



Carbon finance: A guide for sustainable energy enterprises and NGOs

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**The Ashden Awards
for sustainable energy**



December 2010

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1 Introduction – what is carbon finance?

1.1 Purpose of this guide

A carbon project helps to mitigate climate change and thus to safeguard the planet; and you even get paid for it – how great is that?

Unfortunately, it's not such a straightforward process and there will be a lot of blood, sweat and tears on the way, but carbon finance can contribute to grow your business. The Ashden Awards and GVEP International have prepared this basic guide designed to help energy entrepreneurs to understand better whether they should consider carbon finance more closely in their business plans, and to provide recommendations on the first steps to assess their potential.

For small-scale energy projects in developing countries accessing finance is one of the major constraints to expansion. In recent years, the availability of carbon finance has been creating opportunities for entrepreneurs who are developing sustainable energy projects. However, not all entrepreneurs are aware of basic criteria that will allow their projects to qualify for carbon finance, the time it will take, and who they should contact for help. GVEP International is often requested to provide linkages, support or assistance with regards to carbon finance.

This guide is one of a series on finance for sustainable energy enterprises produced by The Ashden Awards and GVEP International. The others, 'Investment Finance' and 'End-User Finance', are freely available online (www.ashdenawards.org and www.gvepinternational.org).

By creating a commercial value for reducing greenhouse gas emissions, the carbon markets can provide an additional source of revenue for a sustainable energy project. This increases the commercial viability of a project, and can therefore play an important role in sustaining and growing the enterprises. Within this context, carbon finance can be an opportunity, although the process to access it is cumbersome and not suitable for all types of businesses.

To access carbon finance you will need to go through a rigorous monitoring process with a series of checks, find potential buyers and negotiate prices and terms with them. There are rules and criteria that need to be followed and some of these are explained in this short guide. However, this is only an introduction: it will help you to find out if you should explore carbon finance options in more detail, describes the steps and timescales involved in carbon finance and points you to further information and useful contacts.

2 Key concepts explained – understanding emissions reductions

Through the establishment of carbon markets, reductions in greenhouse gas emissions became a tradable commodity

Tackling climate change is widely acknowledged as one of the biggest challenges of this century and its negative effects will disproportionately affect poor countries, which makes it even more urgent to act. Emissions of various gases that arise from industrial activities and the burning of fossil fuels and biomass need to be reduced in order to limit the negative impacts of climate change. The most important of these so-called 'greenhouse gases' is CO₂ – often just called 'carbon' – which originates in the combustion of fossil fuels or other organic matter.

To help the global reduction of greenhouse gas emissions, projects in developing countries can be eligible to receive funding from industrialised countries or companies if their project reduces greenhouse gas emissions. Under this process, which is mostly referred to as 'carbon finance', industrialised countries help to meet the costs for such projects. This process is regulated through special markets where these emission reductions are traded.

Key elements of carbon finance projects

- Available only for projects that reduce greenhouse gas emissions
- They must contribute to the sustainable development of the host country
- These emission reductions need to be measured and verified before they can be sold as carbon credits

2.1 What are carbon markets?

Most industrialised countries have committed themselves to reduce their greenhouse gas emissions through international negotiations and treaties. Individual national targets have been set to meet this collective commitment. The European Union and other states put legally binding obligations on their biggest industries to reduce their emissions. Firms with high emissions need to pay a price for each tonne of CO₂ which they are emitting – called the 'carbon price'.

Attaching a price to carbon emissions and creating markets to trade them is thought to provide financial incentives to encourage emitters to undertake emission reduction efforts. If a company wants to emit more than it is allowed to, it can buy credits from those who have reduced their emissions below the target level, or from a project in a developing country which has certified emission reduction credit to sell. This trading forms the basis of the carbon market. Emission reductions certificates or colloquially 'carbon credits' are the currency of these markets. So carbon finance is a payment to a project in order to purchase its emissions reductions – just like a commercial transaction.

2.2 How can I estimate the carbon emissions saved by my project?

You will need to calculate a rough estimate of the amount of carbon emissions your project will save. From this you can evaluate if you should incorporate carbon finance in your business plan.

Emissions reductions are counted in units of one tonne of CO₂ (carbon dioxide). Because there are different gases that contribute to climate change – for example methane (CH₄) – they are calculated in CO₂ equivalents (CO₂e) in terms of greenhouse gas impact. For example, the Global Warming Potential of carbon dioxide is 1, and methane is 25. Thus, if a tonne of methane emissions is avoided, this is equivalent to 25 tonnes of carbon dioxide reduced, thereby 25tCO₂e.¹

To be eligible to receive carbon finance it is essential that you know and measure the exact amount of greenhouse gas emissions you avoid through your project. To tap carbon finance you will need to make thorough calculations that are backed up by third party information and follow set standards and procedures. However, for the purpose of this guide we want to show you how the baselines for greenhouse gas reduction scenarios can be approximated so that you have a rough idea of what you need to look out for.

Note: Greenhouse gas emission reductions

Emission reductions are calculated as the difference between the base case (conventional technology, or 'business-as-usual') and the proposed case (clean energy technology) measured in tonnes of CO₂ per year. (CH₄ and N₂O emissions are converted to equivalent CO₂ emissions in terms of their global warming potential).

To calculate the emission reductions from a project activity, calculations need to be measured relative to the so-called 'baseline scenario'. These are the emissions in a 'business-as-usual' case. In other words, what is likely to happen if your project did not take place. Often this means the fossil fuel alternative to your project. For example in the case of a solar energy business, if the customers would not have access to a solar lantern, they would continue using their kerosene lamp. Or if you are supplying renewable energy to the grid, the amount of credits will depend not only on how much electricity you are supplying from your project but also how dirty the fuel mix in the grid is at the moment, particularly the percentage of fossil fuels in the power mix.

The calculation of the baseline is dependent on various factors (current energy usage pattern, type of technology, environmental policy, resource availability etc.) After estimating the emissions in the absence of your project you can calculate the difference in emissions resulting from your project. To do this you will also need to define the boundary of your project, i.e. what constitutes your project and what are influences from outside. Also the issue of 'leakage' will need to be addressed. This means that you will need to provide information if emissions occur elsewhere instead and just moved location meaning greenhouse gas emissions have not really been reduced.

A very simple estimation of avoided greenhouse gas emissions

Before the project, what energy sources are people using? Firewood, kerosene, diesel generators?

How much are they reliant on using fossil fuels?
How many kilograms of firewood or litres of kerosene/diesel are needed for the task per week/month?

What percentage of the current use will your project replace? All of this? Or 50%?
Will people keep using firewood, kerosene or diesel to cover their energy needs to a certain extent? If so, you will need to estimate how much.
How much are they still using?
How much hydropower is already supplied to the national grid?

So, you have an estimate of the numbers above. Now you will need to prove it, using surveys or data to quantify the current usage (= baseline) and then monitor this over time (= reductions in usage).

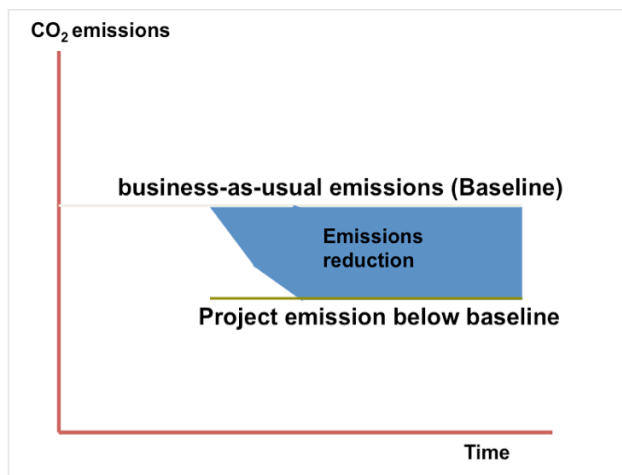
The difference between the situation before and after is the amount or reductions you can get paid for.

¹ For simplicity and because the majority of projects focus on CO₂ only, we will refer to tCO₂ throughout the document.

Let us consider an example: you leave some trees standing so they provide environmental benefits but due to the urgent need for firewood trees are cut down elsewhere instead.

Exact measurements and proper monitoring of all project emissions will need to be made and compared to the emissions in the baseline scenario, which represents the emissions without the project. Depending on the type of technology that you are using there are different methodologies available which explain how you will need to calculate these emissions reductions and we will explain a bit more on that later.

Eventually, the difference between the emissions in the baseline scenario and the project scenario are the emissions reductions that were achieved thanks to your project – and these are the emission reductions you could sell on the carbon market. To get through the whole carbon finance process you will need to provide third party evidence for all that and have it checked by independent verifiers. Some more information on these processes will follow in the next sections.



Example: D.Light, LED Solar Lanterns, Uttar Pradesh and Bihar, India

D.Light, a for-profit company, is replacing kerosene lights with solar power LED lights that are brighter, safer and cheaper to use. In rural India, many households spend one third of their income on kerosene for lamps that are not only inefficient but also harmful to health. The company aims to replace the kerosene lamps with a solar lighting system that consists of a LED lamp, a rechargeable battery and a solar PV module. The light is 8-10 times brighter than that of kerosene and not using kerosene avoids greenhouse gas emissions. D.Light started in 2006 and by 2009 it had distributed over 150,000 of these lamps, enhancing lighting for many lives. Carbon financing is an important source of funding for the project. It is expected to reduce 30,000 tonnes of CO₂ emissions per year and runs over a period of 10 years in two states in India. Each solar lantern avoids between 0.07 to 0.14 tonnes of CO₂ per year, depending on the lantern model and how many kerosene lights it can usually replace. D.Light worked with OneCarbon (now Orbeo) to develop their project design and complete all formalities.

3 The process – seeing through the jungle

Before engaging with investors or carbon finance experts you should have a rough overview what processes you will need to go through to access carbon finance and what information you will need to collect.

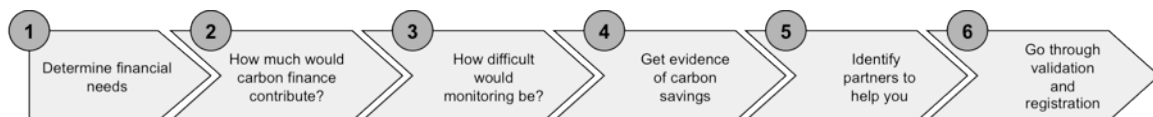
3.1 What are the basic steps?

First of all, you should assess your financial needs. Obtaining carbon finance can be quite a time and resource consuming process and you should do a serious calculation about how much carbon finance could eventually contribute to your business income to make it worth the effort.

Secondly, carbon finance relies on payments after the delivery of verified data. Therefore you need to make sure you have the resources to collect and monitor all the required data, for example the patterns of use of the fuel-efficient cook stoves after they have been sold or the amount of electricity generated in your micro-hydro power plant.

Thirdly, it is important that you get third party evidence for all these numbers. The auditing process in carbon finance is very rigorous and you might need to find an experienced partner who can help you to get through the validation and registration of your project.

As a way of illustrating the basic steps, we suggest you think about these issues and we will explain more on each of them below.



Initial feasibility: Is there a viable market to sell your product to and increase sales? How much fossil fuel or firewood does your product replace? How much of these are your customers still using? What is the difference between the present and expected situations? Is there a sufficient amount of emissions reductions for which you could receive carbon finance? These are all questions you should ask yourself before elaborating the options in more detail. You can also get help from a partner or an experienced consultant to find out the answers.

Baseline study and study of methodology: The amount of credits (and eventually money) that you will get depends not only on how much emissions and unsustainable biomass use you avoid but also what the situation is at the moment. The problem here is that you will have to prove it too, even if you know that the forest around your area is getting smaller every year. If some of the wood fuel comes from sustainably grown trees you will not be able to claim all the carbon credits from using the improved cookstoves. This all centres around scientific evidence and rigorous data collection, so be warned.

To do this you need to determine which accounting methodology would be applicable for your project, and then calculate your expected carbon savings based on the details of that methodology. There are dozens of methodologies developed under the CDM which are available at the UNFCCC website (<http://cdm.unfccc.int>) for you to choose the most appropriate one for your project. When you are at this stage experienced carbon finance partners will explain to you the many details, and can lead you through the process.

Monitoring plan: The relevant methodology will explain what you need to measure but you need to find a way to monitor the emission reductions that works best for your project, which is as important as gathering the data for the baseline. Think about how best to monitor the emissions reductions and the social, economic and environmental benefits. You will need to provide a framework on how you will measure these. For household technologies, such as fuel-efficient cook stoves, the monitoring can be especially difficult because you will need to visit many households and use statistically sound sampling methods.

Preparing project documentation: When you have gathered all the necessary information you will need to develop a Project Design Document (PDD), which includes all your calculations and their references. This is the most important document in the development of the project, and is also the main document for the validation process where it will be checked by various institutions. Possibly, at that stage you want to start identifying potential buyers of your carbon credits who might also be willing to finance the PDD development, or partners with the necessary expertise to help you with that.

Independent validation of calculations and registration: The Project Design Document (PDD), including the baseline, the estimated CO₂ savings and the monitoring plan, will then be checked and approved by an independent verifier (a so-called Designated Operational Entity, or short DOE), an agency of your government and the CDM Executive Board.

If you pass all these tests successfully, your project will be registered and you can start implementing it. Congratulations!

Implementation, ongoing monitoring and verifications: After the project is registered as a carbon project, there will be less work to do with regards to managing the carbon component but good record keeping is crucial – remember you only get paid for what you achieve and where you can show the data. Every one to two years you will need to verify the assumptions you made at the beginning concerning the amount of credits that you generated. In the process of becoming registered you have provided all the calculations about how many emissions you expect to reduce. During the project's implementation periodic verifications will happen every or every other year to check whether you were as successful as you thought in reducing emissions. Depending on these verifications adjustments will be made to the amount of credits that you can receive, and which will be issued to you.

Every time the actual emissions reductions have been checked by the DOE, you will receive carbon credits until the timeframe of your project ends. You can either opt for a 10-year period or a seven-year period that is renewable twice.

The following graph summarise the important steps that all carbon finance projects have in common. This was all very quick, we agree, but there is more detail to follow in the next sections.



Example: New Lao stove project, GERES, Cambodia.

GERES is an international not-for-profit organisation with a remit to alleviate poverty using renewable energy. In Cambodia, GERES started the Cambodian Fuelwood Saving Project (CFSP) in 1997, in collaboration with the Ministry of Industry, Mines and Energy. While about 95% of Cambodians cook with biomass, this is costly, has adverse health effects and is bad for the environment. Cambodia's great natural biodiversity is threatened by uncontrolled wood consumption. Much of this demand is for timber but a significant amount is turned into charcoal, which is the preferred cooking fuel in cities, used by 40% of the population of Phnom Penh.

GERES developed a cheap charcoal stove, the 'New Lao' stove. This uses at least 22% less charcoal than the 'Traditional Lao' stoves that are commonly used in Cambodia. The improved stove is more expensive but individuals choose them because they last longer and reduce the amount of money spent on charcoal. A commercialised approach, including carbon credits, is used to disseminate the improved stoves through existing market channels. The stoves are not subsidised in order to avoid any market distortion. However, the project set-up is funded using the carbon finance. This includes research and development, training, technical follow up, quality control, market development, structuring the supply chain with fair trade values, energy policy work and advertising. A network of distributors and retailers has been established and a trade organisation has been created to oversee pricing and quality. To date over 800,000 stoves have been sold through the project. The project uses a standard methodology in the voluntary carbon market. The project is verified annually by a third party agency and has yielded emissions reductions of over 500,000 tCO₂ so far. The sales of these emissions reductions supports the ongoing project activities as well as facilitating the research and development of other biomass related technologies in Cambodia.



3.2 What process do I need to follow to apply for carbon finance?

There are various ways in which you can prove your emissions reductions. Although the process remains roughly the same, it can vary in complexity, stringency and the time it takes until approval.

There are different ways of securing carbon finance. The most important alternatives to understand are the Clean Development Mechanism (CDM), or the 'Compliance Market', which is regulated by the United Nations (UN), and the so-called 'Voluntary Market', often referred to as the 'Offset Market', which environmentally conscious companies or consumers use to improve their green and philanthropic credentials. These markets have a few different rules, although they are becoming more and more alike.

Clean Development Mechanism (CDM):

As mentioned in the introduction, instead of undertaking more expensive emission reduction measures on their own soil, industrialised countries can achieve the same outcome through offsetting in developing countries. The CDM is managed and overseen by the United Nations (UN), which sets the rules.

Your project needs to be in a developing country that has signed the Kyoto Protocol (almost all countries have), and you will need to find an UN-accredited third party organisation to check that all your assumptions and calculations about what you are going to do are correct. These firms are known as Designated Operational Entities (DOEs). The UN CDM Executive Board also has a final say. If it approves your project, you will be registered and eventually receive Certified Emission Reductions (CERs).

Voluntary market projects:

Apart from industrialised countries or large companies, many smaller firms and ordinary citizens are interested in voluntarily reducing their carbon emissions outside of any legal obligations. Having reduced their emissions as much as possible, they may then wish to offset their remaining emissions by purchasing an equivalent number of carbon credits, thereby becoming 'carbon neutral'. Companies may want to offset their emissions for several reasons, such as the desire to be good corporate citizens or to market themselves as 'green businesses' to their customers. Most of the time, they will do so using the voluntary market where Voluntary Emission Reductions (VERs) are traded. This is especially important for companies in the United States who cannot participate in the CDM, or for environmentally conscious airline passengers who want to offset their emissions. Many such firms and individuals also look to buy carbon credits from projects that also have positive community and biodiversity benefits in addition to their carbon reductions. This represents a special opportunity for pro-poor energy projects.

Voluntary market projects often use standards that provide more flexibility on methodologies, which can speed up the validation and verification processes. However, due to their more limited use, and the less stringent accounting under such standards and methodologies, the prices of carbon credits are usually lower in the voluntary market than for projects that have gone through the CDM process. Furthermore the overall market size of the voluntary market is much smaller than the CDM, although buyers are often interested in projects that benefit local communities and poverty alleviation.

Clean Development Mechanism	The Voluntary Market
<ul style="list-style-type: none"> ▪ The modalities and procedures are defined under the Kyoto Protocol and are governed by the UN ▪ Greenhouse gas emission reduction projects in developing countries ▪ Credits from the projects can be used to offset emissions in industrialised countries ▪ Projects should promote sustainable development in the host country ▪ The main users of CDM credits are European energy companies that have obligations under the EU internal carbon market. ▪ Carbon credits under the CDM are called CERs 	<ul style="list-style-type: none"> ▪ May use other methodologies than under the CDM ▪ Projects can be implemented in countries that have not ratified the Kyoto Protocol, e.g. USA ▪ Credits from projects cannot be used by industrialised countries to meet targets under the Kyoto Protocol ▪ Often 'climate conscious' consumers buy them to offset their high carbon footprint ▪ Carbon credits in the voluntary market are called VERs

3.3 How do I determine which is the right market and standard of my project?

The UN approved CDM route is more difficult for small projects but will give you better prices (but at a higher cost) than standards in the voluntary market, which are often easier and quicker.

To determine the most appropriate market and standard for your project a detailed understanding of the project activity is needed. You will need to make up your mind about the following:

- **Which carbon market is right for the project: CDM or voluntary?**
- **If voluntary, which standard and methodology should I use?**

However, before answering these questions, it is important to understand the main characteristics of your project that will affect the carbon financing possibilities for your project. The following factors will influence your decision:

Time: The process of meeting the requirements for a voluntary project is usually shorter than developing a CDM project. To create VERs you will have the advantage of a simplified development phase, reduced monitoring and evaluation requirements (which will however depend on the VER standard that you use), and the project does not need final UN approval either. Thus, the process to receive the credits can often be much quicker. Sometimes VERs can also be produced in the project period prior to CDM registration, which can take two years depending on circumstances.

Technology used: For many technologies approved carbon credit methodologies can be difficult and especially stringent under the CDM, or they don't even exist yet. In such cases their development through the voluntary market using one of the several standards that exist might be more feasible. A strong advantage of the voluntary market is the possibility to use methodologies that are not currently permitted under the CDM system, but which still have the potential to verify greenhouse gas emissions and thereby create marketable carbon credits, for example, anything to do with reducing deforestation.

Project size: The carbon revenues from a project should outweigh the effort and finance put into the setup for accessing carbon finance. CDM projects require going through a rigorous registration process and obtaining UN approval. Even with the simplified small-scale CDM methodologies, they involve considerable transaction costs and resource needs. Thus, projects should not be too small (see section 5.1 for information on minimum size). Costs for validation, registration and verification in the voluntary market are lower than under the CDM, although with a recent tightening up of quality measures these costs have risen towards the levels of the CDM. Projects that are too small to justify the costs and rigorous processes associated with CDM approval are usually developed under voluntary standards.

Expected revenue from carbon credit: The main advantage of the CDM over voluntary standards is its perceived robustness and rigour, which reflects well in the price of these carbon credits. These qualities stem from the important supervisory role of the UN and the validation and verification companies, the Designated Operational Entities (DOEs). CDM credits (CERs) can also be used to meet regulatory requirements by European firms regulated by the Emissions Trading System (EU ETS), which makes them more sought after.

Host country approval process: Some host country approval offices can be slow and inefficient adding to the time and effort in developing a CDM project. A voluntary market route might be faster, but some governments advise project developers to go via the CDM route because of its perceived better quality. Also a project located in a country that is not a member of the Kyoto Protocol can only be developed in the voluntary market. Most countries have ratified the Kyoto Protocol, but buyers from the U.S. are more likely to be interested in VERs.

As you can see, several factors may impact the choice of the market and standard for your project. A key trade-off is between time and money. CDM rules are also more cumbersome on the use of Official Development Assistance (ODA) to fund parts of the project, and it can also be a complex approval process in terms of both methodology compliance and the host country approval. On the other hand carbon credit buyers perceive their risks to be lower in the CDM market, and are willing to pay more.

The main advantages of voluntary market standards are their greater flexibility and lower costs, which can make the voluntary market better suited for smaller or more innovative projects, where transaction costs are also an issue. A historic lack of regulation in the voluntary market gave some standards a poor reputation. However, rigorous voluntary standards have recently been developed that apply the same stringent tests to voluntary

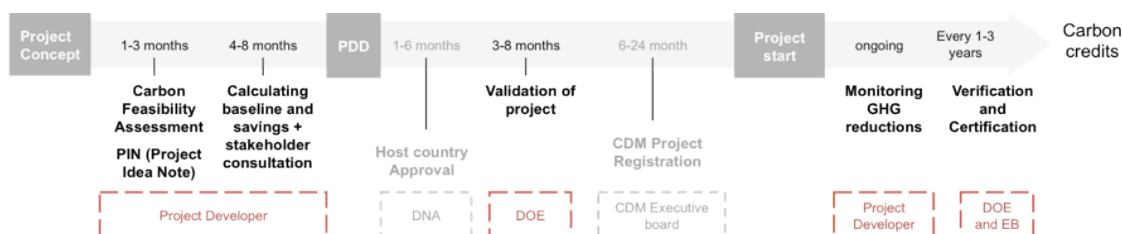
projects that are applied to CDM projects, reducing reputational risk. Some of these standards certify the additional benefits of such projects, such as socio-economic and other environmental co-benefits. Systems and standards often go hand-in-hand with named registries whose goal is to ensure that the origin and use of the credits is tracked effectively and transparently.

The main disadvantage of the CDM is its bureaucracy, reflected in the lack of flexibility and the high costs and time in getting through the approval process. The costs range between US\$80,000 and US\$120,000 for a single project. However, this lengthy process is rewarded by the generally higher prices that will be paid for the CERs compared to cheaper VERs, which can offset the additional development costs. Nevertheless, prices for both types of offsets can fluctuate considerably.

3.4 How long will all this take?

The process is lengthy and it can easily take two or three years from the start until you receive the first revenues from carbon finance.

This is one of the major drawbacks of carbon finance. To get through the whole process is far from straightforward and can easily take several years, with no certainty about the eventual outcome. Below is an indicative timeline showing the whole CDM process:



These are conservative estimates, and the timescale until registration is dependent on various situational factors such as the appropriateness and difficulty of the applicable methodology and the institutional structures in place in your country. Under ideal conditions (all information and structures in place) for small-scale projects, the actual timeframe for the PDD development would be about four months, DNA approval - two months, validation – two months, and registration – three months. That’s already a year in total, and few projects achieve such speed. Note that many processes such as PDD development, host country approval and negotiations with buyers can run in parallel. The DNA and CDM Executive Board approvals are also not required in the voluntary market.

What is a crediting period?

Once the project has gone through the design and development phase, the actual project must be implemented. During the design phase you need to specify the period over which carbon credits will be generated. The crediting period starts only after the registration has been completed and under the CDM it can either be a fixed 10 year period or a seven year period that can be renewed two times with adjustments to the baseline. Thus the maximum crediting period for a project is 21 years. For forestry projects much longer periods apply.

3.5 What are the different standards that are used?

In the voluntary market many standards have emerged with their own procedures, which differ from one another in applicability and revenue expectations.

In the CDM you will have to go through a pre-defined and very rigorous process. The voluntary market - because it is unregulated by either the UN or governments - allows for a wider range of arrangements to be made to verify emissions reductions and for more flexible terms between buyers and sellers. However, amid earlier criticisms of project quality, stronger voluntary market standards have emerged to certify the quality of carbon projects and the credibility of the resulting carbon credits. The differences aren't huge, but we want to give you an overview of what you are getting into, and to provide you with online-links that you can use when you are baffled with the jargon.

One of the most widely acclaimed standards is the **CDM Gold Standard**. It exists in two varieties, as an additional quality proof of community benefits for CDM projects, as well as a being a standalone standard in its own right for voluntary projects - the **Voluntary Gold Standard (VER Gold Standard)**. It is generally viewed as one of the most rigorous voluntary standards and consequently sells at a premium of up to 20% in both markets, and is also supported by over 60 NGOs. Apart from producing emission reductions, Gold Standard projects are assessed for the contribution to sustainable development and local stakeholder benefits.

Gold Standard projects go through a rigorous process to ensure that the projects meet quality and social and environmental benefits requirements. Under the Gold Standard a set of best practices and additional screenings need to be followed, especially contributions towards sustainable development and the inclusion of local stakeholders. It emphasises community participation, and requires more extensive stakeholder engagement than under normal CDM rules. Moreover, the **Voluntary Gold Standard** provides special rules for micro-projects with less than 5,000 tCO₂e/year per year to encourage their development. Further information is available at www.cdmgoldstandard.org, where you can find the rules, guidelines and examples of past Gold Standard projects.

Other standards that are only relevant to the voluntary market include:

Voluntary Carbon Standard (VCS): this has started to emerge as a widely used, scalable and well recognised standard, modelled on the CDM but allowing for methodologies that have not yet been approved under the CDM. Unlike the Gold Standard, the VCS covers forestry and agricultural projects.

<http://www.v-c-s.org/>

VER+: is a voluntary standard which is also closely linked to the CDM methodology but has largely been made redundant by the Voluntary Carbon Standard (VCS).

<http://www.carbonpositive.net/viewfile.aspx?fileID=140>

Climate, Community and Biodiversity Standard: is a widely used additional quality label for forestry and agricultural projects that adds more value to a CDM or VCS methodology. It is not a carbon standard as such, but is used in conjunction with other standards.

<http://www.climate-standards.org/>

The choice of voluntary standards will depend on the type of the project, for example the Gold Standard only covers renewable energy and energy efficiency. Moreover, if you have a buyer identified, they might have requirements as to which standard you should use. In any case, you should use a standard that is widely used and recognised to ensure you will get the maximum price for your VERs.

3.6 What is the role of the government in this process?

You will need to provide evidence to your national authority that your project has social, economic and environmental benefits.

Government needs to approve your project: Support from government and other stakeholders such as local authorities will be necessary as CDM projects require a 'Letter of Approval' from the national government where the project is taking place in order to qualify. Each government has a facility called the Designated National Authority (DNA), and these are all listed on the official CDM website (cdm.unfccc.int). Some governments also provide a 'Letter of no-objection' which can be useful in the development phase of the project to assure yourself and your investors that the government is in principle supportive of your project.

Most voluntary market projects do not need such an approval. However, it is highly recommended to liaise with government agencies, especially over environmental and regulatory requirements, and many voluntary standards require a letters of non-objection or approval from the host country DNA.

Sustainable development: A fundamental aspect of carbon finance is that, in addition to producing greenhouse gas emission reductions, there should also be significant social and economic benefits from your project in the host country. For example, a biogas plant will reduce emissions by substituting unsustainable fuels like charcoal or woodfuel. At the same time, it may also provide clean cooking fuel or electricity to the community. Women do not have to cook in smoke-filled kitchens. Projects with a pro-poor focus and benefits for the local community are in high demand and buyers will be willing to pay premium prices for carbon credits from such projects.

To get government approval for your project, you will need to present your project's social and economic benefits in addition to the reduction of carbon emissions; specifically, you need to make sure that your project satisfies the host country's Sustainable Development Criteria for CDM projects. It is best to find a copy of these criteria (sometimes available on the DNA website) and to make sure that your PDD fully explains how the project supports these criteria. You will need to show that you accounted for comments from other stakeholders such as local authorities while designing the project. As with all issues around carbon finance such discussions and decisions need to be properly documented, and this will avoid the risks of misunderstandings and conflicts with local communities or inadequate attention to environmental issues.

Example: Biogas Support Programme, Nepal: Scaling up with carbon finance



Biogas has been a popular alternative source of energy in Nepal for over 50 years. Initially researched and promoted through personal and private attempts, the industry became more institutionalised in the 1970's when the first biogas company in Nepal – Gobar Gas Company was established. Over the last 18 years, more than 230,000 biogas installations have been built and the sector now comprises some 96 companies and employs over 5,000 people.

The Biogas Support Programme (BSP) was established in July 1992 with the help of funding from the Director General for International Cooperation of the Netherlands (DGIS). The aim was to promote the use of biogas as a substitute for the more commonly used sources of fuel, such as wood and kerosene which have adverse effects on the environment and health of the population, particularly women.

Carbon Financing: BSP partners started talking about the Clean Development Mechanism in 2001, four years before the Kyoto Protocol came into effect in Nepal. In December 2005, as a prerequisite for joining the Protocol, the Nepalese government set up the Designated National Authority (DNA). Soon afterwards the BSP became the first CDM project in Nepal.

The first two CDM projects in 2005 were signed at an emission reduction rate of \$4.5 per tonne. In May 2006 an Emission Reduction Purchase Agreement (ERPA) was signed with the World Bank for the emission reductions for \$7 per tonne of CO₂ and in 2007 the World Bank made an up-front payment in excess of \$500,000. This was followed up by a further payment in 2008 of \$330,000. The two projects are expected to generate carbon revenues of around US\$ 400,000 per year over a seven-year period that is likely to be renewed for another two crediting periods, each of seven years. However, the programme faced challenges and delays due to lack of clarity and confusion over the monitoring requirements. Thus, the expected Certified Emission Reductions (CERs) had not been issued by the beginning of 2011, but are expected to be issued by the middle of the year. Though the two small-scale biogas projects were registered in 2005, problems with the methodology blocked the development and registration of new projects. Eventually, BSP developed a completely new methodology, which had to be approved by the CDM Executive Board and could then be used afterwards to design the project.

Eventually a methodology was approved by the CDM Executive Board in 2008. The methodology however reduced the greenhouse gas emission reductions that could be claimed from 4.99 tonnes to a maximum of 3 tonnes. This was less than expected and fewer CERs in turn led to a reduction in revenue. However, increasing CER prices still make the project viable and hence the methodology will be applied in designing new CDM projects, which are in the pipeline.

New projects are also being developed to be registered with this methodology but as a Programme of Activities (PoA). The registration is expected to be completed by 2011 and if all goes well, annual CDM revenues could be as high as US\$ 3.5 million within next four years or so. This amount will meet the current annual expenditure of BSP, including the current subsidy on biogas plants. It will also enable biogas projects to continue sustainably and even expand beyond existing programmes or projects. Carbon financing will be an important source to fill the current funding gap in the project and its future expansion.

4 Up-front costs and carbon revenues – a precarious balance

For small-scale projects margins are often tight and you need to calculate carefully whether the hassle of carbon finance is worth the effort.

4.1 What up-front costs are involved in gaining access to Carbon Finance?

In setting up a carbon project, the costs for checking your calculations and getting your project approved and registered are very significant in the first two years while you are working towards the first issuance of credits. This applies to both small-scale and large-scale projects; but in the case of small projects, these high costs often mean that it is not worthwhile trying to secure carbon credits. Thus it is important to ensure that the expected value of the carbon credits will be higher than the up-front and on-going carbon costs. This becomes an important issue when the overall volume of emission reductions or the carbon credit prices fall too low.

The information on the right shows typical project preparation costs. It is also important to note here that monitoring costs can be higher depending on the technology and the number of projects users that you will need to monitor.

Up-front costs occur for the following activities:

- Development of project documentation
- Contract negotiation and writing
- Registration fees
- Internal monitoring costs
- Professional fees for all the mandatory checks (design, validation and verification)
- Taxes and government approval fees

Approximate up-front costs in US \$	
Project preparation	
– Project assessment cost	5,000
– Document preparation cost	40-50,000
– Validation	30-50,000
– Legal cost	3,000-5,000
Registration fees	Calculated per credit
Monitoring costs	
– Verification	10-20,000
– Monitoring	10-20,000 every two years
Issuance fees	
– Levied except in case of Least Developed Countries	2% of issued CERs

Many carbon projects have been supported by some form of grant funding or institutional support to cover the project's preparation costs, usually the PIN and PDD preparation. Alternatively, private sector carbon buyers often enter into agreements with developers to pay for a large part of the project's carbon preparation costs, in return for a lower price for the carbon credits generated.

Also after you receive the carbon credits you will have to pay certain fees. In the case of the CDM, the Executive Board will deduct 2% of CERs for the Adaptation Fund unless you are based in a Least Developed Country. Voluntary market registries will also take their share of the carbon price in the range of 5 - 30 US cents per VER.

Note: Transaction costs must be worked out in detail. If the carbon credits generated are insufficient to recover all the up-front costs, the project will not be viable. Please note as well that stakeholder consultations can turn out to be substantial expenses that might need to be added to those above.

4.2 How do I determine the possible revenue from carbon finance?

Key determinants for the price you can sell your carbon credits for are the demand of buyers and the risks involved in your project.

Carbon credits are mainly used by industrial firms in developed countries to meet their legal emission reduction obligations. Because the supply and demand of carbon credits varies according to general economic trends so does their price.

Carbon credits are traded on the basis that the promised emissions reductions will be delivered, but the risk of non-delivery will be assessed by the buyers. The likelihood that the emissions reductions will not be delivered will be affected by the normal projects risks that project developers and their financiers take, as well as the current status of the project. Credits that are already issued command a far higher price than those that have yet to be issued. Some of the key price determinants are presented in the box below.

The World Bank publishes an annual report on the range of prices achieved for carbon credits in the CDM and voluntary markets. This shows a considerable variation in the prices achieved by projects even for credits being issued under the same standard. For planning purposes, a price per tonne of CO₂ that you could consider realistic at the end of 2010 is around US\$ 5 - 10. The price will be dependent on the risks and technologies involved in your project, and whether a broker or other intermediary is purchasing, rather than a sovereign buyer or large industrial compliance buyer. Social, economic and environmental benefits that your project brings, especially improving livelihoods in poor and rural areas, can have a positive effect on the price if these are verified by independent third parties to well recognised standards, such as the Gold Standard (see section 3.5), which can give you a premium of an additional 10-20%.

Factors that influence the price paid for carbon credits

Market Price: the prevailing market price depending on the demand and supply of CERs and VERs.

Project Risk: The price of carbon credits depends on the risk associated with the successful completion and operation of the project. The riskier the project, the lower the price of a CER/VER will be.

- Likelihood of delivery of the verifiable reduction
- Likelihood of the project completing on time
- Technological viability of the project
- Management capacity
- Likelihood of host country approval

Credit worthiness: The project developer's creditworthiness also has an impact on the price of the CERs/VERs. The better the developer's credit rating, the greater the availability of finance and in turn the lower the risk in the project being completed.

Structure of contract: The price of CERs will be higher if the project owner is willing to take up carbon credit delivery supply liabilities in case the project is underperforming or fails, although this is no longer as important as it was in earlier contracts.

Development/ sustainability impact: The price of a CER/VER will be higher if the project demonstrates positive social, economic, environmental and technology transfer impacts.

Early delivery: The CDM credits issued before 2012 are priced higher because the buyer can use them to meet its obligations under the current Kyoto protocol targets. Post-2012 vintage credits are not purchased by all buyers.

Project stage: If a project is in its latter stages of development, and for example has already submitted a PDD for validation, it is more likely to succeed, and thus forward sales of CERs can secure a higher price.

Market access: Broader access to the carbon market increases competition between buyers, and thus can lead to higher CER/VER prices than by dealing with a single buyer.

Standard applied: Gold standard projects will mostly sell at a premium. In case of VERs, the Voluntary Carbon Standard has become widely adopted.

4.3 What is the impact of carbon finance on my investment plan?

You will need to find out whether carbon finance has a significant influence on your finances and can meet some of your funding needs. For small projects, time and resources committed to carbon finance can easily distract from your original aims.

There are multiple benefits from an effective carbon finance strategy, the most important being that carbon financing can enable your project to overcome key barriers and help investors gain confidence in its revenue prospects.

Commercial impact: The biggest benefit of carbon financing is that it can enhance the commercial viability of a project. The additional revenue stream that carbon finance brings can make a vital difference to a project being commercially viable or not. However, many sustainable energy projects only gain 10% or less of their revenue from selling their carbon credits, and cover the rest of their financial needs through other sources like loans and equity.

Long term finance: Carbon credits can be generated over long time periods (often 10 years but up to 21 years), which compares well with classic donor grants, which hardly last longer than two to three years. As long as you can ensure that emissions reductions will take place over this period, you can get a continuous income from carbon finance, allowing you to sustain your business over the long term.

What other finance options are available? Should I access more than one type of finance?

It is worth reiterating that carbon finance can provide you with an additional revenue stream and thereby help you to access loans and attract investors to launch your project. It may however not be enough to finance a large part of your project. Often, especially for small-scale energy projects in rural areas, the contribution from carbon finance is only 10-30% of the total project cost, and there can be a considerable time lag of three years or more before carbon finance makes a real impact on the financial returns on your project. Forward sales of your credits are possible, but often at a deep price discount.

Carbon finance complements the need for traditional finance by providing an additional revenue stream, and whereas some large industrial projects can be fully funded out of carbon finance revenues, many development-focused projects cannot achieve sufficient emission reductions to fund the whole project. The remaining costs will have to be covered either through owner's equity, grants or some form of debt (international development banks, government funding, private financing, supplier credit etc).

You can find more information on other finance options in the Investment Guide and the End-User Finance Guide for sustainable energy enterprises and NGOs published by The Ashden Awards (www.ashdenawards.org).

Note: You should not rely on carbon finance alone to finance your project. Investors will need to be reassured that you have other means of funding to overcome the risks involved in your project. It is more suited for technologies and projects that can be scaled up rather than for research or demonstration projects.

On the other hand, you will need to prove that the decision to invest in your project has been taken because of the expected carbon revenues. If you already have received sufficient funds and support to make your project viable, and you would have undertaken it anyway, you will not be able to get carbon finance. Your project will not be considered to be additional to the business-as-usual case.

4.4 Why do I need to account early for carbon finance in the investment plan?

You will need to demonstrate that the investments in your project are in anticipation of the carbon finance revenues. As with everything in carbon finance, the emphasis is on providing evidence that can be verified.

Demonstrating ‘Additionality’: This is an important concept in carbon finance and basically means that any greenhouse gas emission reductions from undertaking the project occur only because of the additional revenue expected from selling carbon credits.

A project needs to demonstrate that the baseline business-as-usual scenario produces more greenhouse gas emissions than would take place under the with-project scenario, for which the provision of carbon finance has allowed various barriers to be overcome (these could be financial, technical or institutional). This ‘additionality’ is an important requirement to prove to a third party verifier (the DOE) to qualify for carbon finance and to get your project registered.

You will need to take account of ‘additionality’ from the very beginning. Once you have already started the project or investors have agreed to finance you without the positive impact of carbon finance, it will be very difficult to secure a registration under a respected carbon standard. DOEs have become very strict in enforcing this rule due to past abuses.

If a project already has good financial returns without carbon revenues, the project will not be favoured in terms of ‘additionality’ when it is validated, unless it can show that it faces significant barriers – technical or institutional. The project must show that only through the sale of carbon credits, a positive financial return is achieved. It is hard to prove additionality if carbon credits will only be a very small fraction of revenues, as the incentive effect will be relatively small. If you are seeking carbon finance, you should have a written statement from your investors that their contributions have been made in anticipation of carbon revenues. This will help you to prove ‘additionality’. Many projects fail to properly document the importance of carbon finance in their investment decisions. If you are considering carbon finance, write it down for future reference.

Note: ‘Additionality’ is a key concept in carbon finance and it is important to take the necessary steps into account from an early stage of project development. Requirements for small-scale projects have been made considerably easier; still many projects get rejected due to non-satisfactory argumentation and lack of written evidence.

Recently the rules to prove ‘additionality’ have been amended to considerably reduce the burden of evidence for certain renewable energy projects of less than 5 megawatts or equivalent. If such a project takes place in a Least Developed Country (LDC) or if the project (of less than 5MW) is off-grid and is supplying households or communities, it will automatically qualify as additional.

If your project is between 5MW and 15MW, ‘additionality’ can be determined using a simple barrier analysis i.e. the existence of investment / technology / institutional barriers. Such small-scale projects also have the advantage that they only need to provide evidence for the most relevant barrier and not for all. Satisfying any one of the criteria below should be enough to convince the verifier that your project is additional.

- **Investment barrier:** a financially more viable alternative to the project activity would lead to higher emissions.
- **Technological barrier:** the technology used in the project involves higher risks and uncertainties compared to alternatives that would have led to higher emissions.
- **Barrier due to prevailing practice:** the technology is not common in the country and existing standards or policy incentives would have led to the implementation of a technology with higher emissions.
- **Other barriers:** other arguments may be brought forward why your project should be seen to be ‘additional’ to help it to obtain validation, for example, institutional barriers or limited information, managerial resources, or limited financial capacity, which would have resulted in higher emissions from an alternative project or business-as-usual.

5 Risks and challenges – what to keep in mind

**It is necessary to manage risks associated with carbon deals.
Undertaking a proper risk assessment is an important step in planning your project.**

The prices you will get for your carbon credits are largely determined by the risks associated with the project and how likely it is that they will be eventually issued to the amount estimated in advance. But carbon companies often absorb a lot of these baseline and external risks in the hope of selling the credits later for a profit.

Demonstration of a sufficient volume of emission

reductions: A minimum size of emission reductions is essential to ensure the viability of the project. A rough rule of thumb is that at carbon credit prices of US\$ 7 per tonne of CO₂, the viability threshold of projects is around 10,000tCO₂/year for voluntary market projects and twice or three times as high for CDM projects. The average size of CDM projects is around 350,000 tCO₂ per year and many investors prefer projects from a minimum threshold of 50,000 tCO₂ per annum upwards. Micro-scale projects below 5,000 tCO₂/year have the advantage of procedural simplifications but they might be as difficult to implement as larger projects because carbon revenues are low and transaction costs make up a high percentage of overall costs.

Potential to scale-up: This is linked closely to the above point. Often projects targeted at rural energy access are scattered across a wide area but yet are too small to deliver the volume of emission reductions required. Carbon finance is more suitable to projects that are scaling up and expanding rather than for demonstration and pilot projects.

Risk type	Example
Project Risks	Project is not implemented on schedule or budget Inadequate resources / capabilities to develop the project Counterparty risk – will the buyer pay on time/will the seller deliver as agreed? Finance risk – cost over-run, debt repayments
Baseline Risks	Baseline calculations or 'additionality' test is rejected Baseline assumptions are not valid over time Poor performance leading to lesser than projected carbon credits
External Risks	Policy risks – unforeseen policy changes Market risks – fluctuations in the market price of carbon credits

Extensive preparation: If you want to develop a carbon project, you will have to follow stringent procedures and methodologies that can be very demanding. The processes usually require engaging professional consultants and other agencies to prepare your project documents. There is also a risk you might not get your project registered for carbon finance after putting considerable time, money and effort in it.

Time consuming: A typical carbon project preparation exercise may take 12 - 24 months, sometimes longer, before all the legal, technical and financial issues are sorted out and the project can begin. This may eat into valuable project start-up time. Again, late delivery of CERs can lead to financial penalties imposed in the purchase contract. One way to mitigate this risk is to spread the delivery over a longer period. For example to deliver 75,000 CERs within three years rather than delivering 25,000 CERs each year.

Upfront investment: The various carbon measurements and preparations come with a heavy price tag and revenue is generated much later, often after several years. However, you can sell your carbon credits on a forward basis before you actually have them, but you will receive a lower price due to the risks involved that are absorbed by the buyer. This can be a way to help you get some of your upfront investment finance together.

Demonstrating 'additionality': A project needs to demonstrate the difficult proposition that without the additional revenue from selling the carbon credits, it would not take place. In addition to this, you will need to prove that your project is not 'business-as-usual' and goes beyond the 'normal case'. This was explained in section 4.4.

Risk of non-performance: Just as with any project, there is a risk that your project will fail. With grant funding you are usually under no obligation to repay the support that you have received, but for the buyer of your credits who has pre-financed you part of the project in return for future carbon credits, he wants to be sure that he will receive them in the end, even if the project does not run as well as you assumed it would.

If your carbon project has a large number of users, as with biogas or improved cook stove projects, a potential danger is that due to design, marketing or pricing mistakes, consumers may not buy the expected quantity of the products, or quality issues may cause the product to fail early. This will lead to lower than planned emission reductions as only the products' continuous use over many years will give you the full amount of carbon credits. Proper planning and testing of your product, and proper market research and the involvement of local stakeholders is needed to avoid these issues.

Additionally, there are always risks in the carbon market itself, and considerable uncertainties about the future prices that will be paid for carbon credits.

Lack of coordination or institutional support: Good coordination with all stakeholders, including the government, is important when you design your project. Projects under the CDM must have the support of the government's Designated National Authority and its formal approval of your project. There is no lack of demand for carbon credits from Africa, on the contrary, but political and institutional risks, as well as very few viable projects and a general scarcity of local expertise to establish carbon finance projects, hold back many projects.

Weak implementation partners and defined roles: Projects must have the necessary technical expertise and sound project management. The roles of the different project parties, for example for monitoring project outputs and the maintenance of operations, as well as the involvement of independent third parties to verify project performance, need to be clearly defined. Issues around ownership of assets, land and carbon credits all need clear documentation



6 Engaging with investors and partners – what do they want to know?

Carbon credits are often bought and sold by several intermediary companies who have specialised knowledge in carbon finance. They find and develop projects, provide support and financing for carbon projects and bring them to market as part of their daily business. NGOs can link you to a suitable partner.

6.1 What are some of the sources for financing?

The carbon market has grown over the years, and both public and private sources of funding are available for projects that generate carbon credits. A short selection of sources is listed below, but most financing for sustainable energy enterprises will be accessible via intermediaries, such as non-profit organisations or private sector carbon companies. They can help you find the right investors for your project. Competition between these companies is often high, so look around and try to secure the best deal for your project.

Government tenders / Government carbon funds: Many governments in industrialised countries, in a bid to reduce carbon emissions and to source carbon credits, offer financing to project developers for the costs of the initial carbon documents, namely the PIN and PDD. In most cases, schemes offered by governments focus on certain sectors, technologies or geographic areas, and have well defined eligibility criteria. Many governments also have grant programmes to help promote CDM project development in countries with few registered projects and little private sector engagement. Examples: CDM procurement programmes of Austria, Denmark, Germany, the Netherlands and others.

Multilateral financiers: International institutions like the World Bank, the International Finance Corporation, the United Nations Development Programme, the African and Asian Development Banks and others have carbon funds and investment programmes targeted at carbon projects. Often programmes run by institutions like the World Bank have a component of technical assistance and/or grants for developing project documentation, which can be very useful for the project developer. These funds can provide upfront finance for your project under forward sales contracts for your carbon credits, rather than relying on income from issued credits two or three years down the line. Although they often have a pro-poor focus, they will want to see that you have a sound project and are likely to deliver the stream of carbon credits. Some funds specifically target projects in Africa. Example: World Bank Community Development Carbon Fund.

Note: Both governmental and multilateral institutions have in the past only been interested in CDM projects (although this is now changing with the wider acceptance of the Gold Standard and the Voluntary Carbon Standard), whereas the private sector has had a greater appetite in developing carbon projects in the voluntary market.

Private sector project developers / private carbon funds: Many private sector developers and venture capital funds actively invest in carbon projects and hold carbon credits as assets. Like banks, their support is likely to be on commercial terms. However, they are hungry for good projects and private investors usually offer more flexibility and speed compared to other finance sources. For example, while government institutions or banks may only be interested in providing debt financing, private investors may be willing to take an equity stake in your project. Examples: Ecosecurities (the largest firm), ClimateCare (now also part of Ecosecurities and JP Morgan), South Pole Carbon Asset Management, MyClimate, Orbeo, Camco, CarbonAided, E+Co and many others.

Non-profit Organisations: Non-profit organisations working in the carbon area may be able to provide support for your project's financing needs or can advise you about which carbon company will be the most suitable match for your needs, and they will have the contacts to link you up to them. Support may be available in a variety of forms including grants, low interest debt or access to debt funds dependent on health or poverty reduction benefits from the project. Examples: Nexus, Care, GVEP International etc.

Note: Investors will absorb some of the risks associated with your project, and this is very important. However, the terms of their project funding may be quite tough, and the CER/VER prices you may be able to negotiate with them may be lower for this reason.

Some sources can cover some or all of your preparatory costs (baseline study, monitoring plan, validation), usually for a discount in the price of the credits they will buy from you. Others may provide less than that or are only interested to invest at a later stage of your project when the preparatory work has already been completed.

Example: NEXUS Carbon for Development.

Nexus is an alliance of project developers committed to using carbon finance to alleviate poverty and to foster sustainable development, focusing on Asia. Set up in response to the barriers faced by development organisations, Nexus has adopted a collaborative approach to mentoring members' projects through the carbon finance project cycle.

Through NEXUS, project developers can benefit from technical assistance throughout the carbon project lifecycle at discounted prices, thus reducing transaction costs and maximising selling prices. Nexus also provides its members with funding solutions tailored to their needs. Members can access a grant, called the innovation fund, to help them establish or refine a pilot project. Once they have established a design capable of achieving the necessary scale, they can access a loan, from the NEXUS fund, which can help cover the transaction costs of accessing the market. The loans are repaid upon receipt of carbon proceeds.

<http://www.nexus-c4d.org/>

Example: Uganda Carbon Bureau – Small-scale Programme of Activities in East Africa

The Uganda Carbon Bureau is developing multi-country 'umbrella' schemes (Programmes of Activities) for improved cook stoves and grid-connected renewable energy – covering the five countries of the East African Community (Kenya, Uganda, Tanzania, Rwanda and Burundi), plus Ethiopia and Sudan.

Its aim is to reduce costs for individual projects to access carbon finance and to maximise carbon revenues for the project developer. It also provides the following services:

- Briefings on carbon finance opportunities.
- Preparation of carbon documentation for registration under the programme.
- Support during the registration process and for monitoring and verification.
- Advice on project financing and finding appropriate buyers for the credits.

<http://www.ugandacarbon.org/>

6.2 What will investors look for in assessing the feasibility of my project?

Investors will have different preferences, criteria and due diligence processes. You should reflect on the key issues here and address them in your business plan.

Overarching objectives: The aims and objectives should clearly indicate who your target customers are and the scale your project aims to achieve.

Technical and market feasibility: Is your project idea sound and do you have a secure market for your products? Financial feasibility will not be the only factor that investors are interested in. Depending on the type of technology, obtaining carbon finance is more or less difficult and you will need to determine an appropriate carbon standard and methodology to calculate your emission reductions.

You will need to demonstrate that the technology is feasible, has a good market potential and is scalable. As a project developer, you need to obtain a good overview of market size and your customer base. Apart from large-scale power generation projects, many carbon finance projects involve the delivery of large numbers of appliances, for example in case of micro energy technologies such as improved cook stoves and domestic

biogas plants. It is imperative that the size and structure of your market is known. Some of the key points to note are:

- Technology should be proven and be replicable in the country of concern.
- Good forecast on the number of units that can actually be delivered.
- Geographical extent of the market area.
- Provision of skilled workforce, maintenance and repair facilities.
- The risks of a slower uptake of the technology or lower sales than expected.

Set-up costs and financial return: Financial return is a key consideration for investors. They will almost certainly have a specific rate of return that they expect from a project. If a project demonstrates that it meets their profit expectation, you may be successful in obtaining funding for your project's establishment with their exclusive purchase of your carbon credits as one of their conditions.

- Pre-operational costs: Does it make sense to seek carbon finance? As explored earlier in section 4.1.
- Operational costs: What are the long-term financial prospects of the project? When will you reach profitability?
- Adequate carbon credit volume: Do potential carbon credits outweigh up-front investment costs? This is very much linked to the above. The volume of emission reductions generated is very important for carbon financing.
- Project Scale: There are funds that are specifically focused on small-scale projects. These funds are ideal to approach for your project financing. For example the Community Development Carbon Fund (CDCF) of the World Bank provides carbon finance to small-scale projects in the poorer areas of the developing world. However, buyers of voluntary credits can also be individual firms who might be more interested in sponsoring a social project than the pure purchase of carbon credits.

Project timeframe and schedule: What is your plan to implement the project? It is useful to think about the timeframe over which you will implement and construct your project and for how long emission reductions will be realistically achieved.

A monitoring and implementation plan: Will you be able to manage the project successfully for a long time? All carbon projects need a stringent monitoring plan with a clear support structure in place to implement it. You will only receive the amount of carbon credits for which you can prove that the savings have happened. Therefore a rigorous monitoring structure needs to be in place. You need to be clear how this can be fulfilled and answer key queries such as:

- Do you have the right expertise to monitor? Who could do the monitoring?
- Have you worked out the various risks involved and a mitigation plan?
- What are the cost implications? Do you have the funds to do it?

Project participants: Who else is involved in the project implementation? You should know the details of the management team, the investors (aside from carbon finance), the technology providers and suppliers, and other potential partners that can help you in the implementation of your project. Strong partners will give any investor confidence in the successful implementation of a project.

Level of preparedness: Do you have a convincing business plan? Projects that have a clear business plan, that have already secured financing, have strong partners to implement the project and that have a convincing feasibility study involve lower risks for investors and are therefore more attractive. Many financiers would like to invest in such projects.

Other preferences:

- **Geographic preferences:** Some funds are focused on investing in projects in certain countries or areas. Sometimes host country policies and procedures also lead to preferred investments in countries with a good investment climate. Most CDM projects have so far taken place in China, India, Brazil and Mexico. These

emerging economies have a far higher rate of carbon projects being registered in comparison to low-income countries, particularly in Africa.

- **Technology preference:** Although most funds are open to invest in a range of sustainable energy projects, some investors have preferences for certain technologies and may favour wind over hydro, for example.
- **Type of carbon credit (CER/VER):** Financiers may also have a preference for either CDM or voluntary credits, as explained in section 6.1 above.

It is useful to write down your approach to tackle these questions and package it within your business plan and to draft a Project Idea Note (PIN). In an annex to this guide we provide you with a template for a PIN, which should give you an idea what kind of information investors and carbon companies would like to see at the first stage of your contact with them.

Thinking through these questions will help you understand the viability of your project from a carbon finance perspective. These details will also help you determine the right standard and methodology to use and will enable you to identify appropriate sources of finance. As said above, carbon companies have screening criteria and need basic information to find out if you would be a good business to support.

In general, financiers will seek to finance projects that are technologically feasible and financially sound. They will be interested in looking at the cash flow for the initial years of operation and will assess the impact of set-up costs relative to the expected total revenues, including carbon income.

6.3 How do I approach potential carbon credit buyers?

For small scale enterprises, the best way to approach carbon finance institutions and funds would be through the local offices of carbon project developers or through NGOs like GVEP International or GERES who have contacts and can help to link you up with carbon companies.

To negotiate a deal the first step would be to approach one or more potential buyers and discuss your project plans. If a buyer is interested in buying some or all of your carbon credits, they will draft an Emission Reductions Purchase Agreement (ERPA), which is the contract between the two parties governing the sale and ownership of the carbon credits. ERPA negotiation is critical and you should seek professional advice and legal help for it.

Going directly through carbon project developers or a brokerage organisation may also be a possible option albeit an expensive one, as they operate on commercial terms and mainly deal with larger clients. However, these companies have an extensive knowledge in the carbon market that is highly valuable when developing a project and brokers can provide comprehensive access to buyers.

When can I get paid for the credits?

VERs and CERs can be sold at different stages of the project cycle and different arrangements about their sale are possible. In the early days of the carbon markets it was possible to get sufficient upfront payments to cover a substantial part of your project costs, but this has become more difficult. Mostly you will get paid when you deliver the credits. A contract can however fix prices in advance and help in your project's financial planning. The following gives you some further details that are worth knowing:

- **After issuance:** This refers to the sale of credits after they have been issued – the buyer purchases already certified and issued credits. Because the risk for buyers is minimal, prices are highest. The other side of the coin is that the enterprise must be able to finance the whole process cycle of project development, validation, registration, verification and all other up-front costs through other means, like loans, and be able and willing to take all the risks involved in getting the credits issued.
- **Forward Contracts:** Contracts can be drafted to give you access to finance before the credits are issued. In a forward contract the buyer will pay for your future delivery of the credits at an agreed price (or price formula), which is usually discounted compared to the price of already issued credits due to the risks involved prior to their delivery.

In the case of forward contracts the buyer pays for the credits before they are generated and thus helps to bring the project to life. The financier thereby takes on the risk of non-delivery if the project is not as successful as expected in the initial calculations. Hence, the prices offered will only be a fraction of already

issued credits, but the early cashflow can help to support the heavy financial burden at the beginning of the project. As a rule, the earlier the credits are sold in the project cycle, the lower the prices you will be able to obtain for them.

Note: Pay on delivery contracts will fetch higher prices but leave up-front costs and project risks to the developer, whereas early forward contracts will be at lower prices per CER/VER, but such advance payments can ensure that the project can start.

To reduce the risks you take and to gain access to carbon finance at an early stage, you may consider locking in a forward price that also has the possibility of sharing in any future market price rises, rather than simply agreeing on a fixed price for several years. A combination of forward sales and issued credits can also be implemented. For example 50% of CERs could be sold in advance and the rest in the spot market after issuance.

At <http://www.cerspa.com> you can find templates and sample ERPAs that can give you a clearer idea what such contracts include and which clauses can protect your interests. The terms and conditions of the ERPA will have to be mutually negotiated between buyer and seller, and while we have described some of the important issues that you should consider, it is highly recommended that you seek professional legal advice before signing an ERPA.

Once you have signed a contract with a carbon credit buyer, you can begin project implementation or construction, although in many cases contract signing may take place well after the commencement of the project when risks are lower and there is more competition for your carbon credits. After you go through the validation and registration stages, you'll need to monitor your emission savings carefully. The monitoring results will then need to be independently verified, and only after that will you be issued with a specified amount of carbon credits.

Based on your Emissions Reduction Purchase Agreement, you will have to deliver the carbon credits as per the agreed delivery schedule. You may have received your payment either upfront at the signing of the contract, or you will receive it on delivery, as agreed in the ERPA. Congratulations!

6.4 What is the future outlook for carbon finance?

The first commitment period of the Kyoto Protocol, which is the international treaty that governs the emission reduction targets of countries and also the Clean Development Mechanism (CDM) is due to expire in 2012 and new targets are currently being negotiated. At present, there is significant uncertainty about the shape of any agreement or the size of the targets that will take effect from 2012 onwards, and whether countries will choose to reform the CDM.

However, the EU is committed to accept CDM credits at least until 2018 in their Emissions Trading Scheme (EU ETS), whose firms are a major buyer, but considerable uncertainty remains. Current initiatives aim to increase the share of projects coming from Least Developed Countries. In general, the demand for CERs or VERs is difficult to predict, which has significant implications for a carbon project developer. Since there is uncertainty, many sovereign buyers are now willing to make contracts for post 2012 deliveries. Many brokers will buy credits for the period after 2012 at their own risk and hope that they will be able to sell them. Although the Voluntary Market provided faster approval processes, demand is hard to predict and with aviation coming under the EU ETS, at least some demand will be transferred into the CDM from 2012 onwards. Nevertheless, Gold Standard credits are highly sought after and unlikely to disappear soon.

7 Glossary and Resources on Carbon Finance

7.1 Glossary of terms used

Additionality	'Additionality' is the concept that allows carbon finance to only flow to projects that provide additional carbon reductions to what would have happened in a business-as-usual case.
Annex I country	Industrialised country that has signed the Kyoto protocol and has obligations under the treaty to meet certain specified emission reduction targets.
Baseline	The scenario that represents the greenhouse gas emissions that would have occurred in the future in a business-as-usual case. This is important to know when you calculate the emissions savings of your project.
Bundling	Combining or aggregating a number of small-scale projects to reduce transaction costs.
Carbon offsets	A term quasi identical with carbon credits. It's mostly used for voluntary projects where companies or individuals offset (or neutralise) their high emissions by purchasing carbon credits.
Carbon finance	The financial instrument available to projects that reduce greenhouse gas emissions by putting a price tag on carbon emissions so that they become valuable and can be traded.
Carbon dioxide equivalent (CO₂e)	Unit of measurement used to indicate the global warming potential of each of the six greenhouse gases that are recognised under the regulations of the UNFCCC. Carbon dioxide is the reference gas against which the other greenhouse gases are measured and which carbon credits are referenced to.
Certified Emission Reductions (CERs)	Basically carbon credits in the CDM. It corresponds to the reduction of 1 tonne CO ₂ through a CDM project and it is the unit that these reductions are traded in.
CDM Executive Board	Formal governance body established under the UNFCCC to oversee the implementation and administration of the CDM.
Clean Development Mechanism (CDM)	The CDM was established under the Kyoto Protocol to allow emission reductions in developing countries to be used by Annex I countries to meet their targets and to make compliance financially more efficient.
Crediting Period	Period for which reductions against the baseline scenario are credited by giving the project carbon credits after the real data have been checked.
Designated National Authority (DNA)	The national authority in the developing country that is responsible for the national approval of CDM projects after a check to ensure that the project contributes to sustainable development in the country.
Designated Operational Entity (DOE)	An auditor that is accredited by the UNFCCC to validate proposed CDM project activities as well as to verify the emissions reductions once they have taken place.
Energy Efficiency	All actions that reduce the energy requirements for a particular activity, for example efficient cook stoves reduce the amount of firewood burned to cook a meal.
Emission Reductions	A measurable, reportable and verifiable reduction in the release of greenhouse gases into the atmosphere from a specified activity or over a specified area, and a specified period of time.
Emission Reductions Purchase Agreement (ERPA)	The agreement that governs the purchase and sale of emission reductions.
Gold Standard	An independent best practice benchmark for CDM and voluntary market projects that focuses on environmental integrity and community development benefits.
Greenhouse gases	Gaseous constituents of the atmosphere, both natural and anthropogenic (man-

(GHGs)	made), that absorb and re-emit infrared radiation.
Host country	Country where an emission reduction project is physically located.
Kyoto Protocol	A specification to the United Nations Framework Convention on Climate Change that was drafted December 1997, and took effect on 16 February 2005. It commits industrialised countries (Annex I) to reduce their greenhouse gas emissions by an average of 5.2% compared to their 1990 emissions within the period 2008 - 2012.
Letter of Approval	Letter issued by the DNA to certify that the CDM project contributes to sustainable development in the country. This is needed in order to get the project registered under the CDM.
Monitoring plan	Set of requirements for monitoring and verification of the emission reductions that are achieved by a project.
Programme of Activities (PoA)	A way of reducing transaction costs further for dispersed projects. After a PoA is registered it can still accept new projects (CPAs) under its umbrella. These projects don't then need to go through the whole validation process.
Project Design Document (PDD)	Project documentation that is required under CDM rules to enable the Designated Operational Entity (DOE) to determine whether the project should be approved. According to specific standards and methodologies the emissions reductions that will be achieved by a project in the future are estimated in this document. It combines all relevant information for the auditors and the public.
Project Idea Note (PIN)	Note prepared by a project owner to describe his project to a potential buyer of carbon credits. PIN formats can vary widely.
Registration	Formal acceptance by the Executive Board of a validated project activity as a CDM activity. Prerequisite for verification, certification and issuance of CERS related to project activity.
Transaction costs	Costs associated with setting up the carbon finance structure, including validation, registration, verification and issuance fees.
United Nations Framework Convention on Climate Change (UNFCCC)	The international legal framework adopted in June 1992 at the Rio Earth Summit to address climate change.
Validation	The auditing process by a third party - called Designated Operational Entity (DOE) - that the project activity conforms to the standards set by the CDM or voluntary standard respectively, and certifies that the methodologies have been applied correctly.
Verification	Periodic independent review and ex-post determination by a Designated Operational Entity (DOE) against the requirements of the CDM.
Voluntary Emission Reductions (VERs)	A unit of greenhouse gas emission reductions that has been verified by an independent auditor, but that has not undergone the specific procedures of the CDM and might not qualify under it. The ultimate buyers of VERs tend to be environmentally conscious consumers or companies who want to offset their carbon footprint.

7.2 Useful online resources on carbon finance

<http://cdm.unfccc.int/> - UNFCCC – Official website of the Clean Development Mechanism (CDM)

<http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html> - Approved small-scale methodologies under the CDM. Pages upon pages of formulas.

<http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-02-v2.2.pdf> - The official assessment tool to identify the baseline scenario and demonstrate additionality. Very 'techy' but that's in the nature of the matter.

<http://carbonfinance.org/> - The World Bank Carbon Finance Unit. Details various funds such as the Community Development Carbon Fund, etc.

<http://www.gtz.de/de/dokumente/gtz2010-en-carbon-markets-for-improved-stoves.pdf> - A guide to carbon finance for cook stoves from GTZ.

<http://cd4cdm.org/Guidebooks.htm> - UNEP published guides on various aspects of carbon finance.

<http://cdmrulebook.org> - Overview of all rules and legal aspects of the CDM and explanation of all articles.

<http://www.cerspa.com> - Templates and help on drafting Emission Reduction Purchase Agreements.

<http://acc.climatechwiki.org> – An online clean technology database.

<http://www.fao.org/forestry/foris/data/nrc/FAOCarbonFinanceBooklet.pdf> - Carbon Finance possibilities for agriculture, forestry and other land use projects in a smallholder context.

<http://www.cdmguide.com> – CDM Tool kit from the NGO SouthSouthNorth.

<http://www.undp.org/energy/climate.htm> - Climate Change and CDM information by UNDP.

<http://www.cdmpipeline.org> - A database of all CDM projects that have been developed or are in validation.

<http://www.hedon.info/CarbonSIG> - Special Interest Group for carbon in the HEDON network.

<http://www.gvepinternational.org> - Join the GVEP community and link up with others, post your business plan.

7.3 References and other literature

Catrinus et al. (2008) Promoting Sustainable Energy Technology Transfers through the CDM: Converting from a theoretical concept to practical action. Report to the European Union Sixth Framework Programme under the project 'The Potential of Transferring and Implementing Sustainable Energy Technologies through the Clean Development Mechanism of the Kyoto Protocol'.

GFA Envest (2009) PoA CDM Manual, Mini biogas plants for households, CD4CDM Working Paper Series, no. 8, August 2009.

Kollmuss, A., Zink H., and Polycarp, C. (2008). *Making Sense of the Voluntary Carbon Market. A Comparison of Carbon Offset Standards*. WWF Germany.

Point Carbon (2010), Carbon Market Survey 2010, "Carbon 2010 – return of the sovereign", Tvinnereim, E. and Røine, K.

UNDP (2003), The Clean Development Mechanism: A User's Guide, UNDP/BDP Energy and Environment Group.

UNEP Risø / EcoSecurities (2007) Guidebook to financing CDM projects.
<http://www.cd4cdm.org/Publications/FinanceCDMprojectsGuidebook.pdf>

Annex: Project Idea Note (PIN) template

A. Project Company/Sponsor/Developer/Advisor and Related-Party Information

Project company	
Name of the project company	
Organisational category	Private company
Legal status	<i>Please specify, for example:</i> Privately held company / privately held company with limited liability / family-owned company / limited company / limited liability company / limited partnership / other
Street Address (include web address, if any)	Address, PO Box, City, Country
Contact person	
Telephone / fax	
Main activities	
Summary of financial performance in last fiscal year	Summarise financials (total assets, revenues, profit, etc.) in € or \$.
Primary project sponsor(s)	
Name of the project sponsor(s)	
Organisational category	Private company
Legal status	<i>Please specify, for example:</i> Privately held company / privately held company with limited liability / family-owned company / limited company / limited liability company / limited partnership / other
Street Address (include web address, if any)	Address, PO Box, City, Country
Contact person	
Telephone / fax	
Main activities	
Summary of financial performance in last fiscal year	Summarise financials (total assets, revenues, profit, etc.) in € or \$.
Project developer/advisor (if applicable)	
Name of the project developer/advisor	
Organisational category	Private company / Other (please specify)
Legal status	<i>Please specify, for example:</i> Privately held company / privately held company with limited liability / family-owned company / limited company / limited liability company / limited partnership / other
Street Address (include web address, if any)	Address, PO Box, City, Country
Other function (s) of the project developer in the project	Sponsor / Operational Entity / Intermediary / Technical Advisor <i>(select whatever is applicable)</i>
Contact person	Name of the Project Development Manager/Advisor
Telephone / fax	
Summary of relevant experience of the project developer	
Key Business Partners/Entities (where applicable)	
Major shareholders	For each project sponsor/equity provider, please provide: Company name, location, percentage of ownership and major sectors of business operations and/or experience
Fuel supply	Company name, location, length of contract
Power purchase	Company name, location, length of contract
Contractual Arrangements	A description of the contractual and/or legal relationship(s) between the various key business entities including owner(s) of the future CERs.

B. Project Summary: Type, Location, Description, and Schedule

Type of the project	
Greenhouse gases (GHG) targeted	CO ₂ / CH ₄ / N ₂ O / HFCs / PFCs / SF ₆ <i>(select whatever is applicable)</i>
Activity Category	GHG Abatement
Type of activity	Choose based on categories and examples below: <i>(select whatever is applicable)</i>
a. Energy supply	Renewable energy (excluding biomass) / biomass / cogeneration / improving energy efficiency by replacing existing equipment / minimise losses in transport and distribution / fuel switch (e.g., switch coal to biomass)
b. Energy demand	Replacement of existing residential appliances or energy consuming equipment / improvement of energy efficiency of existing production equipment or capacity
c. Transport	More efficient engines for transport / modal shift / fuel switching (e.g., public transport buses fuelled by natural gas)
d. Waste management	Capture of landfill methane emissions / utilisation of waste and wastewater emissions
e. Other	<i>Describe in 1-2 lines</i>
Location of the project	
Region	East Asia and Pacific / South Asia / Central Asia / Middle East / North Africa / Sub-Saharan Africa / Latin America and the Caribbean <i>(select whatever is applicable)</i>
City, Country	
Brief description of the plant or facility site	

Project details <i>(Describe in five lines or fewer)</i>	
Project description and proposed activities (including a technical description of the project)	
Technology to be employed	It will be useful to provide a few examples of where the proposed technology has been employed
Business rationale and commercial strategy	A brief description of the business rationale and commercial strategy underlying the project.
Capability in implementing the project	A description of the knowledge and experience of the Project Sponsor and/or Project Developer/Project Operator in building and operating similar projects.

Sector Background	
General structure and organisation	<u>Example:</u> In case of an energy project, provide a description of the power generating capacity in the last five or ten years, the electricity production and consumption in the last one or two years and the predicted electricity production and consumption in the next five years. Attention should also be paid to the organisational sector and institutional framework in the region and/or country.
Sector policy / strategy	<u>Example:</u> In case of an energy project, provide a description of the energy policy and future strategy of the government related to the use of renewable energy sources.
Challenges and opportunities	A description of financial, institutional, technical and/or commercial challenges/barriers and opportunities in the sector.

Expected schedule	
Earliest project start date	Month and year in which project will be operational
Estimate of time required before becoming operational	Month and year of expected financial close: Month and year for completing legal matters: Month and year in which negotiations will be completed: Month and year in which construction will be completed:
Expected date of first CER-delivery (post-certification)	This date is expected to be a minimum of 12 months after project start.
Proposed crediting period for the project	(no. of years)
Project lifetime	(no. of years)
Current status or phase of the project	feasibility study finished / negotiations phase / contracting phase / etc. <i>[select whatever is applicable and indicate whether the documentation (e.g. the feasibility study) is available for review]</i>
Next major steps toward design and financial closure of underlying project	Availability of an Environmental Impact Assessment / is there an Approval of the Board of the Project Developer and/or project sponsors / status of the most important regulatory requirements / status of other relevant issues /aspects/documents.
Current status of acceptance by the Host Country	Letter of Endorsement is under discussion or available / Letter of Approval is under discussion or available / Host Country Agreement between host country government and Government of Netherlands is under discussion or signed / etc. <i>(select whatever is applicable)</i>
The position of the Host Country regarding the Kyoto Protocol	The Host Country has: <ul style="list-style-type: none"> a. signed, signed and ratified, accepted, approved or acceded to the Kyoto Protocol; or b. signed and has demonstrated a clear interest in becoming a party in due time (e.g. countries which have already started or are on the verge of starting the national ratification, acceptance or approval process); or c. has already started or is on the verge of starting the national accession process d. other -- please describe. <i>(select whatever is applicable)</i>

C. Financial Details

Total project costs estimate <i>(Please provide a breakdown and/or explanation where appropriate)</i>	
Development cost	€ or \$ xx million
Installed project cost	€ or \$ xx million
Other costs	€ or \$ xx million
Total project cost	€ or \$ xx million
Sources of finance identified <i>(Please provide a breakdown and brief summary where appropriate)</i>	
Equity	Names and amounts by provider in € or \$ xx million
Debt - long-term	Names and amounts by provider in € or \$ xx million
Debt - short term	Names and amounts by provider € or \$ xx million
Not identified	€ or \$ xx million and a brief summary of needs and any outstanding issues
Total CDM contribution sought	€ or \$ xx million and a brief summary of needs and any outstanding issues
CDM contribution expected in advance payments	€ or \$ xx million and a brief rationale on why advance payments may be needed
Expected Price of the CER in case of a contract to purchase for:	
A period of 7 years	€ or \$ xx
A period of 10 years	€ or \$ xx
A period of 14 years (2 x 7 years)	€ or \$ xx
Indicate projected financial IRR for project with and without CER revenues. Assume a CER price of \$5.00/tCO ₂ e. Actual price paid for CERs will be subject to negotiation.	

D. Expected environmental benefits

Estimate of Greenhouse Gases abated (in tonnes of CO₂-equivalents)	Annual: xx tCO ₂ e/year Up to and including 2012: xx tCO ₂ e Up to a period of 10 years: xx tCO ₂ e Up to a period of 7 years: xx tCO ₂ e Up to a period of 14 years: xx tCO ₂ e
Baseline scenario/analysis [Note: A validated baseline will be required if project is considered for potential purchase of emission reductions.]	CDM projects must result in GHG emissions being lower than 'business-as-usual' in the Host Country. Please indicate briefly: <ul style="list-style-type: none"> · What is the proposed CDM project displacing? · How would the future look without the proposed CDM project? · What would the estimated total GHG emissions be? · Is the project a 'Small scale' or a 'Regular' CDM-project and why? · What will be the possible lifetime of the baseline? · Which sources and sinks will be taken into account for the baseline and which not? · What are the current circumstances (including historical emissions data) and policies? · What baseline methodology will be chosen and why? · What are the uncertainties associated with the estimated emission reductions? · What are the key variables potentially affecting future credibility of the baseline?
Specific global and local environmental benefits	
Which guidelines will be applied to ensure environmental quality?	
Local benefits	
Global benefits	
Stage of the environment issues review	Please summarise what is currently available (preliminary work has been undertaken, a complete review, etc.)?
Social and economic aspects	
Which guidelines will be applied to ensure social quality?	
What are the possible <u>direct effects</u> ?	What social and economic effects can be directly attributed to the project and which would not have occurred in a comparable situation without that project? For example, employment creation, capital required, foreign exchange effects.
What are the possible <u>other effects</u> ?	For example, training/education associated with the introduction of new processes, technologies and products; effects of the project on other industries.
Stage of the social issues review	Please summarise what is currently available (preliminary work has been undertaken, a complete review, etc.)?
Environmental strategy/ priorities of the Host Country	A brief description of the relationship with the local institutional structure, as well as with that of the region and/or country.
Public Consultation	According to 'The Marrakech Accords' local stakeholders should have the opportunity to comment on the proposed project that will be submitted for validation. Has a consultation been initiated? If so, please provide any interim results. If not, please summarise in a few sentences the expected consultation activities and their expected timing.

E. Project-Related Risks and Outstanding Issues

Project risks and issues	
Project risks and mitigation	Mention the major risks and issues with a brief explanation of mitigating factors, if any -- especially as they relate to: <ul style="list-style-type: none">· the project· the baseline· environmental and social compliance
Outstanding issues	Mention any other outstanding issues that may be relevant to the project and its performance.

Source: Câmara Brasil Alemanha. http://www.ahk.org.br/cdmbrasil/imagens/pin_project_development.doc