PROJECT IDEA NOTE (PIN)

Name of Project: _____

Date submitted: _____

This document is based on the PIN format provided by the World Bank, which can be downloaded from www.carbonfinance.org/Router.cfm?Page=DocLib&CatalogID=27946. **It has been adapted to provide an example of a project PIN, from GERES Cambodia's New Lao Stove project and an explanation of key concepts.**

Description of size and quality expected of a PIN

Basically a PIN will consist of approximately 5-10 pages providing indicative information on:

- the type and size of the project
- its location
- the anticipated total amount of greenhouse gas (GHG) reduction compared to the "business-as-usual" scenario (which will be elaborated in the baseline later on at Project Design Document (PDD) level)
- the suggested crediting life time
- the suggested Certified Emission Reductions (CERs)/Emission Reduction Units (ERUs)/Verified Emission Reduction (VERs) price in US$ or € /ton CO_2e reduced
- the financial structuring (indicating which parties are expected to provide the project's financing)
- the project's other socio-economic or environmental effects/benefits

While every effort should be made to provide as complete and extensive information as possible, it is recognised that full information on every item listed in the template will not be available at all times for every project.

PROJECT DESCRIPTION, TYPE, LOCATION AND SCHEDULE

OBJECTIVE OF THE PROJECT *Describe in no more than five lines the objectives of the Project. The objective should outline the overall purpose of the project activity and how the project will benefit its recipients?*	To address energy poverty linkages in Cambodia. Specifically, by protecting forest resources, promoting sustainable use of fuelwood, improving women's health, reducing energy poverty and increasing both the productivity and capacity of small scale enterprises.
PROJECT DESCRIPTION AND PROPOSED ACTIVITIES *Write half a page on how the project will achieve its objectives and what activities the project will consist of.* *Some key questions to answer are.* • *How and by whom will the stoves be constructed?* • *What research studies will be carried out?* • *How the stoves will be disseminated e.g. commercialized or subsidized dissemination?* • *How will the project be monitored?*	The project activity is part of the Cambodian Fuelwood Saving Project (CFSP), which was created to protect forest resources in Cambodia by reducing fuelwood consumption. The CFSP Phase I began in 1997 and ended in 2001. Phase II started in 2002 and was completed in October 2006. A commercialized approach was used to disseminate the improved stoves, or New Lao Stove (NLS), through existing market channels. The project has focused on the development of structures that facilitate this in urban and rural areas, particularly those identified as critical (areas with a high population density and wood scarcity). Although the NLS are slightly more expensive, families choose them because they last longer and reduce money spent on charcoal. Phase I was primarily a set up phase which elaborated stove design, trained producers and developed distribution networks. Phase II focused on developing the commercialized distribution of the stove design. The project has received international acclaim from both the Ashden Awards for Sustainable Energy and Partnership for Clean Indoor Air (PCIA) Whilst the primary activity is often seen as the promotion of NLS, the project is firmly rooted in the wider context of energy use in Cambodia. For this reason the project aims to do more than simply maximizing the number of stoves sold. Additional objectives are: • Train artisans; build their technical and managerial capacity to support the development of NLS production. • Monitor stove dissemination, usage and GHG reduction • A continuation of R&D efforts to elaborate new technologies and facilitate fuel switching. • Lobbying for recognition of the importance of the wood energy sector in Cambodia At present some 90% of the Cambodia populations remain reliant on fuelwood for cooking and all the indications are that, outside of major urban areas, this will continue to be the case for the foreseeable future (NIS, 2005). The ultimate goal of the project is to facilitate a nationwide shift from inefficient exploitation of biomass resources to sustainable and efficient woodfuel use. Whilst the initial phases of the project have undoubtedly been successful, fuel scarcity continues to exacerbated food security and energy poverty in a country that is already identified, economically, as one of 50 Least Developed Countries (LDC). Thus the project goals are ongoing and there is still much work to do.
TECHNOLOGY TO BE EMPLOYED[1] *Describe the technology and the features that make it more effective than the technology that it is replacing*	The NLS is similar in appearance and use to the traditional stove. It has a number of design features that improves efficiency. low pot rests • Insulation and refractory liner to prevent heat loss. • Its grating has an optimum number of holes for efficient fuel-burn and air

[1] Please note that support can only be provided to projects that employ commercially available technology. It would be useful to provide a few examples of where the proposed technology has been employed.

circulation.

- Its improved combustion chamber consumes less fuelwood
- The metal sheet body-cover improves durability.

The NLS has been tested in other provinces and has had successful results where CFSP/GERES have supported its dissemination.

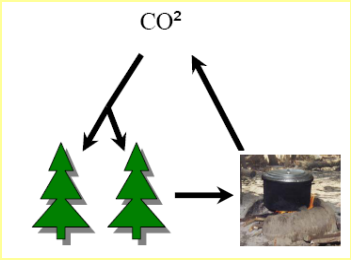
TYPE OF PROJECT

GREENHOUSE GASES TARGETED?

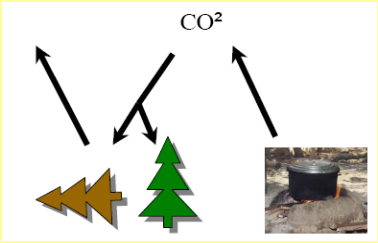
Reducing fuelwood use and improving combustion efficiency targets CO_2, CH_4, N_2O. To provide conservative estimates of emissions reductions only CO^2 reductions are calculated.

How Stove projects can reduce Greenhouse gas emissions.

1) Biomass is generally considered a renewable source of energy. This is because when it is burnt to produce energy it can be replaced by re-growth and any emissions will be reabsorbed through photosynthesis.



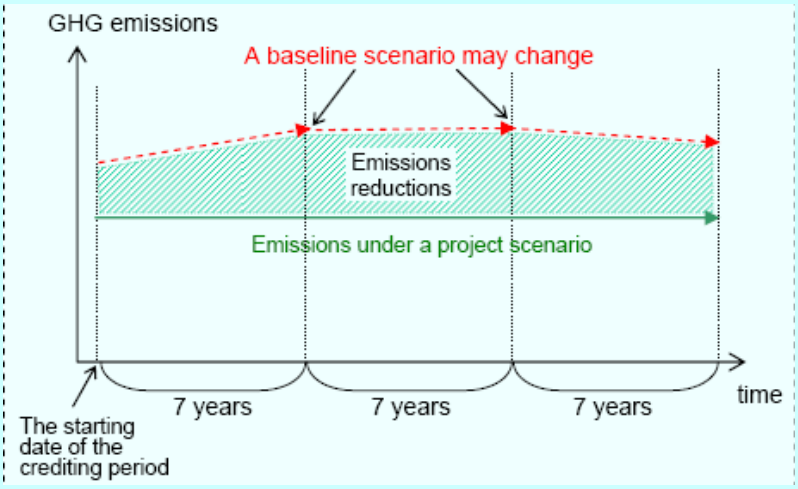
2) However this assumes that the biomass consumed is replaced which is often not the case, for example deforestation. The biomass is non-renewable because there is no subsequent re-growth. Furthermore, CO^2 released during the combustion of the biomass will not be



TYPE OF ACTIVITIES ABATEMENT/CO_2 SEQUESTRATION

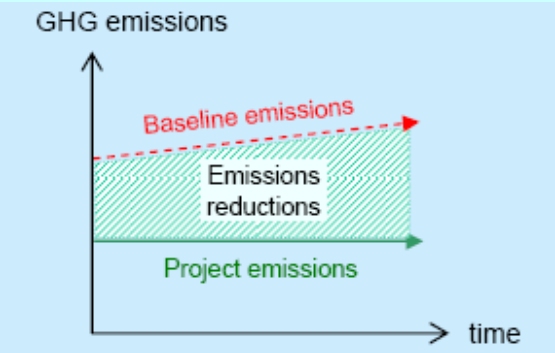
Stove projects are an abatement activity because they reduce the amount of emissions being released into the atmosphere.

FIELD OF ACTIVITIES *Depending on the project design and technology introduced stove projects may either be* *Type 1 Renewable Energy Projects e.g. Solar cookers, Biogas stoves* *Or* *Type 2 Energy Efficiency e.g. Improved Cooking Stoves.*	
LOCATION OF THE PROJECT	
Country	
City	
Brief description of the location of the project *No more than 3-5 lines*	
PROJECT PARTICIPANT – Fill in for each project participant.	
Name of the Project Participant	
Role of the Project Participant	a. Project Operator b. Owner of the site or project c. Owner of the emission reductions d. Seller of the emission reductions e. Project advisor/consultant f. Project investor g. Other, please specify:_____
Organizational category	a. Government b. Government agency c. Municipality d. Private company e. Non Governmental Organization f. Other, please specify: _____
Contact person	
Address	
Telephone/Fax	
E-mail and web address, if any	
Main activities *Describe in not more than 5 lines*	
Summary of the financials *Summarize the financials (total assets, revenues, profit, etc.) in not more than 5 lines*	
Summary of the relevant experience of the Project Participant *Describe in not more than 5 lines*	
Please insert information for additional Project Participants as necessary.	
EXPECTED SCHEDULE	
Earliest project start date *Year in which the plant/project activity will be operational*	
Estimate of time required before becoming operational after approval of the PIN	Time required for financial commitments: __ months Time required for legal matters: __ months Time required for construction: __ months

Expected first year of CER/ERU/VERs delivery	**The Compliance Carbon market (CERs) and the Voluntary Carbon Market (VERs)** To help industrialized countries comply with their mandatory emission reductions the Kyoto protocol established the Clean Development Mechanism (CDM). Through the CDM countries with greenhouse gas reduction targets can buy emissions credits from carbon offset projects in developing countries. Emissions reductions under this scheme enter the compliance market as there are obtained in order to comply with international obligations. Emissions reductions under this scheme are known as Certified Emissions Reductions (CER). A parallel voluntary market has developed alongside the compliance market. Voluntary emissions are known as Verified Emissions Reductions (VER). Voluntary carbon offsets are outside the Kyoto Protocol and the CDM. They offer the potential for greater development benefits because they involve less complex procedures and target buyers who are interested in such benefits. However, unlike the compliance market there is no accepted market standards although several such schemes are underway. For example, the New Lao Stove project was verified according to the Voluntary Carbon Standard (VCS). Under this scheme emissions reductions are known as Voluntary Carbon Units (VCU).
Project lifetime *Number of years*	
For CDM projects: Expected Crediting Period *7 years twice renewable or 10 years fixed.* *No such time restrictions exist for Voluntary projects.*	**Crediting Periods** The baseline scenario may change over the course of time. For example, it might be envisaged that over the course of time, as a result of a rise in living standards, biomass stove users would switch to gas. Project lifetime should anticipate the length of time the baseline scenario will be valid for. 
Current status or phase of the project *Identification and pre-selection phase/opportunity study* *finished/pre-feasibility study* *finished/feasibility study*	

finished/negotiations phase/contracting phase etc. (mention what is applicable and indicate the documentation)	
Current status of acceptance of the Host Country *Letter of No Objection/Endorsement is available; Letter of No Objection/Endorsement is under discussion or available; Letter of Approval is under discussion or available* *(mention what is applicable)*	
The position of the Host Country with regard to the Kyoto Protocol	Has the Host Country ratified/acceded to the Kyoto Protocol? _____NO / YES, YEAR_____ Has the Host Country established a CDM Designated National Authority / JI Designated Focal Point? _____NO / YES, YEAR_____

A. METHODOLOGY AND ADDITIONALITY

ESTIMATE OF GREENHOUSE GASES ABATED/ CO_2 SEQUESTERED *In metric tons of CO_2-equivalent, please attach calculations*	Annual (if varies annually, provide schedule): ___ tCO_2-equivalent Up to and including 2012: ___ tCO_2-equivalent Up to a period of 10 years: ___ tCO_2-equivalent Up to a period of 7 years: ___ tCO_2-equivalent
BASELINE SCENARIO CDM/JI projects must result in GHG emissions being lower than "business-as-usual" in the Host Country. At the PIN stage questions to be answered are at least: • Which emissions are being reduced by the proposed CDM/JI project? • What would the future look like without the proposed CDM/JI project? *About ¼ - ½ page*	**Baseline Scenario** Emissions reductions are measured against a baseline scenario which represents what will happen in the absence of the project activity. The baseline scenario would be the mix of non-renewable biomass and fossil fuel expected to be used in the absence of the project activity. This concept is illustrated in the figure below. 

ADDITIONALITY Please explain which additionality arguments apply to the project: (i) there is no regulation or incentive scheme in place covering the project (ii) the project is financially weak or not the least cost option (iii) country risk, new technology for country, other barriers (iv) other	**Additionality.** Additionality is a key principle in carbon finance. Projects which are not additional are not eligible. GHGs circulate freely in the atmosphere. Therefore reductions in GHGs are the same wherever they occur in the world. A carbon offset cancels out a quantity of GHGs emitted in one place by avoiding the release of a similar quantity in another. However, in order for this to be the case the project activity must be take place in addition to what would have happen anyway i.e. the project must be additional. This is important because the offset justifies the continuation of a polluting activity elsewhere. If the offset activity would have occurred anyway, then there is no net balance in the quantity of GHG being released. Furthermore, if the project would have occurred anyway the benefits of the project in terms of technology transfer and sustainable development will also have occurred anyway. Thereby, the buyer would receive the benefit of a tradable emissions reduction but the host country receives no additional development benefit. This undermines the equity of carbon offsetting and ultimately reduces confidence in the offset market. Therefore, a project is additional if GHG emissions are reduced below those that would have occurred in the absence of the project.
SECTOR BACKGROUND Please describe the laws, regulations, policies and strategies of the Host Country that are of central relevance to the proposed project, as well as any other major trends in the relevant sector. Please in particular explain if the project is running under a public incentive scheme (e.g. preferential tariffs, grants, Official Development Assistance) or is required by law. If the project is already in operation, please describe if CDM/JI revenues were considered in project planning.	Fuel wood and charcoal used in the urban centers are supplied from the country side, extracted from natural forests, and constitute a non-renewable resource. The report "Wood energy baseline study for Clean Development Mechanism" (E.R.Van MANSVELT & al., IGES CCCO, 2006) states that: - the fuel wood collection and charcoal production area shift every season further away - the current rate of wood collected for energy use exceeds the re-growth rate of the forest - the charcoal production and consumption trends cannot reach sustainability in any foreseeable future. The Royal Government of Cambodia will elaborate a national strategy for wood-energy economy. However this will not take place until the government staff are trained on the issue, data acquisition instruments are in place at provincial level, the directorate of energy is planning provided will reliable data, and a wood energy policy is passed. The design of the first aforementioned step is planned in 2007 with support from UNDP. The completion of the entire process is not expected before 2010, while the implementation of the expected regulations will, in all likelihood be, ineffective -unless the country's governance goes through a major overhaul. Given the cost of electricity in Cambodia, an electrification, LPG, or diesel-based baseline has not been preferred, because it would rarely occur in the short term and it will be not be used for cooking purposes. The shift in the fuel use to LPG or Kerosene would rarely happen according to the trend in the energy programs for the country. (GVEP, 2005)

METHODOLOGY Projects should use a recognized methodology approved by the UNFCCC. However in the case on energy efficient stoves no such methodology has been approved (see right).	UNFCCC category-Type II [Energy Efficiency Improvement Projects] The Sub-category is part of the voluntary market: **Voluntary Emission Reductions - Improved Efficiency in Use of Non-Renewable Biomass** as issued by the Climate Care Trust, based on modifications of proposed methodology SSC.II.G. by the Joanneum Institute

B. FINANCE

TOTAL CAPITAL COST ESTIMATE (PRE-OPERATIONAL)	
Development costs	___ US$ million (Feasibility studies, resource studies, etc.)
Installed costs	___ US$ million (Property plant, equipment, etc.)
Land	___ US$ million
Other costs (please specify)	___ US$ million (Legal, consulting, etc.)
Total project costs	___ US$ million
SOURCES OF FINANCE TO BE SOUGHT OR ALREADY IDENTIFIED	
Equity Name of the organizations, status of financing agreements and finance (in US$ million)	
Debt – Long-term Name of the organizations, status of financing agreements and finance (in US$ million)	
Debt – Short term Name of the organizations, status of financing agreements and finance (in US$ million)	
Carbon finance advance payments[2] sought from the World Bank carbon funds. (US$ million and a brief clarification, not more than 5 lines)	
SOURCES OF CARBON FINANCE	
INDICATIVE CER/ERU/VER PRICE PER tCO_2e[3] *Price is subject to negotiation.*	

[2] Advance payment subject to appropriate guarantees may be considered.
[3] Please also use this figure as the carbon price in the PIN Financial Analysis Model (cell C94).
[4] The World Bank Carbon Finance Unit encourages the seller to make an informed decision based on sufficient understanding of the relative risks and price trade-offs of selling VERs vs. CERs. In VER contracts, buyers assume all carbon-specific risks described above, and payment is made once the ERs are verified by the UN-accredited verifier. In CER/ERU contracts, the seller usually assumes a larger component - if not all – of the carbon risks. In such contracts, payment is typically being made upon delivery of the CER/ERU. For more information about Pricing and Risk, see "Risk and Pricing in CDM/JI Market, and Implications on Bank Pricing Guidelines for Emission Reductions".

Please indicate VER or CER preference if known.[4]	
TOTAL EMISSION REDUCTION PURCHASE AGREEMENT (ERPA) VALUE	
A period until 2012 (end of the first commitment period)	___ US$ / €
A period of 10 years	___ US$ / €
A period of 7 years	___ US$ / €

Please provide a financial analysis for the proposed CDM/JI activity, including the forecast financial internal rate of return for the project with and without the Emission Reduction revenues. Provide the financial rate of return at the Emission Reduction price indicated in section "Indicative CER/ERU/VER Price". DO NOT assume any up-front payment from the Carbon Finance Unit at the World Bank in the financial analysis that includes World Bank carbon revenue stream.

Provide a spreadsheet to support these calculations. The PIN Financial Analysis Model available at www.carbonfinance.org is recommended.

C. EXPECTED ENVIRONMENTAL AND SOCIAL BENEFITS

LOCAL BENEFITS E.g. impacts on local air, water and other pollution.	Local benefits include the decrease of smoke and CO2 emissions caused by the usage of the traditional cook stoves. In addition, this project will help preserve Cambodia's national forests and safeguard its natural biodiversity including flora and fauna. Cambodia retains 35% of its land as forest cover and provides vital habitat to over 74 critically endangered and rare wildlife including tigers, sun bears, Asian elephants, and the Siamese crocodiles. Without this project, the future of these species would be jeopardized.
GLOBAL BENEFITS Describe if other global benefits than greenhouse gas emission reductions can be attributed to the project.	Successful stove projects are replicable and relevant throughout the developing world. In addition the project activity is piloting stove projects as a GHG emissions reductions activities. This will benefit many societies where large proportions of the populations remain reliant on biomass for cooking.
SOCIO-ECONOMIC ASPECTS	
What social and economic effects can be attributed to the project and which would not have occurred in a comparable situation without that project? Indicate the communities and the number of people that will benefit from this project. *About ¼ page*	New Lao Stoves do not fully alleviate the problems associated with the inhalation of cooking smoke. However, although the reduction in health damaging pollutants has not been directly monitored the greater combustion efficiency and reduced exposure time is expected to mitigate the health impacts of cooking with charcoal. However as many NLS users, as well as non-users, cited respiratory problems, it is difficult at this point to establish a direct correlation between improved health and adoption of the NLS (Winrock International, 2006). Secondly, the spread of more efficient cook stoves reduces the gap between rising fuel wood demands and diminishing forest resources. In the wider context of energy use this means there is less competition for the same resources with the result that energy access and food security is improved, especially for the less wealthy in Cambodian society. The adoption of the NLS has been shown to reduce cost of meeting energy requirements and allow the savings to be spent elsewhere. To date these benefits are primarily confined to urban and semi-urban areas where charcoal is already being used. Thirdly, as almost all stove users, 87.2%, are female, the adoption and use of NLS has strong gender implications. Whilst the time saving is not enough for users to engage in additional income generating activities it does free up time that can be used for other vital survival activities, such as water boiling,

	childcare and socializing. In addition, the cash savings, although relatively small, take place in an essential area of the family that is managed by women and deals with food nutrition and childcare. The money saved on charcoal purchases is mostly used to buy both durable and consumable goods such as food, for the household (Winrock, 2006). The production process also has a strong gender dimension as a significant number of women participate in the stove business. Skilled work like trimming is done mostly by women and two production centres have female employees in charge of finance (GERES, 2005). In addition, the development of civil society is encouraged by a strong emphasis on the development of local capacity and expertise. A good example of this is the establishment of the Improved Cooking Stove Producers Distributors Association of Cambodia (ICOPRODAC) which is the professional association of stakeholders along the ICS supply chain.
What are the possible direct effects (e.g. employment creation, provision of capital required, foreign exchange effects)? *About ¼ page*	An advantage of the commercialized dissemination of the NLS is that the project is able to offer economic benefits throughout the stove distribution network of producers, retailers and end users. The stove producers and retailers make a profit of US$0.50 from each NLS. This compares favorably with profit from traditional stoves which is approximately US$0.12 per stove. These extra profits are provided by the end users, who pay more per unit. However, reductions in charcoal use and the increased durability extend economic benefits of the stove to end users (GERES, 2005). There are also economic co-benefits associated with the project. For example three production centers have created 20-30 jobs to satisfy increased demand for NLS (Atukorala, 2006). Furthermore, an iterative approach to problem solving has generated economic co-benefits. Lack of capital is frequently identified as a barrier to stove production; as a consequence a credit facility has been made available. These funds can be used to buy a truck or motorbike, construct a small building, purchase tools, or obtain raw materials such as clay or iron. The ICS producers have access to the loan through CFSP at preferable terms; the standard interest rate at the largest microfinance institution in the country is nearly four times that offered through the CFSP program (Winrock international, 2006).
ENVIRONMENTAL STRATEGY/ PRIORITIES OF THE HOST COUNTRY A brief description of the project's consistency with the environmental strategy and priorities of the Host Country *About ¼ page*	The Royal Government of Cambodia will elaborate a national strategy for wood-energy economy. The design of the aforementioned step is planned in 2007 with support from the United Nations Development Program (UNDP). The completion of the entire process is not expected before 2010, while the implementation of the expected regulations will, in all likelihood be ineffective - unless the country's governance goes through a major overhaul. Therefore although awareness is rising on wood energy in various administrations, a government policy is unlikely in the foreseeable future due to the complexity of the issue across ministry lines. The project will in fact support policy work, to establish a national efficient stove standard, and promote a sustainable biomass energy management plan. This project is consistent with Cambodia's Millennium Development Goals, in particular goal seven to ensure environmental sustainability.