the country?
  - Can a dollar-denominated loan be made? Are dollars and euros generally available?
  - Are there repatriation issues for loan repayments? Equity/dividend payments?
- Work-to-date:
  - What work has been carried out to date (market assessments, feasibility studies, business plans)?
  - What work has been reviewed by us?
- Deliverables:
  - What deliverables will result from our funding?
  - What is needed to advance the project to operations?
- Licensing/permits:
  - What licences or permits are required to complete this project?
  - What is the status and schedule of each of these?
- Contracts:
  - What contracts are needed?

- Fuel resources:
  - What fuel resource (e.g., water, sun, bagasse) is being used?
  - What fuel-supply contracts are needed and which have been secured?
  - What fuel resource data is available?
  - How long is the period for which the data have been analysed?
  - Are historic data available?
- Energy purchase agreements:
  - Who will buy the energy produced?
  - What is the status of energy purchase agreements? Is there a power purchase agreement (PPA), or is this a wholesale market? If so, what is the structure of the market and what are the tariffs? Is it a newly established market or is it already operational? Are there any special considerations for renewable energy?
  - What risks are there?
  - Is there a back-up purchaser for the energy?
- Wheeling:
  - If the energy is being sold to other than the local utility, are there expenses to "wheel" the energy elsewhere to the purchaser? Are they included in the economics?
- Interconnection issues:
  - Have the interconnection costs been considered in the investment costs? If not, will the purchaser of the energy pay for this?
- Land-ownership issues:
  - What is the risk that a developer may lose access to the site in which the project would be implemented? Costs of the land? Relocation of human population? Concessions?
  - Obtaining rights of way (for access roads, piping, wiring, etc.)
- Engineering, procurement and construction (EPC) contracting:
  - Will an EPC contractor be retained?
  - What is the status of identifying and securing a commitment from an EPC contractor?
  - What are the EPC contractor's qualifications?
  - Is financing available through the EPC contractor?
- Quality of equipment/guarantees.
  - What type of equipment is being used (new or refurbished)? Who is the manufacturer?
  - Who will supply the equipment?
  - What guarantees will be provided?
  - Is financing available through supplier?
  - Is there a local representative for the supplier? If so, what is his experience?
- Concessions/permits:
  - What permits, licences and concessions are needed?
  - What is the schedule for obtaining the necessary items?

- Technical capability:

  Who will provide technical capability? What is their experience with this technology?

  If outside technical assistance is needed, how will this be funded? What is the technical experience of the outside assistance with regard to the specific technology being used?

  If outside technical assistance is needed, are there any related party issues that need to be disclosed? (For example, do the sponsors own part of the construction company being hired to build the dam?)

  If outside expertise is being used, what, if any, are the penalties or guarantees in place to help ensure that the work is done appropriately, on time, on budget, etc.?

  Who, within the enterprise, will oversee the outside experts?

- Time schedule:

  How realistic is the work plan and schedule?

  What financial resources are available if there is slippage in the schedule?

- Operations and maintenance:

  How will operations and maintenance be handled and by whom?

  What is their experience and level of commitment?

Annex VII: Term sheet

Date:

Business name:

Proposed terms:

- Type of financing: (*e.g., dollar-denominated loan*)
- Amount:
- Investment plan: (*e.g., to finance the purchase of inventory…*)
- Annual interest rate:
- Term in years:
- Grace period: (*e.g., six months on principal and interest*)
- Penalty interest rate: (*fee for late payments*)
- Repayment currency: (*e.g., dollars*)
- Payment frequency: (*e.g., monthly, quarterly, semi-annually, etc.*)
- Administration and legal fees: (*any fees charged by financial institution upon disbursement*)
- Guarantee: (*e.g., promissory note, lien over stocks and inventory, property, key-person life insurance policy, etc.*)
- Other applicable terms including special legal requirements:
- Remaining due diligence needed:
    - Conditions precedent: (*conditions to be met prior to disbursement, for example:*
    - *Investment approvals*
    - *Monitoring and evaluation baseline data collected*
    - *Completion of legal agreements and registrations*
    - *Key-person life insurance*
    - *Verification of documentation covering land ownership by shareholders*
    - *Independent review of valuation report on property given as guarantee, etc.*)

- Date Enabler's commitment expires:

This term sheet outlines the general terms agreed to between **Enabler** and **Champion's enterprise.** It is understood by you that all **Enabler** investments require approval from **Enabler's** Investment Committee and that no investment can be made without such approval. Agreement to the terms in this document does not obligate **Enabler** to make this investment nor does it obligate you to accept the funds. **Champion's enterprise** shall not hold **Enabler** liable for damages or claims if **Enabler** does not invest in the business.

Agreed to on this date _____by:

_____ _____

Investment Officer

For **Enabler**

Project Director and Proprietor

For **Champion's enterprise**